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EDITORIAL.

PROFESSOR WOODHEAD'S ADDRESS.

We give in another portion of this issue Professor Sims Woodhead's address at the opening of the Medical Faculty last October. A word may be said here as to why the publication has been delayed so long. When Professor Woodhead was in Toronto, he was on his way to the Congress on Tuberculosis to be held in Washington, and had not had time to perfect his address. Further, there were some points of detail on which he wished time to add some words. As the address deals with medical education, a topic of much importance in this young country, and by one who has had much to do with the Universities in Britain, it would be well for the medical profession in this country to give heed to what he has to say.

He refers to the usage once in vogue when the student had to spend three or four years on an Arts curriculum on the liberal studies of philosophy, mathematics, and the humanities. This has been relaxed in Britain and the student has to pass a matriculation examination in lieu of the Arts degree. This was probably a retrograde movement.

It is well worth close attention to note what he has to say about the course of study for the degree of M.B., or Ch.B. The University of Edinburgh shows a good deal of liberality in accepting the work done at other Universities. This might be carefully considered by Canadian Universities.

It is interesting to note the points of agreement and difference in the courses of study in Edinburgh and Cambridge Universities.

Professor Woodhead offers some criticism on the advisability of giving so many didactic lectures as is still the custom in some Universities, notably Edinburgh. In the history of medicine we note that at one time the only method was by the apprenticeship system, or going to some distinguished teacher whose only opportunity was by word of mouth, as he had no hospital at his command. This is all changed now. Professor Woodhead does not go the length of saying that all lectures should be discontinued, but he claims that for the imparting of facts

they are worse than useless. On the other hand, he has a good word to say for the lecture system on certain subjects, and especially if the lecturer can, from a wealth of experience and knowledge, give the students something they cannot get from books. This brings it largely to be one of the capacity of the teacher to teach.

We would offer here a test. Any teacher who cannot make his lectures sufficiently interesting and instructive to attract the students to his class room, should be called upon to discontinue his lectures. Students know a good thing and will go where there is fruit to be found. He is a fool, indeed, who would waste his time trying to gather figs from thistles. A good lecturer will always find his following among students, and whether he teaches by didactic lectures, by clinical lectures, or by laboratory experiments, he will have no trouble in finding eager listeners. The test of a teacher's fitness is his ability to carry with him his students. This has always been the case with the great masters. They had something to say and they knew how to say it. Their chairs have ever been Meccas.

What Professor Woodhead has to say on the value of the knowledge of general principles is eminently wise. It enables the student to see the cases in a proper light, and to realize how they are related together and how far they are alike and in what they may differ. Each case thus fits into his general scheme of study. The study of a vast amount of weary and useless detail is thus avoided.

We would invite special attention to that portion of Professor Woodhead's address where he deals with the changes made in the medical curriculum of Cambridge some eight years ago, when pathology and pharmacology were made a part of the earlier years of study. By the time the students came to the wards of the hospital they had some knowledge of disease and what remedies might be employed in treatment. This change promised well, but did not work out as had been hoped for. Professor Woodhead tells us why. He holds that pathology must be made a part of the final years of study.

What Professor Woodhead says about a higher standard of entrance scholarship and a thorough training during the years of academic life, we can all endorse. He refers to the advantage of the one-portal system of entry into the medical profession. In Canada this has been hoped for; but jealousy has been strong enough so far to kill the efforts along these lines. But jealousy is not truth nor right, and truth and right in the end must prevail.

That portion of Professor Woodhead's address where he speaks of the method of conducting examinations, we think, is very timely. We have long felt and often urged that there should be a combination of

examiners on all important subjects, and in the arranging of papers. Some one should be associated with the teacher of the subject. This system is the only method of safeguarding the student on the one hand, and the dignity of the degree or diploma on the other. We have known examiners who set papers or gave oral questions that were nothing better than foolish puzzles. This does discredit to the whole cause of teaching, and is a flagrant injustice to the student. We repeat that there should be two examiners on all important subjects. Here, however, we would differ somewhat from Professor Woodhead, and suggest that one of the associate examiners should have some years of experience in practice. This would enable him to direct his questions along a wider pathway than is likely to be the case if one who alone is a teacher acts as sole examiner. In this country teachers are also engaged in practice.

Professor Woodhead rightly emphasizes the importance of anatomy, chemistry, physiology and pathology in the education of the medical man. Anatomy is so important that in some form it should be made to run through the entire medical course. Physiology and chemistry are the foundations upon which pathology must be built; and without a knowledge of pathology, the medical practitioner is only a poor impiric. With the plea for a scientific training, we all agree. The late Professor Huxley was one of the first to put in a strong plea for the scientific side of medical education; or, as he said, the value of biology in the medical curriculum.

We note with pleasure what is said regarding the founding of scholarships. The trouble is that those who have the money are usually engrossed in some other way of thinking. The Yacht Club or the Hunt Club is more akin to their sympathies.

The plea put in for the post-graduate work necessary to secure the degree of M.D., we think a good one.

As to the value of the French and German languages no one will deny. We have before now urged that a good working knowledge of one or both of these tongues is of far more value than a poor knowledge of the Latin language. In this regard we are at one with Professor Woodhead. The trouble with so many is that they do not see any value in a branch of study which is not going to take a prominent part in the procuring of their daily bread and butter, the butter-brod studien of the Germans. We hope for a better day for the medical profession, when general scholarship will count for something more than a mere pleasure to its possessor.

MR DOWNEY'S BILL RE TUBERCULOSIS.

We regret that Mr. Downey was compelled for the fourth time to withdraw his bill looking towards the lessening of the ravages of tuberculosis; but we are glad also to record the statement that he declared he would introduce it again next session. We wish him every success.

If there be any disease more than another that demands every step to be taken to restrain it, it is surely tuberculosis. No disease causes so much sickness and suffering, and is the agent of so many deaths as this one. We should not stand idly by and allow it to have its own way. The disease can be prevented, and it is our duty to prevent it. Those arguments that reporting the cases, and isolating the advanced and dangerous ones would cause hardships to some, should not be allowed to overpower the other and far more important arguments that it is only by such means that the disease can be checked.

It must be admitted that when the disease makes such headway in the lungs as to admit of easy diagnosis, the prospects of cure are rather remote. There are many cases of tuberculosis of the lungs that have undergone self cure, but these cases were very localized, and indeed, in most cases never suspected. The cry of the hour is prevention.

One of the merits of notification is that it enables the proper authorities to send literature and instructions to those who are afflicted. It may be well in many instances to send an experienced nurse to visit these persons and give them personal directions. The vast majority of those who are afflicted with tuberculosis are very careless, and must be constantly reminded of the urgent necessity for the taking of every precaution to prevent the infecting of others.

While it is settled that the bovine tuberculosis may infect man, yet it remains true that the great source for the spread of the disease is the bacilli as they come from a human being. "Man to man the world over" is the real explanation of the disease.

THE ONTARIO MEDICAL ASSOCIATION.

The meeting this year will be in Toronto. The meeting last year was in Hamilton, and it was admitted by all that it was one of the best in the Association's history. The one this year in Toronto should be even better. Already an excellent programme has been arranged. The leading addresses and papers will come up to the expected standard.

There will be the usual social side to the gathering. This has now come to be recognized as an important part of all such gatherings.

A very special feature of this year's meeting is that Professor William Osler will give an address on Medicine. This will be looked forward to with much anticipation.

There should be at least five hundred members of the Ontario profession present.

THE HOSPITALS IN TORONTO.

Dr. R. W. Bruce Smith, in his report on hospitals, again criticizes rather severely the condition of the four general hospitals in Toronto. Criticism does not get money with which to build, and the management of these institutions are only too anxious to improve the conditions, especially in the public wards, but their efforts have been handicapped owing to the lack of funds. The signs of the times now point to very much better things, and we hope that ere long Dr. Smith will be able to say good things about the hospitals in Toronto. Among some of his comments we note the following:—"Many of the public wards are so crowded that it is impossible to carry on the work, and conditions are tolerated which would not be permitted elsewhere. It is not fair to the other public hospitals of Ontario, which have been forced to maintain a proper standard of equipment in buildings in order to receive an annual Government grant, that Toronto hospitals are permitted to display the indifference which some manifested towards the need for improving the accommodation for the sick poor. Conditions as they are at present and as they have been for some time cannot be allowed to continue."

He then goes on to make some other remarks regarding returns and the means to be taken to obviate overcrowding. He further states in the matter of the Toronto hospitals:—

"There is no reason whatever why the sick poor of Toronto should not be cared for in the same sanitary suroundings as in the public hospitals in the other cities and towns of Ontario. Why should Toronto hospitals not afford as good accommodation for its public ward patients as is provided in scores of other places in the Province?"

With these strictures no special fault can be found. So far as the present conditions of the hospitals in Toronto are concerned, the censures of the Inspector are merited. But it should be remembered that the present conditions are the direct legacy of the past in several ways.

In the first place, until quite recently the general hospitals have received very little aid from the wealthy. The main contributions of this class have not yet yielded practical results, as the buildings have not yet been erected that these donations will assist in creating.

In the second place, the city has never given anything towards the building fund of the hospitals until just recently; and the grant of

$200,000 to the General Hospital, and that of $200,000 to the Western, Grace, St. Michael's and the Home for Incurables, have not yet been put into buildings, but will before long.

But in the third place, and most important of all, the hospitals have been caring for public patients for the city at a rate that entailed upon the hospitals heavy losses. Thus it was that the hospitals were helping to finance the city, and not the city the hospitals. Now that the city pays 70 cents a day and the Government 20 cents for these public ward patients the loss will not be so heavy.

The tendencies are now improving very materially. The wealthy are becoming more generous. The city has recognized in part its duty to the hospitals, both by aiding the building fund and by paying more towards maintenance account. Then, again, the hospitals are receiving more from their private ward patients. All these sources of revenue will add strength to the hospitals, and Toronto will soon be able to boast of up-to-date institutions for the care and treatment of the sick.

THE HOSPITALS OF ONTARIO.

The hospitals of a country may be regarded as one of the most important of its industries. They deal with sick and injured people and try to restore them to health and usefulness again. That this statement is not exaggerated the report of the Inspector of Hospitals amply proves. Last year in the public hospitals of Ontario no less than 46,971 patients were treated. The amount of money expended on these institutions was the very large sum of $2,721,524.28, being an average of $57.95 per patient. The daily cost was $1.21.

Coming to the question of the relationship of the municipality to the hospital within its bounds, the Inspector has some very wise words to offer. "The time has come, when municipalities should be awakened to a sense of the duty they owe to the local hospitals who care for their sick poor. Hospital Boards should be given the power to collect the cost of maintenance of indigent patients from the municipality liable." With these remarks we concur. There is no reason why a municipality should send its poor into a hospital as a burden upon the funds of the hospital. This does harm in many ways, but mainly by crippling the hospital so that it cannot do the best sort of work.

The Inspector is not in favor of municipal hospitals. In this we think he is right. The hospitals managed by independent boards are more likely to receive donations from the wealthy than are those controlled by the municipality. Then, we think these institutions will be better managed and will meet the needs of all classes better. The duty

of the municipality is to pay the full cost of caring for its poor, so that the hospital will be allowed to go on making improvements by the aid of donations and the profit from private ward patients, instead of paying these moneys out to keep the poor of the municipality. The case, we think, is proven to the last word. In the past the municipalities have not done their duty. They must now begin to do so.

With reference to poor consumptives the Inspector takes decided ground that general hospitals should make some provision for those cases. He thinks that any hospital which refuses admission to a poor consumptive is unworthy the name of a hospital, and should be refused the Government grant. We have often said that the proper way to deal with consumptives is in institutions specially planned for these cases; but we have also condemned the phthisiophobia that has taken possession of the management of our hospitals. We think that hospitals might arrange for some accommodation for consumptives.

THE HYPOPHYSIS CEREBRI.

Marie in 1886, in *Revue de Medicine*, gave the name of acromegaly to the group of symptoms he had been studying, and which has gone by the name of gigartism. It was not long until Marie laid down the cause of the Symptom Complex as the result of enlargement of the hypophysis cerebri.

But others began to make investigations, and with the result that a number of theories were advanced to explain acromegaly, or Marie's disease.

The hypophysis consists of two main portions. The anterior contains cells, with but little coloring matter, and these are called the chromophore cells. The posterior portion of the hypophysis contains more highly colored cells, the chromophiles. Some then began to advocate that when the anterior portion was hypertrophied acromegaly resulted, while others taught that when the posterior porion of the hypophysis was at fault the overgrowth of bone was brought about.

Further research has led to the findings that neither view can be exclusively held. Yet, almost all pathologists now admit that acromegaly is in some way connected with disease of the hypophysis. In the large majority of cases of acromegaly there is found to be present some abnormal condition of the hypophysis. The study of other glands has thrown light upon this one. The thyroid gland may be very much enlarged and yet no exophthalmos; and, on the other hand, it may be but very little enlarged and this condition well marked. So in the cases of hypophysis cerebri, activity of function may not always depend upon size.

Within the past year the hypophysis has been removed several times by the nasal route. In one of these there was present marked acromegaly. This case was not only relieved of the symptoms of the brain tumor, but greatly improved in so far as the acromegaly was concerned.

The interaction of the internal glands must be borne in mind. In some instances of enlargement of the hypophysis there may be no manifestation of the symptoms of acromegaly, because some of the other glands are more than usually active and control the symptoms that might have arisen. The hypophysis hypertrophies after castration. The injection of thyroid extract lessens the activity of the hypophysis. In myxœdema changes are found in the hypophysis.

Diabetes is now recognized as a disease that may be caused by serious derangement in the function of some f the internal glands. It has been noted on many occasions that there is an association of acromegaly with diabetes.

It is reasonable, therefore, to assume that those cases of tumor of the hypophysis not accompanied by acromegaly, may be explained by some controlling activity of one or more of the other secreting glands.

DOES IT PAY? NO!

It is with deep degret that the medical profession, as a whole, hears of any one of its members being convicted of the crime of causing an abortion. The question comes up at once, why does any doctor engage in this sort of practice?

Several answers may be given to this question. One is that an abortion is procured from sympathy for the unfortunate girl. This, we think, does not explain many cases; and would not justify the act. In the long run the medical man who does such an operation out of sympathy for any girl or family is pretty sure to lose their confidence before long. No lasting friendship can be built on a foundation of wrong.

In those cases where a doctor performs an illegal operation for the sake of the fee, the criminality of the act seems to be greater, though in the eyes of the law, both may be regarded as the same. It is to such doctors that our answer is particularly directed that it does not pay.

In the first place, it brings no pleasure, happiness, nor peace of mind. One of the grandest aims of the doctor should be to raise the social and moral status of his patients, as well as improving their physical condition. Every time that a medical practitioner does an improper act for a fee, he has gone a long way towards lowering himself in his own estimation; and this is the most dreadful misfortune that can befall any practitioner.

In the second place, the clientele is not a desirable one. If in any walk of life the saying, *Noscitur a sociis*, is true it is here. The class of young men and women who seek to have these operations performed to get themselves out of trouble, will bring discredit to any doctor who yields to their requests. They will make the fact known, and the standing of the unfortunate doctor is soon dragged in the mire.

In the third place, all hope of a respectable and influential practice is scattered to the four winds. Those who have a proper conception of the legal and moral codes that should govern us all, will not seek the advice of a doctor who gets his name bandied about by the class who think nothing more about an abortion than the fee they may have to pay for its procurement. It is truly a case of choosing in which class a doctor purposes living out his professional life amongst. Shall it be among the abortionist class, ever downwards, or among the self-respecting class, ever upwards?

But it does not pay, because there is very little money in it. The same time and attention devoted to a better class would bring as much money, and far more influence.

In the last place it is a most dangerous practice. The very persons that have been helped out of their trouble will, the very next day to save themselves, give the unfortunate doctor away. It is true here as in most other things that when wrongdoers quarrel honest people get at the truth.

Our advice is that for no fee, however large, nor for any influence, however great it may appear, yield to do a criminal abortion.

PATHOLOGICAL DISCOVERY AND ITS BEARING ON PREVENTIVE MEDICINE.

In his address at the College of Physicians and Surgeons, Columbia University, New York, on 3rd February, Professor Adami, of Montreal, showed in a most convincing manner that medical science had recently made some very remarkable advances.

He drew attention to the great work of Professors Koch and Pasteur during the years 1882-87, when the real foundation was laid for the principle that infectious disease is due pathogenic micro-organisms within the system.

He also drew attention to the researches of Finklenburg, of Boun, who has estimated the average duration of human life in the 16th century as 20 years. In the middle of the 19th century it was 37 years. Now it is over 40 years. The mortality in London from 1620 to 1643 was as high as 70 per 1,000. A year ago the death rate in London was

14.3. In New York the death rate has decreased by 5.89 per 1,000 during the past 25 years.

On tuberculosis, Professor Adami made some very interesting observations. He stated that in his 1,400 autopsies there was macroscopical evidence of tubercle in 45.5 of the total, or, if some doubtful indications were included, a little over 51 per cent. Some statistics place the percentage as higher than this of persons who show evidence of active or old tubercular infection. "It would seem that there is no very great exaggeration in the statement that every one has his bit of tuberculosis, even if, fortunately for us, the majority are able successfully to hedge in that bit and render it harmless."

Attention, in the address, is given to the former opinions held regarding tuberculosis. Professor Peters, who held the Chair of Pathology in the Paris Faculty, declared in 1882 that tuberculosis was not contagious, and held that tubercle was due to a vice of nutrition and a loss of vitality.

In England and Wales the death rate from tuberculosis was 38 per 10,000 of the population in 1838. By 1884 it had fallen to slightly over 18 per 10,000. "Since then there has been a distinct acceleration in the fall." In New York there has been a marked reduction in the death rate during the past 10 years. In Edinburgh, even better results have been secured. In the years 1887 to 1896 the death rate fell from 19.5 to 17 per 10,000, and by 1906 it had fallen to 11. The percentage reduction in the first 10 years was 12.82, and in the second 10 years it was 42.1. In the past ten years, as the result of exact knowledge, there has been a greater reduction than in the previous 50 years.

Coming to the question of malaria, we note that an error crept into some remarks in our previous issue as to Professor Adami's statements regarding the mortality in this disease. While the death rate is high, it does not cause one-half of all those that occur in the world. The mosquito is also the real cause. This is one of the great scourges of the human race. In India in 1892 there were 7,000,000 deaths, and that 5,000,000 were due to "fever," and that fever in the tropics indicates most often malaria. In China and in Central and South America and in many parts of the United States, this disease had wrought terrible ravages. In India 3 out of every 7 British soldiers suffer from an annual atack of malaria, while on the West coast of Africa each suffers from the attacks yearly on an average.

Professor Adami referred to the studies on Greece and Rome to the effect that much of the decline in these countries was caused by the introduction of malaria. The Island of Mauritius is a noted example of the evil effects of this disease on the health of the people as seen since its appearance there in 1866.

The discovery of Laveran in 1880, and the paper of Dr. King, of Washington, in 1883, claiming that the mosquito must be the carrier, did not lead to any definite measures of a preventive nature, but they laid the foundation for further work. In 1897, Dr. Ronald Ross solved the method of the spread of the disease and how it could be prevented. The person must take steps to prevent being bitten by the Anopheles; or, better still, prevent the breeding of the mosquito. The case of Ismalia in Egypt is cited. This town is occupied mainly by employees of the Suez Canal Company. In 1877 a fresh water canal was constructed to secure a supply of drinking water. This afforded a good breeding place for the mosquito, and malaria became common in the town. In 1902 a mosquito campaign was started, and since then the frequency of the disease has decreased steadily. Last year there were no new cases, and this, by the efforts of four men acting under the medical health officer.

Attention is directed to the good results from "drainage, oiling the water, and the use of mosquito netting." The mosquito brigade in Havana has done excellent work. Col. Gorgas, on the Panama Canal, has done even greater service. "It was the mosquito that brought ruin to the French project." The death rate in the canal zone is now less than that of the City of New York. Mosquito prophylaxis done almost all of this.

With regard to yellow fever it "has been and absolutely proved to be conveyed by this insect." The variety of mosquito in this case is the stegomyia. The work of Reed, Carroll and Lazear were of the utmost value. The mosquito brigade in Havana has greatly reduced the incidence of the disease. In 1900 there were 302, and in 1901 only 5, and in 1902, none.

Professor Adami further referred to the work of Pasteur and the French commission in reducing the death rate among sheep from 10 per cent. to less than 1 per cent. The wonderful work that had been accomplished in the employment of preventive inoculation in rabies. Also in the reduction of the mortality in diphtheria through the use of antitoxine.

The predisposing causes to disease should not be neglected. But the main consideration in infectious diseases must be with the specific causes. "Vagueness gives way to clearness of vision." It is necessary to gain a knowledge of the life habits of the several organisms, "and as a result that each disease induced by these agencies must be proceeded against by special means."

A strong plea was made for the state employing and paying for the services of those who would prevent rather than cure disease.

ORIGINAL CONTRIBUTIONS.

ADDRESS.*

By DR. ALEX H.. FERGUSON, of Chicago.

GENTLEMEN,—At the annual banquet, at the Royal Alexandra Hotel, Winnipeg, Feb. 16th, 1909, standing before the Alumni of Manitoba Medical College for the first time in 15 years, I am moved by the conflicting emotions of pleasure and regret. I am very much pleased to be here to-night, but exceedingly sorry at not having been able to be with you and your friends on all previous occasions. Let me assure you most earnestly that I appreciate, more than I can express, this great honor of once more addressing the graduates of my own college (founded by Dr. Ferguson in 1882) and my associates from 1882 to 1894, as well as my friends, since 1874, when I first set foot on Manitoba's soil.

The dear friends gathered at this festive board, present a scene to me long to be cherished and remembered, one that would stir even a more phlegmatic individual than myself. Let me frankly admit that it was not within the limits of my sanguine and ambitious nature to resist your kind and pressing invitation, and my anticipations are now more than realized. I longed to come back and see my old friends and to form new ones, more than to observe the advancement of Winnipeg and its institutions, of which you may be justly proud.

The stability and faithfulness of my friends in this city I have tried, and they are grappled to my soul with hooks of steel. Friendship has been defined (and it is not inapropos to this occasion to use the definition) as the "adhesion of minds and the cohesion of purposes to love and guard each other."

Wherever a man may go he cannot but realize that he is not self-sufficient, but is a creature of desires, bound to the rest of the people by laws, tendrils, claws and roots of the most relentless necessity. Whether in Canada, or in the United States, in Winnipeg or Chicago, he lives at the bottom of the same aerial sea, his functions, desires, household and public relations are pretty much the same. In the seething mass of humanity, such as is found in large centres, observation of the laws of industry are paramount to success. It is more pleasant to work than to starve, and in the struggle for recognition it is but human and refreshing to stand on the other fellows' heads and crow. For this self-aggrandizing reason, if for no other, labor becomes a pleasure by practice, although philosophically it is a pain. A man may

*Delivered before the Alumni of the Manitoba Medical College.

be shrewd, able, clannish, stragetic and have health, but if he does not work, he is doomed to failure. Indeed one cannot escape mental and physical work by shirking, by machinery, or by co-operation. This is as it was, as it is, and as it must be, so long as the rainfall and sunshine do not bring anything more nutritious than water and light. The truth of the matter is, however, that owing to the love they bear for their calling, but few doctors retire from practice. The doctor never tires of doing good or relieving pain, and saving lives, whether there are pecuniary interests involved or not, while on the other hand, the commercial pursuits become tiresome; a trade irksome and the possession of much wealth burdensome.

One of the functions of an active worker and teacher is, to settle, if he can, the mooted questions bearing on the cause, diagnosis and treatment of functional disturbances, accidents and diseases. The surgeon must know the history, principles and practices of surgery. He is also confronted with problems of diseases, medical mysteries throughout the ages, uncontrolled by drugs of any kind. Certain conditions of the brain, lungs, liver, stomach, intestines, appendix, gall-bladder, kidneys, uterus, ovaries, etc., are now within the realm of surgical relief, that but a few years ago were erroneously treated by internal medication. Internists were quick to discern the incalculable benefits accruing to suffering human beings, of exposing diseased organs to sight before they became destroyed, but now they not infrequently demand an operation, while the surgeon hesitates to use the knife.

The practice of empirical surgical and medical treatment of diseases demands more research to determine that which is rational. Year by year hidden truths are being revealed. The general public are beginning to realize the importance to it when a new remedy is discovered, or another and a better technic of operative procedure is devised. There are not yet many research laboratories supported by public or private means; but there will be. The State of New York was the first in the world to direct its public funds to the establishment and maintenance of a laboratory for scientific research work in cancer. The name of Dr. Roswell Park, Buffalo, is closely connected with this institution and he and his co-workers believe that they have discovered the cause of cancer. In a contribution by him to the International Surgical Society, last September, at Brussels, we heard him assert that the etiology of cancer was an infection, and that in their New York laboratory the cure for this dreadful disease was about to be revealed. It is clear to all medical men, judging by the signs of progress that is being made, that the roots of all diseases will soon be dug out of their hidden habitats, and an opportunity given us to level our armamentarium of remedies at their destruction.

During the last fifteen years, since I left the scenes and labors of a Winnipeg practice, medicine and surgery have become more international than at any time in history. In this evolution, hardships without number have been encountered in times of peace and war; lives have been sacrificed that a people might be saved; daring deeds, unexcelled industry and charitable acts all go to prove one thing, and that is, that medicine as a whole is the most altruistic calling of our advanced civilization. Those of us who enjoy responding to the call for relief, only give to others what fortuitious circumstances, through a kind Providince, has bestowed upon us.

With a full realization of the importance of this occasion, I feel that I have a message for the public as well as for the medical profession of Manitoba. I know that you will credit me with the sincerest motives for the general good, in my expressions, and whatever I may lack in lucidity, let me entertain the hope that my enthusiasm, which I have never been able to control, and for which I offer no apology, will be emulated by younger generations of this country, my native land.

Let me briefly outline my discourse.

I. Race Improvement: A Public Duty.

II. Popular Lecture Courses: A Professional Duty.

III. Surgical Advancement in the Last Fifteen Years.

Race Improvement—A Public Duty.

When this great Northwest is being populated with immigrants from various countries, and of different types, an opportunity presents itself to the Government of Canada and its Provinces to make such laws as may improve the human race. Let segregation be dispensed with as much as practicable. Let land grants be so distributed as to effect a general mixture of the people from all nations. It is a mistake to allow the establishment of settlements such as the English settlement, the Scotch settlement, the Irish settlement, or the French, German, Russian, Icelandic, American, etc., settlement. In order that the culture, the education and the health of the people may not suffer, an improvement in the rising generation, physically and mentally, must be carefully planned. The congenital defects, diseases, crimes, hereditary degeneracy, etc., of society can only be cured, prevented and diverted, by enforcing suitable laws governing the individuals that propagate the race.

The medical profession gains more knowledge of man, physically, intellectually and morally, than do those philosophers who write at great length on sociology, and yet the doctor has not enriched the world with a better philosophy, for he has been kept too busy at conserving the

individual. In order to improve humanity, some thought must be given to race culture, first from a physical standpoint, and then from the viewpoint of intelligence and morality. It is clear to me that this must be done by the nation as a whole. The generative stream must be changed to improve man, not by what we call "natural selection," but by scientific and social regulations. This process of regeneration is of necessity one of healthy generation. Like begets like, and must always do so. We Caucasians are the pale-faced duplicates of our progenitors, and our progeny will be a repetition of the past. The fundamental class of heredity have been, and no doubt will be, the same as they are to-day. Any physical change in form and mentality to improve man must be selected by man according to scientific environments, for he is the unrivaled reformer of the universe. The discrimination in favor of bringing fitter elements of reproduction together must be rational and conscious. Let us raise and develop a different type of bipeds. Let us apply some of the principles that have improved the equine and bovine, to the hominine species.

The true status of affairs is to be distinctly realized, and from the darkness will come the spark of illumination. Sociologic processes are the natural followers of biologic changes. All must come through the gateway of the womb. It is not more babes the world needs, but more of a particular kind of babes—those free from congenital defects, hereditary diseases, and tendencies thereto, and babes of genius and virtue.

What use have we for innate brats that can only travel to a degenerate maturity by the aid of the doctor? None, whatever. Why should criminal blood be injected into posterity? Why should drunkards, kleptomaniacs and moral degenerates be licensed to produce deficient beings like themselves? Tell me why a fool should propagate an idiot? Is there an legerdemain of logic that justifies society to allow a hypochondriac to curse his progeny with wretchedness? Let me ask what are man's obligations to the future? Are they to give more consideration to plants, flowers, dogs, cats, horses and pigeons than to rearing high-minded and strong-bodied boys and girls? Not at all. Defectives should no longer be produced. They are only the sad survivals of an inglorious evolution, forced upon humanity by the careless flotsam of a capricious heredity.

Then comes the question—Has society the right to protect itself and its posterity against spurious products? Certainly! The responsibility of all responsibilities is the parenthood. Let it be more serious, deliberate and conscientious, individually and collectively. It is clear to the doctor that a person suffering from syphilis, gonorrhea, and tuberculosis should not be allowed to infect and afflict others. Let me entertain the hope that our profession will impress the legislatures of Mani-

toba and the Dominion with the necessity of judiciously controlling and guiding the generative stream.

At a recent joint meeting of professors in the collateral sciences and the members of the Chicago medical profession, eugenics were discussed from many points of view. It is a live subject.

There are three certificates importantly bearing on this subject that should be more thoroughly guarded by public authority.

1. The Marriage Certificate.
2. The Birth Certificate.
3. The Death Certificate.

With the marriage certificate should be recorded the family and personal history of each contracting party, paying special attention to (*a*) congenital defects, (*b*) hereditary diseases, (*c*) acquired diseases and habits, and (*d*) a brief statement of their mental and physical condition. Why should a couple of impulsive non-entities enter into a life contract when neither life, health, nor an accident company would for a moment accept either one of them for membership. Such a registry of marriage would become a fountain of knowldge, to which fathers and mothers would refer before assenting to the marriage of their children. The fickle, fanciful, flippant affinity, so called, would soon loose its charm when a degeneracy or insanity were traced to contribute directly to its cause. What a good thing this marriage certificate would be, even though it might necessitate the aspirants to matrimony to carry their geneological trees in their pockets, stamped by the government, and proudly show of what stock he or she belonged.

By adopting suitable plans to prevent improper marriages, the streams of polution that carry the curses of the fathers unto the third and fourth generations, would in time dry up. Then would be less divorces, less insanity, less crimes, less drunkardness, and in the generations to come, a better and healthier people would decently walk on the face of the earth.

A certificate of birth should, of course, record the name, sex, date of birth of the infant and the name, age, etc., of its parents; but for the purposes of improving on the human babe it is also valuable to know (*a*) the environments of the family and (*b*) the physical conditions of the new born. These certificates should be furnished in blank by the authorities and filled in by the doctor. The institution of precautions such as these would register in many instances the cause of a blemish to be an instrumental delivery and not to be in the blood of its parents. It is a difficult matter for a father or a mother to explain why "John" or "Jane" is feeble-minded, has fits, or is a cripple; it is, however, some balm to a family pride and conscience to know that the real cause was not hereditary and that, that was publicly recorded.

The final disposal of the corpse usually is burial or cremation, which methods are sanctioned by a certificate giving the cause of death; but in many instances the actual cause of a fatal termination of life is not known. The people should be taught to understand that it is valuable to the family, valuble to each individual in the family, valuable to the physician and community to have placed in the public archives a proper death certificate in which the cause of death is cleared up by a post mortem examination when necessary.

The post mortem examination should be made by an expert pathologist, in the service of the public, and as independent of the medical profession and the public as is my friend the Chief-Justice of this Province.

The American Health League was organized only three years ago. It already has a membership of over 2,000. Three great political parties have included in their national platform the health planks of the League, and two United States Presidents have adopted its program as their official policy.

Popular Lecture Courses.

In 1904 the Chicago Medical Society inaugurated a free popular lecture course which has proved to be not only intensely interesting to the laity, but also very instructive. These lectures are given in the Public Library Buliding by volunteers from the membership of the Society. The lectures are held once a week, on Saturday evening, and are of only one hour's duration.

This feature is in charge of a committee, appointed by the Society, and every effort is made to give the course all possible publicity. Notices of the lectures are posted in the department stores, colleges, hospitals, dispensaries, training schools for nurses, settlement headquarters and in all public places where the masses are wont to gather.

The attendance on these lectures has demonstrated their value. Owing to the capacity of the hall, the attendance has not exceeded five hundred at any one lecture. The average attendance is about one hundred and fifty. The most prominent men in the profession have given their time to this work. Among the subjects discussed are the following: "Nervous Children;" "Responsibility of the Community in Tuberculosis;" "The Organ of Mind; Its Structures and Problems;" "Surgical Emergencies;" "Eye Defects of Backward Children;" "Air and Health;" "Race Suicide for Social Parasites;" "Milk and Bacteria;" "Biliousness;" "Hernia;" "Appendicitis;" and so forth.

Many of the lectures are illustrated with stereopticon views, and not all the subjects discussed are of a medical nature. Prominent public

officials and educators have done their share toward making this course successful.

The Chicago profession was the first to take up this work. Two years ago New York undertook the same thing, and the work there is likewise successful. In Chicago the homeopathic members of the profession have just instituted a similar course, the lectures being delivered in the pavilions in the small parks distributed throughout the city.

The gullibility of the laity in things medical is notorious. This is clearly manifested by the large sales of patent medicines and by the outward prosperity of advertising quacks—the public sinners in and out the profession. It is owing to man's crass ignorance of himself and what ails him that pathies and isms find a foothold at all. The recent action taken by the general Medical Council for Great Britain, of appointing a Royal Commission on quacks and quackery is very much to be commended (Canada Lancet).

"Give us but knowledge, though by slow degrees,
And blend our toil with moments bright as these."

THE UNIVERSITY IN RELATION TO THE STUDY OF MEDICINE.*

By G. SIMS WOODHEAD, M.A. (Cantab.), M.D. (Edin.), LL.D. (Toronto).

MR. President and Gentlemen,—It was with special pleasure that I accepted the invitation forwarded by your respected Dean of Medical Faculty, Dr. Reeve, to address this audience at the opening of the Academic Session of your Faculty. Still, owing to the shortness of the time at my disposal, for your invitation came just when I was in the midst of winding up the work of our academic year before starting out for a very busy time on this great continent, (I know you will not accuse me of false modesty when I say this) I felt that it would be impossible for me to do justice to the importance of the occasion. When, however, I come to consider the friendliness of the invitation, the strength of the bonds that connect us, of blood, of country, of interest and of thought; and the wealth of friendship and hospitality that was extended to those of us who came over from the Mother Country a couple of years ago, I took heart of grace, and determined to throw myself on your kindness and grasp the privilege of being allowed to come amongst you, and for the moment, to share your aspirations and discuss not only your prospects but your plans for the building up and strengthening of a Medical School which has made such an honorable

* Delivered at the opening of the medical session.

name in the annals of medicine. You in Toronto and we in Cambridge, with our common heritage and interests, and similar aims being confronted by similar problems must attack those problems along similar lines and, in the long run, with similar weapons. The men who have achieved distinction in our schools receive your homage and respect; the men whose names are inscribed on your roll of fame are honored in our schools. We enjoy the common benefits to humanity conferred by these workers and we are co-operating in building on the foundations these men have laid, an edifice sacred to that profession of which we are all so proud.

In recent years the interchanges of ideas between the workers in the various fields of medicine have been more frequent than of yore, with such gain to all concerned, that most of us must be filled with profound satisfaction, that they have also tended so greatly to strengthen the bonds not only of kinship, but of thought and community of action in all that makes for the advancement of the science and practice of medicine. May the spirit that animates those interchanges continue to increase, to broaden and to deepen with each succeeding year.

Whilst casting about for a subject on which to found my address, I spoke to one of your alumni, Dr. W. H. Harvey, who by his work in our Pharmacological Laboratories has been bringing credit, not only to your school but to ours, and I learned from him of your decision to add an additional year of medical study to the course qualifying for the M.B. degree of your University. All questions of modification of curriculum are of vital interest to me at present. We in our Medical School in Cambridge are in the throes of development, and, naturally, we are anxious to work along lines that will lead us to the most satisfactory results. I thought then that I should like to discuss this matter with you. In order to obtain data for this discussion I have made a careful analysis of your curriculum and of those of Edinburgh and Cambridge Universities, with which two latter, as the result of careful study and comparison, I am specially familiar.

You have the advantage of a "clean slate" and I am going to ask you to look for a moment at your advantages as seen through the eyes of one who has followed the working of an older system, that of Edinburgh, and of a more recent system, that of Cambridge. The former may be taken as a type of the Scottish schools, an old medical school in which some preliminary education is required, and in which at one time what is called university education and culture were looked upon as not only desrable, but essential. In the olden days every student in medicine was supposed to have completed a three or four years' curriculum in Arts and to have passed an examination in "Philosophy," "Mathematics," and "the Humanities," such as would entitle him to

the degree of Master of Arts. With the new Medical Act, of 1855, I think it was, this requirement was relaxed, and after various intermediate arrangements, the student before commencing his medical studies must, in lieu of the Master of Arts examination, pass a preliminary examination in English, Latin, Elementary Mathematics, and Greek, or French, or German unless the native language of the candidate be not English, in which case the native language of the candidate may be substituted for one in either French or German and an examination in any other classical language for one in Latin or Greek.

The course of medical and surgical study extends over five years. The course of lectures delivered during the winter session usually consists of at least one hundred lectures and the summer course of fifty lectures, though short courses in some subjects may be delivered during the winter session. Candidates for the degree of M.B., Ch.B., must have attended for at least three academic years the medical and surgical practice of a general hospital which accommodates not fewer than 80 patients, and possesses a distinct staff of physicians and surgeons. They must have attended a course or courses in clinical surgery extending over not less than 9 months, consisting of regular instruction at the bedside along with clinical lectures. A similar course of training in clinical medicine is required. Evidence of instruction in, and knowledge of special branches of medicine and surgery are also required in the final examination. With respect to the places and institutions at which the studies of the candidates may be prosecuted, the University though liberal is exceedingly cautious. Two of the five years of medical study must be spent in the University of Edinburgh. The other three may be spent in any University of the United Kingdom, or in any Colonial or Foreign University recognized for the purpose by the University Court, or in such medical schools, or under such teachers as may be recognized for the purpose by the University Court. Of the subjects of study, 16 in number, namely, Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, Practical Physiology, Practice of Medicine, Surgery, Midwifery and Diseases of Women, Pathology, Practical Pathology, Physics, Botany, Zoology, Medical Jurisprudence and Public Health, not fewer than 8 must be taken in the University of Edinburgh or in some other University of the United Kingdom, or in some Foreign or Colonial University entitled to confer the degree of Doctor of Medicine recognised for the purpose by the University Court, or in a college, incorporated with or affiliated to a University entitled to confer the degree of Doctor of Medicine recognized for the purpose by the University Court..

Women are admitted to graduation in medicine under practically the same conditions as men, the medical college for women taking the

place of the University as a place of instruction, there being no provision for teaching women in the University Medical School. The examinations are conducted in writing, and orally, and where the subject admits, clinically.

Now, let us see how these subjects are treated in the course.

The first examination in which the knowledge of the candidate is tested as far as possible through specimens placed before him, may be taken at any period after the student has attended the qualifying courses of lectures, demonstrations, and practical classes in Chemistry, Zoology, Botany and Physics.

Candidates may pass any or all of these subjects at any University of the United Kingdom or at any University approved by the Senate for this purpose, when such subjects qualify for a degree in arts or science. Candidates who have satisfied the examiners in the subjects of the first examination may present themselves for a test in Physiology as soon as they wish after attending the qualifying courses, and in Anatomy any time after the first half of the third Winter Session. In the third division the student may present himself for examination at any time after the third Summer Session in the case of students who begin their work in October and at the end of the Fourth Summer Session in the case of students who begin their curriculum in May. Materia Medica may be taken at the end of the fourth Winter Session, and Practical Pharmacy and the Physical, Chemical and Botanical characters of medical substances at any time after the student has completed the necessary course of study.

In the fourth division a student after taking the prescribed course of study may be examined in Forensic Medicine and Public Health, at any time; in Midwifery at any time after the end of the first half of the fifth Winter Session, and in Practice of Medicine and Surgery, at any time after the end of the fifth Winter Session, and in Clinical Medicine, including the diseases peculiar to women, and Clinical Surgery, at the end of the fifth year of study.

There is much that is good in this arrangement, and it may give excellent results if properly worked, but a little later, I shall criticize it in one or two somewhat important details. It is, no doubt, the outcome of long experience, not only of the work done in Edinburgh, but of that done in the other Scottish Universities; for since the last report of the Royal Commissioner on the Universities, the governing bodies of these institutions have been brought into much closer touch than was formerly the case, and their curricula have been brought much more into line. Before leaving the description of the curriculum of this school, it may be mentioned that Bachelors of Medicine and Bachelors of Surgery may proceed to the degrees of Doctor of Medicine and Master

of Surgery, after they have spent one year in the medical or surgical wards respectively of an hospital in the military or the naval medical service, or in scientific work bearing directly on their profession, or two years in "practice." In each case an examination must be passed, and a thesis submitted for the approval of the Faculty.

The Cambridge Medical School represents the newer schools, for though it has for long sent most distinguished men into the profession, it only came to occupy an important position as a centre for medical teaching and research some 35 or 36 years ago. Here a student must "keep" or reside nine terms (three years) after pasing the previous (or Matriculation Examination for the University) examinations or some coresponding examination in Classics, Mathematics, English, etc. This examination must be taken by every student of the University either before he enters, or at as early a date as possible afterwards. He may commence the study of medicine at once, though this is the exception. Most men proceed to a degree in Arts, many continuing to study Classics and Mathematics before they proceed to their Medical studies, the majority, however, take an Honors "Tripos" in the Natural Sciences. Where time is an element of importance, this latter course is invariably adopted, as much of the work done for this Tripos examination is useful for the first and second examinations for the M.B. degree. The regulations as to period of study are much the same as in other Universities. Of the five years' study required after registration, the first three or four are usually spent in Cambridge, during which period the student passes the examination for the Natural Science Tripos (1st Part), sometime he will also take a "2nd Part Tripos," specializing for a year in some subject such as Advanced Physiology, Anatomy, Chemistry, Botany, or Geology, and the first M.B. examination, including Chemistry and other branches of Physics and Elementary Biology. (These may be taken together or separately), and the second M.B. examination in Human Anatomy and Physiology, both of which subjects must be passed at the same time. These two examinations should be cleared out of the way by the end of the 9th term. Many men leave Cambridge at this period, but an increasing number stay for two additional terms, until they have passed the first part of the 3rd M. B. examination in Pharmacology and General Pathology. They are then transferred, most of them at any rate, to the large London, Provincial, and Scottish or Irish schools where clinical material is more abundant and facilities for clinical study are greater than can possibly be provided in such a small town as Cambridge. Two or two and a half years later the student returns, takes the 2nd part of the 3rd M.B. examination, at which he has to profess the principles and practice of General and Special Branches of Surgery, Midwifery and diseases peculiar to women,

Principles and Practice of Physics, including mental diseases, Medical Jurisprudence, Hygiene, and Public Health, etc.

One of the features of this part of the examination peculiar to Cambridge, and a most admirable one, is the "Keeping of the Act in the Public Schools" in which a candidate reads and defends a dissertation composed by himself on some subject previously approved by the Regius Professor of Physic.

The degree of Doctor of Medicine may be taken three years after that of M.B. Moreover, if the student does not wish to take his M.B. at all, he may proceed to the degree of M.D. four years after passing his M.B. examination, taking his M.A. degree. In each case the procedure is the same. A Thesis containing original work has to be sustained in the Public School. At this Act any member of the University may submit the candidate to a *viva voce* examination on any work contained in the Thesis. This duty is usually, of course, undertaken by the Regius Professor of Physic and a Doctor of Medicine of the University who is appointed to act as his assistant. The candidate has also to write an extempore essay on some subject relating to Physiology, Pathology, the Practice of Medicine or State Medicine.

Now, ladies and gentlemen, I am sure none of you will accuse me of disloyalty either to my Alma Mater, which has a very deep and abiding place in my affections, or to the mother that has so graciously adopted me, if I criticise in certain details the Medical curricula as pursued in Edinburgh and Cambridge Universities, respectively.

The long courses of systematic lectures given in Edinburgh, and necessary for the degree are in themselves admirable, but that they are desirable or necessary, I am far from satisfied. In the day of their institution they formed, no doubt, the very best means of conveying instruction to the medical student. The great teachers of the Italian, French and Dutch Medical schools, each of whom had his following, had no other means than by word of mouth of imparting to his students the knowledge then extant. The Scotsmen who studied in London, in Bologna and in Paris came back to their native land as bearers of the good tidings in Medicine from these teachers. There were, of course, no text-books. Knowledge could only be handed on, direct, from master to disciple, or from father to son, and the Scottish lecture system based on that of the continental schools became famous. The busy men who were the great physicians, and surgeons, and also the great teachers of their day, had time to teach orally but not to write systematic treatises; they had even time to build up, gradually, from notes taken from their teachers and from their own experience and practice systematic courses of instruction which they could repeat and add to year after year, but which were still not ready for publication in permanent

printed form. As knowledge was spread and information became crystalized and printing became easier and cheaper, text-books containing all that could be given in ordinary lectures, and even more, came into the hands of the student, and the need for such lectures became less and less urgent. It is the Scottish system to treat every main subject in the curriculum in either fifty or one hundred lectures, no fewer, no more. Is it reasonable to suppose that all these subjects can be treated in the same way and that all teachers shall have just this amount to say of each of them. Lectures are of supreme value in bringing the mind of the student into close touch with that of his teacher, but for the mere setting forth of facts they are worse than useless.

I have listened to a course of lectures from Professor (now Lord) Lister almost every sentence of which was an inspiration, but in other instances, after listening to the first lecture or two, I have taken the text-book of the professor into class with me and there have followed the lucidity and pithiness of his written word, sometimes, I am afraid, comparing it the while with the verbosity and muddiness of his oral teaching. Edinburgh has great traditions and the work done by her Alumni affords ample justification of the method in the past; but in common with many others I cannot help feeling that much of the professional lecturing might, with very great advantage, be curtailed; that the remaining lectures might be expository and illustrative, and that some of the time thus set free might be devoted to practical work, to explantion and criticism of good text-books by the Professor or his assistant demonstrators or to actual reading. Although I would cut down these systematic lectures in certain subjects—and in some the pruning should be ruthless—I should like to see it expanded in others, especially where a man could, out of the wealth of his knowledge and experience, give what no text-book can give—a reasoned account of special conditions met during the carrying on of the work in the laboratory, in the wards and in the side room.

The professor would thus come to be the friend and companion and leader, not the fingerpost or pointer. In the newer schools where tradition does not demand these lectures, there may be a tendency to go too far in the opposite direction, and I know many teachers who, because lectures on one subject or by one teacher are of no value, will not allow that they should ever form part of a medical curriculum. I believe in laboratory and practical work and believe in them most thoroughly, but I think that the lecture has still an important place in the training of the medical student if only that it brings the developing mind of the student into contact with that of the man who is supposed to be his master and educator. Moreover, it is a good thing for the teacher himself, if he will not be content with stereotyped and text-book lectures. He must

have things clearly defined and and well arranged in his own mind before he can hope to explain them to others. If his teaching is to be up-to-date, his own reading and observation must not be allowed to lag behind, and the student profits.

As regards the arrangement and scope of the examinations, I might raise one or two objections, but it will be better for me to confine myself to a specific example, one to which naturally I have given some attention. In the third division the examination in Pathology may be taken at any time after the end of the third summer session in the case of students who begin the medical curriculum in October, and at the end of the fourth summer session, in the case of students who begin their medical curriculum in May. That is to say, it may be taken after three winters' work, certainly before the students can have any wide or varied experience of disease as seen in the wards. A preliminary examination in General Pathology and Bacteriology, the relations of Bacteria to disease, the nature of inflammatory and degenerative processes, of the processes of repair, elementary morbid anatomy and histology and the crude chemistry of diseased tissues, including the histology of blood and tumors, would no doubt at this stage be valuable, but beyond this I would not go.

Such knowledge the student requires for his ward work. Without it he can have little or no intelligent interest in the case he is set to examine; with it he can apply principles. Possessed of this knowledge, the student has no need to read up and remember the details of every case. He must pay special and fresh attention only to those details in which the special case differs from the type. The result is that every case he studies instead of merely conveying to the mind a mass of details, fits into its own place, and is studied as part of a whole, of which the outline or general plan is already being laid down in the student's own system of medicine. At this stage, moreover, the student is still unprepared to submit himself for examination in special pathology with its now numerous ramifications. His knowledge of clinical medicine is not sufficiently advanced to enable him to see the importance and understand the relation of special lesions in different organs, and I think that the Edinburgh curriculum would be greatly improved if, in the final examination, a place were found for Special Pathology. Without this the student is apt to think that in his earlier work he has covered the whole field of pathological lore, that disease has no special manifestations in different patients and that organs or parts affected by any general pathological process all react in the same fashion and are the seat of equally important changes. He fancies that he has "done with pathology" and that he need pay no further attention to it. Further the relation of Bacteriology to Public Health and what may be

called the higher General Pathology are left to the caprice of the student or the enthusiasm of some individual teacher.

On this matter I speak most feelingly, as we have had experience of it in Cambridge and are now trying to devise a way out of our difficulties, and I believe we shall succeed.

Some eight years ago we introduced into our Cambridge system of instruction a plan which certainly promised to be useful in advancing the preparation of our medical students who had passed their test examinations in the earlier science subjects of the curriculum, includnig Anatomy and Physiology. An examination in General Pathology and Pharmacology was introduced to be submitted to after a six months' course of instruction in these subjects. It was hoped that the student might thus acquire some knowledge of their elements before he entered the wards and might be in a better position to understand his clinical instruction and the Special Pathology of the cases with which he would be brought into touch. We found, indeed, that this object was attained, and theoretically the course of training and the examination did all that had been expected of them. The student was led to look for the cause of disease. He had already seen in his laboratory work some of the changes resulting from definite and described causes. He had been able to associate cause and effect and had been taught to look for a cause for every effect and to trace the often, no doubt, very slender apparent links between the two. He was no longer prepared to accept nebulous phrases and general statements concerning apparently connected facts. He wished to trace a continuous chain of sequence of events; of this I am thoroughly satisfied. We found, however, that while it meets the requirements for which it was introduced, the examination, as now carried out, entails a course of study which seriously hampers the time and work of the student who has to do part of his work in the Clinical Schools in our large cities. The range of subjects included in the syllabus, though not too exclusive in itself, is so wide that the course has to be extended over a couple of terms (Long Vacation and Michaelmas or Lent and Easter) and the student who has to begin his clinical or ward work in the middle of the winter or summer sessions loses valuable time while he is waiting to enter the hospital at the opening of the next session. This results either in his being behindhand during the whole of his hospital career or delays his qualification for a year. Moreover we are met by another unforseen difficulty experienced in Edinburgh, though in a different fashion. The enthusiastic student finding that he was so much ahead of the men at the same stage of their studies—i.e, comencing ward-work, had a tendency to consider that he had no further need to study pathology, and whilst his colleague, who has no illusions on this point, buckles to and continues

to work at Pathology during the whole of his hospital course, at the end of the time has certainly made his pathology part of his medicine and although originally he was not so well grounded and has had to waste much time in special study which a knowledge of the general part of his subject would have saved him, he is now better able to face not only examiners but patients, than the student who though beginning well, he afterwards neglected his opportunities of making himself practically acquainted with the result of the disease which has been his study in the wards. Curiously enough it has had the effect, too, of leading examiners away from the subject of pathology in its relation to medicine; and we are satisfied that not only must a portion of the time that has been given to the study and examination of general pathology be transferred to special pathology at a later period of study, but that a definite examination must be introduced into the final part of the examination in order that the student may realize to the full necessity for the continuance of his study of pathology. As you may imagine, in making any change we are anxious that the student should still devote some time to general pathology immediately after the Anatomy and Physiology examinations have been passed, and before ward work is commenced. By adding the elements of Pharmacology, Bandaging, Surgical landmarks and the methods of physical diagnosis, an admirable preparation for the wards is obtained. We further think that in this way a definite and rational sequence is kept and the student is allowed to see that there is a logical transference of what he has garnered in the dissecting room and the chemical and physiological laboratories to the ward and to the side-room, and that what he learned during the early part of his career as a medical student is an introduction to the study of Pathology, Medicine and Surgery, and that the two sets of subjects can never be legally divorced.

For many years there has been on the British side of the Atlantic a strong leaning towards what is called the "one portal system" of entrance to the Medical profession. Such a system would undoubtedly have very great advantages, though it would be accompanied by marked drawbacks in so far that it might interfere very materially with the individuality of the teaching in the various Medical Schools, as at present almost every school in the Kingdom has its own special teachers and characteristics. Many of us, following the lead of Sir Clifford Allbutt, have long been of the opinion that a University owes something more to its graduates than a mere preparation to practice Medicine. It is recognized, of course, that the holder of a license or diploma to practice medicine or surgery should be guaranteed by his teachers and examiners to be well versed in the practice of his profession, both as regards diagnosis and treatment. His early education should be such that he

is able to profit from the prelections and demonstrations of his teachers and by his own practice, controlled and guided by these teachers. No man who cannot pass an examination affording such guarantee is fitted, or should be allowed, to practise, but nothing more can be asked from him. In the case of the Graduate of Medicine, trained in the University, much more is expected. The University insists, to begin with, that a somewhat wider and more accurate general scholarship should be the foundation on which the medical building is to be reared. Whilst the individuality of the student and his special mental characteristics should be developed to as high a degree as possible, the University must leave the imprint of her training upon his mind, and whilst cultivating the true philosophical spirit, must encourage the development of keen powers of observation of detail along with the faculty of broader generalization when sufficient data have been collected. At the same time the faculty of now and again being able to project the mind into fields of working hypotheses is one to be aimed at. If you like you may put it that the University student should be trained in philosophy, in science, and in history, and finally in the field of imagination or shall we say, poetry. Many of us have often wondered if it were not possible to have some half-way house between the one-portal system and that now in vogue, with its waste of energy, its overlapping and its irritating repetition of examinational work. Might we not have a minimum standard of examination at every school in the Kingdom, or of certain bodies which as at present are entitled to license, and which, therefore, should be accepted as a qualification to practice, by each one of the Universities? Why should the student who has passed one qualifying examination be expected to run through the whole gamut of subjects a second time? Would it not be far better that the University in her part of the examination should concentrate on those special scientific branches of medical education which it is her special duty to provide for her graduates? Of course, if they had no qualifications to practice, she would by examination have to assure herself that the candidate has a competent knowledge of his profession. The teachers would thus make it their business to ensure that every man who came under his charge should possess the technical knowledge required for the license to practice but knowing that his student once having this knowledge perhaps along with much other that he can give would be examined by him along lines which would broaden and develop his power of making knowledge in the field of medicine, he would allow himself much more latitude in dealing with his men and would bring into play his special powers of teaching and encouragement along special lines. He would make it his duty to develop rather than to cram, with the result that he would turn out infinitely better students and workers. Applying this to the case of

Toronto, it appears to me that you have a special opportunity of moulding you curriculum along these lines. You have a University examination for your degree and a Provincial examination to entitle you to practise. These examinations, so far as I can learn, are kept absolutely separate, and apparently all the work has to be gone over in duplicate, thus involving a great waste of energy on the part of both students and examiners, and the expenditure of money that might well be utilised to much greater advantage. And with what results? You as a University must be satisfied that your graduates are qualified to practice their profession, but so long as you have their training in your own hands and there is a Provincial examination to test this special knowledge, why should you repeat it? Why compel a student to acquire a text-book knowledge more than once? Why compel him to write out the rote-work of diagnosis and of treatment, descriptions of splints and lists of muscles, paper operations and routine method of practice? With these out of the way why should you not examine your student in the wards, in the side-room, in the laboratories, in the dissecting room or operating theatre? You could thus determine at your leisure how much of the work that he had seen and done has been made part of his scientific and practical equipment and how much has become, as it were, a part of his own mental processes. Your student would then feel that real knowledge as apart from mere book-work must have a value, since his teachers and examiners rate it so highly and your school, whilst remaining, to some extent, the preparatory academy which all schools must be, becomes a grave for the culture of the mind and for the growth of knowledge. In all this there is one danger to be carefully guarded against. In your University it is one against which I have no need to warn you. In the Medical School of the Edinburgh University, where I learned to examine, they have an admirable system in which the Professor examines his own students, but he has associated with him some specialist, a teacher usually, drawn from outside the University. I believe that this is the best possible combination of examiners, as whilst the professor's knowledge of the student, of his industry and capacity, or the lack of them, always count for something, the external examiner approaches his task from a perfectly different and of course unbiased standpoint, and helps to keep the examination on a broader basis than were it left entirely in the hands of the teachers. In Cambridge, much to my regret, this system is not adopted systematically, though in practice it usually happens that at least one teacher in a department shall examine along with the examiner from outside. One thing for which I always contend is, that the examiners, whoever they may be, and wherever they come from, shall be actively engaged in teaching, as it is our experience that men who have left the schools

for even a few years get out of touch with the work in which the student should be expected to be well versed. Practice and experience, which make men so much more efficient in their professional life, lead them away from the knowledge gained during their undergraduate career. What to them appear most commonplace and belonging to all, however, in many cases is entirely outside the range of vision of the student. The surgeon who is no longer teaching throws aside many of what we may call his earlier crutches and having thrown them aside, they appear to him to be mere impedimenta and absolutely unworthy of consideration. He does not remember that they are in great part what the student has to lean on until he can gain his own experience. I am sure I shall not be misunderstood, when I say that the man who is engaged in active practice and is doing no teaching, has, from the examiner's point of view a much narrower outlook, and therefore one far less satisfactory from the point of view of the student, than the teacher who, constantly coming into contact with the developing mind of his student knows his strong points and what he should be able to acquire, but is also cognisant of his limitations and of the things that he has as yet neither opportunity nor capacity to attain to. I believe then, most implicitly that all examiners should be teachers. Moreover, as regards the earlier studies of the medical student, I maintain that this should be made an absolute rule not only in the University but on the Provincial Board of Examiners. In professional subjects, medicine, surgery, midwifery, and gynæcology, medical jurisprudence hygiene, insanity and other special branches of medicine and surgery. This rule might be departed from in so far that distinguished members of the profession who have taken a special interest, and attained special positions, in these various branches of the profession, although not actually teaching might be held to have a right to determine the standard to be attained by those proposing to enter the profession. Each non-teaching examiner, however, should, I hold, sit along with an examiner who is actively engaged in the teaching of the same subject. I say this advisedly as the result of nearly a quarter of a centrury's examining, during which period I have examined in every part of the Kingdom on more than a dozen examining Boards and have passed through my hands some thousands of students.

After all we should look upon examinations as necessary evils, and wherever they can be curtailed without in any way interfering with the detailed work of the curriculum, I believe the general standard of the work will be improved. One thing that has to be borne in mind is that the general standard of education in English speaking countries is steadily rising, and a time is coming when the earlier years of medical study will not be weighted down as they are at present by the necessity for giving some training in the very elements of language and science

as at present; but when that time comes I hope that a demand for time in which to carry on actual hospital work will not be so great that it will interfere with a thorough practical training in the ancilliary sciences of chemistry, anatomy, physiology, pharmacology and pathology, especially in regard to practical work, for these must necessarily still remain the foundation of medicine and surgery.

Most of us realize that we must have men who can do a few things well as the result of constant practice; these men must be good operators and well versed in the "rule of thumb." Such men are useful in practice, and they are entitled to a license to practice medicine. On the other hand, we must have men well trained in methods both of thought and action, men who know how to get at the "reasons of" and the "reason for;" men who can associate cause and effect, men who, although they have studied a few things carefully for the sake of method, have not been parasitic in their growth, but have been led to see and to think for themselves and to act on their own initiative. Such are the men we desire to have as University graduates. In the training of them very much depends on the thoroughness of their early work. After all, a man who has been taught to observe and to think in the chemical and physiological laboratories will require comparatively little training when he comes to turn his attention to pathology and pharmacology, whilst if here the work is thorough and the methods sound, the time required for the man to grasp the principles and practice of medicine and surgery will again be comparatively small. In the couple of years that you have this man in the wards you cannot make a great physician or surgeon even of him. Should you attempt it, you will court dismal failure; but you can, however, help to lay the foundation of a brilliant surgical or medical career, as experience and practice are carefully garnered and utilised. A substantial building may be erected on a broad foundation, but the inverted pyramid is as unsuitable here as in any other portion in the physical world.

Short cuts in the training of the medical man invariably lead to disaster. We are sometimes told that there were great physicians and great surgeons before the renaissance of science. They were great in their time, but would any physician or surgeon of to-day care to return to that dark period? Modern Medicine and Surgery have developed on a foundation of Anatomy, Chemistry, Physiology and Pathology, and even those who scoff, though furtively, at the idea that a student should be well trained in these subjects is daily making use of the material gathered by those who work in these fields. If this holds in the case of the subject as a whole, are we to return to practice without science in the training of the men who are to continue the work which we shall ere long be compelled to relinquish. We wish to turn out observers and

experimenters in the best sense of the term, and unless we train our students to search for truth, and to search in a thoroughly scientific fashion, we shall not produce the kind of men we desire as our University graduates.

It is not necessary for a student to remain a laboratory worker in the ordinary sense of the term throughout his professional life. His laboratory may be a much wider one, but it is essential that he should have been trained in laboratory methods in order that he may be able to understand the results obtained and that he may be in a position to interpret, in part at any rate, the results of those who are devoting themselves to laboratory research. Even though he may fall behind as methods become more complicated, he will much more readily keep abreast of these methods if he has a good, sound foundation to begin with. In this connection may I quote the words of one of your own professors—Professor A. B. Macallum:—

"The training in the science of the medical course then must serve to develop the scientific spirit. If a student does not, when he is being so trained, attain that clearness of mind, that capacity to relate facts to one another and to apply them in concrete cases, he has failed in the absolutely essential thing in medicine. Lacking this power and precision he will not acquire it in any training at the bedside. On the other hand, if he is properly trained in the laboratory he readily acquires and applies the methods of clinical medicine and surgery."

Certainly the man who is scientific in the laboratory will be scientific at the bedside, the accuracy of method and of thinking there acquired continues at the bedside, and the surgeon or physician in place of being dragged at the heels of tradition utilises what is the best handed down by those who have gone before him, but is never satisfied until he has, if possible, improved upon that best of his predecessors. Whilst there is no study that is useless to the physician, it may be said that in his training not a single one is essential. Let us remember that it is the method and the manner, not the matter that counts; that the powers that are educated may produce continually but that the brain that is merely stuffed may soon be drained of its contents; that anything that broadens a man's sympathy with human experience, that develops his powers of observation, his capacity for reasoning and of associating cause and effect, whether the cause be known beforehand or whether it be not known and the effect seen, all help to develop the intellectual power of the student. All this may be done in almost any field and with any medium or instrument or series of instruments, but let it be remembered, above all, that ultimately the man who runs strongest in the intellectual race must be he who is neither cramped by the bonds of tradition nor too long supported by the crutches of conven-

tion and authority. In this lie atrophy and sterility, not power and fruitfulness.

I know that many of your difficulties are similar to ours, and at present I know of no greater want than a number of Scholarships that will enable young medical men to feel that they may, without making too great a drain on the funds of their friends and without making them feel that they are not beginning to earn their own livelihood, devote their time and energy to certain branches of advanced work in the laboratories or in the wards. At the end of their curriculum they have obtained that training that will enable them to benefit by devotion to a single line of work, and one piece of work thoroughly well and scientifically carried out at this stage may be the precursor of a life work similarly well done.

I sometimes think that we encourage in our students too little independence of thought and of method. We set them all down to do exactly the same things in exactly the same way. This is well enough to begin with, but there comes a time at which the shrewd, quick-witted, active-minded man should wish to branch out a little, on his own account, and if the Professor is satisfied that the lad is working, and working to advantage, he need do little more than advise and encourage; the student will develop his own mind. The more of this that can be done the more original will be the men who go out from your University. It is this type of man to whom the Scholarship is invaluable.

I mention Scholarships advisedly, as I am satisfied that the wealthy citizens of Toronto can find no better investment for some of their money than for the foundation of scholarships for the encouragement of a more prolonged period of study and research after the student has graduated. Some of the scholarships may, during certain periods, bear little fruit beyond the immediate improvement and extension of the powers of the scholar, but in after life that man may do work which will be of enormously greater value to the community than were the sum of money expended in supporting and encouraging him during the extra period of training disbursed in almost any other fashion. On the other hand, under the guidance of some of the very brilliant men now engaged in teaching various branches of the science and practice associated with medicine and surgery in your University, some of these scholars would undoubtedly produce results that would not only redound to the credit of your University, of your Province, and of your Dominion, but might be the means of widening the vision or of alleviating the suffering of inhabitants of the wide world. You have built up your system of education from the primary, through the secondary and on to the ordinary University education and you have now for some time been engaged in that field of research without which the existence of no great

University can in the long-run be justified, and I would commend to those engaged in pursuits outside the University the opportunity they have of joining hands with those in authority within the University in the production and extension of knowledge, not only through the foundation of Scholarships, but through the endowment of buildings, teaching, and research. I may be prejudiced, but to me it appears that this power in the hand of a wealthy man is so great that it is the one attribute of wealth I envy most.

The present tendency to specialization has associated with it certain advantages, but bound up with these are serious and well recognized dangers. The more I see of the training of the medical student the more I see the necessity for the laying of a sound general foundation. I am satisfied that far more men have been ruined by being sent into the wards at too early a stage in their student career than by being kept out too long. Special examples of men who have specialized will, of course, be brought forward as illustrations of the fact that excellent clinicians and brilliant operators have been trained in what is called the purely practical and clinical school. My answer to this is that some men can do anything and will do it whatever the system of training may be and whether they train themseleves or are trained by a great individual. It has to be remembered, however, that we have to deal principally with the average medical student; and although as a type he stands high, we must accept him "in bulk" as the average of his type, and the system that turns out the best trained men with the soundest foundation is sure to turn out also the highest average physician and surgeon. Moreover, although your brilliant men may not stand out so prominently from this high average, even they attain a position absolutely higher because of the sounder foundation on which they build. In your University you have to build up the useful, God-fearing, man respecting citizen, and in the Medical Department of your University you have to utilize these men to the greatest advantage.

Gentlemen, you have the proud distinction, and I look upon it as a real distinction, of being the only University in Canada which gives two degrees in medicine, the M.B. and the M.D. If you accept the Provincial Boards' examination as a qualification for practise you might, as I have said, commence at once to train your men for the higher degree even before they take the lower, though the M.B. would still be a distinction as the mark of a University graduate. Your M.B. would rank as equal to the M.D. of almost any other University, whilst the M.D. (Toronto) would stamp your graduate as having satisfied his University that in the hospital or in the laboratory, or in some broad field of practice or research he had attained a distinction sufficient to entitle him to be recognized by the giving of the higher degree of Doctor

of Medicine. It is always maintained in both Edinburgh and Cambridge that their M.D. degrees were in the one case and are in the other, of special value because they mark a definite boundary line between what we may call the phase or period of receptivity and that of production. In Edinburgh at one time and in Cambridge at present the examinations are no longer in the way of the candidate when the M.B. examination has been safely negotiated, and the candidate for M.D. relieved of its incubus, is encouraged to devote himself to original observation and research without which the production of a respectable thesis is almost impossible. It may be said that many of these theses are simply reports of what the graduate has observed in his every-day practice. What better work could there be if those observations are carried out in a thoroughly scientific spirit? For many years Edinburgh held the field as the trainer of medical men for all parts of the English-speaking world, and her success, I am convinced, was due largely to the fact that she made this distinction between her M.B. and her M.D. degrees; and just so far as other great Medical Schools proceeded along these lines before Edinburgh attained her eminence or have followed her example in this matter, just so far have they been recognized as Medical Schools of the first order. It is for this reason that I attach such great importance to the work in the ward and in the laboratory where you use the acquisition of facts for the purpose of demonstrating methods not only of observation but of inference, deduction and generalisation.

Whilst responsible for the development of the mind, you are also to a certain extent responsible for placing in the hands of your alumni the tools and equipment with which they have to work; I would therefore ask that some time at least should be devoted by every medical student to the acquisition of a working knowledge of the French and German tongues. The young medical man must now come in contact with many minds and it is certainly good for him that he should be able to come at first hand, as it were, into contact with the great spirits of other countries. It would be too great a tax to expect more than French and German, but with these and a knowledge of Latin the student will find himself in a position to get at first hand the gist of the best work in other languages. I know of nothing that gives a broader outlook, a saner view of the bearings of medicine and of the Unity of our medical science and practice than a study of the best French and German works. The steady, plodding scientific method of the German, the careful observation, the clear, shrewd deduction and the systematic, if somewhat elaborate and heavy description, points to success in one direction, whilst the brilliant and imaginative, though thoroughly sound, work described in beautifully clear and elegant language of the best French savants affords a stimulus the value of which can scarcely be over-

estimated. It is difficult for a man to acquire these languages later in life, but a little preliminary knowledge followed by regular, though not necessarily prolonged, reading during the medical curriculum will supply all that is required by the medical student who intends to keep abreast with the history and philosophy of medicine, past and present.

Yours is a great Provincial University, you are consolidating and co-ordinating your University resources. As one who is following the evolution of science in its relation not only to medicine but to the practical work of life I am satisfied that this University of yours is to play a part in your National life far greater than up to the present has appeared possible. Your advantages and your privileges are great and increasing, but remember that your responsibilities are increasing equally rapidly, and by you I mean all Ontarians. Your subvention from the receipts from the succession duties (Under Act of Ontario Government) may appear to some who do not know the requirements of an active University to be a large one, but I know from sad experience how utterly inadequate are the moneys at the command of a modern University treasurer to the requirements of the University and the calls made upon the University chest. I have received no commission to make any appeal to the wealthy or other citizens of Toronto, but when I look around me and see what splendid work has been done with the funds at the disposal of the University authorities and think of how much could be done to improve and extend the scope of the work of the University I long to be able to awaken in every inhabitant of the Province a desire and ambition to use his influence and contribute of his substance on behalf of and to aid the work that you are carrying on with such vigor and success. I can assure them that, even from the purely business point of view they have here an investment that for certainty and amount of return is infinitely better than anything else into which they can go. Remember, however, that "the kindly fruits of the earth are easily grown; the finer fruits of the mind are of slower development and require prolonged culture" (Osler).

THE SYSTEMIC FACTOR IN DISEASE OF THE EYEBALL.

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THE importance of the wider view in the therapy of acute or chronic disease of the eyeball is constantly forced upon one whose sphere of work brings many such cases under his notice. Since specialism has occupied so large a place in medical thought, the tendency has been very naturally toward a narrowing of the field of diagnostic vision; though much of the progress made in the better understanding of many

forms in which morbid conditions present themselves, is to be credited to this trend, there can be no doubt that this more accurate knowledge, if won at the cost of much constriction of the visual field, will not always prove to be in the best interests of our patients. New and elaborate methods of clinical diagnosis, the ever-enlarging subject of bacteriology, the opening of long-dreamed-of areas in microscopic pathology, new chapters in the book of therapeutics, all must occupy our spare reading moments if we would not lag; but it behooves us to have a care lest we forget to study those most important books of all—our patients.

It goes without saying that no physician can in these days think out a rational plan for the treatment of any morbid state unless he be conversant with the main facts in every subdivision of modern medicine. It is equally true that he cannot conscientiously carry out such plan unless he have an exact knowledge of what type of man his patient is. Out of the schools of to-day are graduated men whose knowledge of the medical sciences is much upon an equality: one succeeds where another fails because he has that happy faculty, inherited or acquired, of understanding his patients as well as their diseases; he can read the soil where these latter grow. Such knowledge makes it possible for him to practice most scientific medicine in its every phase; it gives him a better grasp of the possibilities of his art than could ever be given to the old family physician, whose ministrations for many years have made his patients' constitutions open books to him.

No man need apologise for adding his voice to the host who emphasize the danger of forgetting the patient in our treatment of the disease. One's own daily practice emphasizes it, and occasionally in a way we little like. How often we are brought up short in our scheme of therapeutics by an extraordinary response; how often our mental prophecies for to-morrow are set at nought by an unlooked for turn in the tide of affairs. Every physician knows from sad experience how the personal equation modifies the classical formulæ of disease.

It is ancient history to say that the eyeball exhibits definite pathological lesions dependent upon certain systemic diseases, e.g., syphilis, rheumatism and certain of the anæmias. Probably no thoughtful practitioner dreams of undertaking the treatment of disease of any structure in the eyeball without first probing the past and present history of his patient for proof of some such systemic dyscrasia as mentioned above, including nephritis and diabetes. Also he knows that for the ultimate good of his patient it is absolutely necessary that such underlying causal factor, if present, be found, believing that the success of his scheme of therapeutics will depend quite as much upon its removal as upon any measures carried out locally. However, there will be many examples

of inflammatory and degenerative disease of the globe wherein he will not succeed in searching out any definite systemic infection or metabolic dyscrasia to make the point of chief, if more remote, attack. This applies to lesions of the conjunctiva, cornea, and sclera, but pre-eminently to those of the uvea.

The structure of the uvea lends itself in a peculiar way to local injury from impure blood. The name is a singularly fitting one, for it would be difficult to find a better description of its general contour and appearance than is given in the simple Latin word uva—a grape. That blackish grape-skin is the most composite vascular network to be found in all anatomy: if we take from the uvea its blood-vessels, from a practical point of view we have nothing left. A very simple observation of the iris under two conditions will prove this point; compare this part of the uvea, when thickened and engorged in an active iritis of gonorrhœal origin, with the thin attenuated iris and consequent large pupil seen in acute glaucoma where no atrophy has taken place, but only emptying of vascular areas dependent upon the increased intraocular pressure. The iris is the only part of the uvea visible to the unaided eye; but it differs little from the hidden parts, the ciliary region and the chorioid, the former being more muscular and the latter more vascular. It is no wonder then that this extensive vascular network feels early and severely the effect of certain toxins circulating in the blood stream: in fact it is more strange that it so often escapes.

Such considerations make it doubtful whether primary inflammation of the uvea could ever be, apart from direct infection through a wound of the external tunic. Consequently we take safer ground when we deem every inflammation of iris, ciliary body or chorioid to be dependent upon either blood dyscrasia or germ infection, blood carried from a primary focus elsewhere (exceptions—traumatic ones).

The salient points of diagnosis in uveal lesions are too well known to demand repetition at full length, but a brief statement will not be out of place. A gradation in severity of symptoms, both subjective and objective, from a minimum of zero to a maximum of marked intensity is seen as the geography of the lesion advances from the entrance of the optic nerve to the margin of the iris. Chorioidal inflammation is associated with neither pain nor tenderness; oftentimes the only subjective symptom being a diminution in the acuity of vision: to the examiner's eye, unaided, there will probably be no sign to call his attention to the posterior segment of the eyeball.

Inflammation of the ciliary body is marked with intense pain and with tenderness on pressure: the pain is especially noticeable when accommodation is active. Also the patient may complain of a mistiness of vision, dependent upon a changed character of the fluid media or pos-

sibly a deposit of inflammatory products upon the back of the cornea—the so-called keratitis punctata. The physician's attention may be directed to the ciliary body by a circum-corneal deep injection and by the above-mentioned post-corneal deposits.

Iritic inflammation makes itself known at once. A highly vascular and acutely sensitive organ it sets up marked subjective symptoms when inflamed. They consist of pain radiating over the forehead and into the temples, photophobia and lacrymation, with often the same interference with vision as described above. The physician sees a ring of circumcorneal injection early, and later increased general ocular vascularity; a larger discolored iris not responding well to light; a small pupil and possibly some deposit upon the post-corneal surface; also a tendency to the formation of posterior synechiæ, showing up after the installation of a mydriatic. Such is a brief description of the symptomotolgy of uveitis as recognized without the use of the ophthalmoscope.

From what has been said, it will be seen that lesions of the anterior part of the eyeball will early come for treatment, while those of the chorioidal segment may advance to a marked degree before any abnormality in function is recognized by the patient: in truth posterior uveal disease is often first discovered at the ophthalmoscopic examination in the process of measuring the refraction of the eye. Such cases are naturally confined to the practice of the oculist.

Consequently this essay concerns itself more with anterior uveal disease: those types of iritis and cyclitis, separate or combined, which force a man early to consult his medical adviser.

Accepting the tenet that every inflammatory process in the uvea is due to either bacterial invasion or toxin irritation, the importance of tracking the causative agent to its source will be at once granted. Of the group of lesions caused by definite germ-implanting, I shall not speak: obviously their classification will be founded upon a bacteriological basis: those most commonly seen will be either tubercular or pyogenic, grafts from some more distant focus.

Much commoner than the above are the types which depend upon toxin irritation. This group is headed in importance and frequency by those cases due to the cachexias of syphilis and tuberculosis, and that large sub-group hitherto diagnosed as rheumatic. Of the syphilitic cases we have nothing to say except to call attention to the oft-quoted dictum of Hebra, that the diagnosis of syphilis must rest upon its objective phenomena and the question of past history must be largely ignored; also to the fact that syphilitic iritis shows no tendency to recur.

Of cases tubercular in origin there has been described a form resembling that seen in other toxæmias, and differing much from that tubercular type more frequently seen, wherein the little pale nodules

push their way into the anterior chamber from the base of the iris. As we would expect, the prognosis in the purely toxic form is very good, if there be any chance of lessening the activity of the parent disease.

Of the rheumatic class, so-called, much might be said, just as may be of any lesions to which we have in past years applied the above adjective. Those inflammatory processes of the uvea, which were in other days grouped as rheumatic, are being subjected to the same critical analysis as is being tendered rheumatic lesions elsewhere and with the same result, viz., a truer and more scientific classification with consequent saner treatment. We have long known that acute rheumatic fever is not followed by ureal inflammations, so that the uveitis was blamed upon that ill-understood type, muscular rheumatism.

The definite clinical picture of gonorrhœeal rheumatism was frequently followed by a recurring anterior uveitis, so that when this whole subject was made clear, through the work of the bacteriologist, a new and well-defined group was subtracted from that large, indefinite, hitherto unexplained majority.

At this point it will be convenient to speak regarding the probability of the recurrence of any acute uveitis. We are familiar with the axiom that acute inflammation of any organ leaves it in a more or less crippled condition, and hence more prone to subsequent morbid change. It has been taught from the beginning that the adhesions which take place so quickly between the pupillary margin of the iris and the anterior capsule of the lens in an acute iritis, if they be not broken down by rapid dilatation of the pupil under mydriasis, become potent factors in determining a recurrence of the inflammation. On the contrary it is known that in cases of iritis complicated with these same posterior synechiæ but of definite traumatic origin, there is no tendency to recurrence, nor do the synechiæ cause any inconvenience so long as ample space for drainage of lymph remains in the circumference of the pupil. Consequently we conclude that local adhesions subsequent to iritis do not, per se, increase the tendency to its recurrence, but that some other explanation must be found for this misfortune in certain types of this disease, and the absence thereof in others. The whole problem is solved by the acceptance of the theory that toxicity of the blood is the definite causal agent of these acute inflammatory processes and their probability of recrudescence will be commensurate with the chronicity of the toxæmia.

Another definite group of these inflammations which has been separated out in recent years is one dependent upon the circulation of the toxic products of pyogenic processes in other parts of the body, proximal or remote. That this is a class by itself cannot be doubted and such a possible origin of any uveal lesion ought ever to be remembered. Of

slight importance in itself, perhaps far distant in its position, an abscess may yet generate toxins which will cause a cyclitis unresponsive to all treatment, local and general, until the toxin nucleus is discovered and eradicated. For this reason it is necessary to search for such lesion in every case of active uveitis, and such searching should be most systematic. The nose and its accessory sinuses should be examined; the teeth demand careful watching, a frequent cause being pyorrhœa alveolaris. The remoter possibilities ought not to be forgotten, and a thorough enquiry into the condition of all the viscera, especially of the hollow organs should be made.

Already those cases due to gonorrhœal toxæmia have been mentioned. The filing of these as a distinct class of serious lesions with a tendency to recurrence has split the old rheumatic group into two and left a large series which is associated with myalgias and other clinical characteristics of the gouty diathesis. The importance of a search for a definite diathesis in every patient was implied in our introduction and has never been lost sight of; at this time it comes up for more prolonged discussion. We have spoken of the tendency to make each disease an entity in our thought; to narrow down our horizon as we grow more familiar with the positive causal agents of morbid processes, but we cannot afford for one moment to neglect a careful analysis of the soil upon which these germs must grow; we cannot afford to forget the diatheses.

No more useful classification of the types of patients can be made than the classical one of Laycock; no more lucid exposition of this classification can be given than is found in the Practitioners' Hand-book of Treatment by Milner Fothergill.

In the discussion of inflammatory changes in the uvea the gouty diathesis attracts most attention. One need not here describe the clinical picture of latent gout of either the "Norseman," or the "Arab" type, but only emphasize the importance of forgetting the old-conceived idea of this diathesis being dependent upon "good living" only, and of remembering that the tendency to lithiasis is as frequently seen in the lithe, spare man as in the stout, plethoric one, though it may become manifest more frequently in the latter. By Maitland Ramsay it is designated the arthritic diathesis, and his discussion of its influence upon the ocular tunics is admirable. Still not all cases exhibit joint complications, and hence the old name serves a better purpose.

The as yet unsolved problem of the strict etiology of gout must be left to the physiological chemist; very little new light of value to the practising physician has been thrown upon it of late years. For a long time now we have been told of the reversion of a mammalian liver to a reptilian type, with incomplete metabolism, and end-products of uric acid

and its antecedents, the purins, instead of the proper mammalian urea. The irritation of synovial membranes, secreting surfaces and the skin dependent upon the circulation of these poisonous bodies is the familiar picture; it is not strange that the uvea should suffer also, and that the inflammation should be of a chronic, or if acute, of a relapsing type.

No local eye symptom will call the attention of the physician to a lithic genesis: iritis and cyclitis appear in the same dress no matter whence they come (exception—typical nodules seen in some syphilitic and some tubercular cases), but a history of previous like attacks will give an indefinite clue. However, the etiology may be arrived at only by a process of exclusion, and when syphilis, gonorrhœa, tuberculosis, or any local focus of pyæmia can be counted out, then our attention may be directed to faulty metabolism as a cause. Occasionally the patient will suggest the etiology, as happened to me not long ago when one remarked that his eye always was worse when his stomach was out of order.

Now, having recognized the importance of autogenic toxæmia as a cause of inflammation of the eye-tunics, what of the treatment?

Naturally, the chief attack should be made upon the toxic condition; first by cleansing the body fluids to the utmost of our power, using all methods of hastening the elimination of poisons by kidney, skin, bowel, and lung, at the same time replacing the flux with innocuous fluids; all as rapidly as possible. Secondly, by eradicating from the dietary all those articles of food which we know to be rich or comparatively so in purin-forming constituents and thus tempering the fuel to our patients' capacity for perfect combustion.

Thirdly, to insist upon such medication as will tend to promote a more complete metabolism, and to administer those agents which we know render the pathologic end-products more soluble and hence more easily eliminated.

This makes a course of treatment which may appal the patient who only wants something done for his eye, but he must understand the game is being played for large stakes, viz., the integrity of his eyesight. While writing this paper, it has been my fortune to see an eye totally blind after just such a uveitis as I have described, which smouldered over a period of six months. So much for the all-important, perhaps most important constitutional treatment.

Unfortunately the removal of the systemic cause cannot be done in an hour, and while the toxicity of the blood is being reduced below the danger point, grave changes may take place in the eye itself, even associated with destruction of the sight. I cannot take space here to catalogue all these misfortunes, but certain of them are frequent enough to be well known; (1) the adhesions which so quickly form between the

pupillary margin of the inflamed iris and the anterior capsule of the lens, posterior synechiæ. Taking place at one or two points they will not seriously interfere with the subsequent integrity of the eye, but a ring of synechiæ ushers in acute glaucoma with all its evils. (2) Inflammatory deposits upon the post-corneal surface, keratitis punctata. These may vary from small sparse deposits, hard to discover, which even if not subsequently absorbed do not interfere with vision, to dense ground-glass ones which render the eye permanently blind. (3) Blocking of the drainage openings in the roof of the canal of Schlemm by inflammatory products thrown into the aqueous. Here follows rapidly increase of intraocular pressure, acute glaucoma, but with a deep anterior chamber and obviously an immediate etiology quite different from that of the glaucoma of (2) above. (4) In the vitreous chamber also, we may have inflammatory changes in posterior uveitis, bands thrown into the hyaline which, if they do not shut out some part of the visual field by their own structure, may, by subsequent contraction, pull the retina from the chorioid with all the consequences to vision of retinal detachment.

There are many other serious complications of uveitis which may occur in a few hours, but enough has been said to impress the necessity of heroic local tratment of the disease: occasionally, in spite of all we can do disaster will follow.

The local treatment may be analyzed as follows: (1) Contract the iris to the maximum degree as rapidly as possible. (2) Combat local inflammation by application of heat and local blood-letting, (the latter may be the key to efficient atropine installation, (3) Possibly drain the anterior chamber, if complication (3) spoken of above, be present.

Therapeutics, however, must remain in the back-ground in this essay: the one cardinal point I wish to emphasize first, last, and always is that eye-disease is oftenest a local manifestation of a systemic dyscrasia, and that physician will be happiest in his care thereof, who early finds the real, if remoter cause. Moreover, the whole color of the picture is often modified by a definite underlying diathesis.

Finally, the tendency to the too exact classification of morbid processes can only result in permanent harm to Medicine, if it ever distract the physician's mind from the great importance of the wider view.

PRACTICAL EYE TREATMENT FOR THE GENERAL PRACTITIONER.*

By NORMAN W. PRICE, M.D., B.Sc., Niagara Falls, N.Y.

THE principal reason for this paper is the belief that medical colleges do not deal fairly with our medical students in teaching them in a practical way the diagnosis and treatment of eye complaints. Each general practitioner should be equipped to do his general eye work as well as he does his stomach or obstetrical work. Medical schools do not have a uniform equipment in hours of study, according to the importance of the different subject, and ophthalmology is taught in a way often confusing to both general and special students. Within a year or two a Michigan county medical society had a poll taken of its members relative to the instruction they had received in ophthalmology. Not one had heard a lecture on refraction, much less been taught to refract; all had seen plenty of eye operations, but none had dc even very simple operations; a few of their cases went to the special ophthalmologist, but most to the opticians. In all large towns opticians practice ophthalmology, while in the country travelling opticians live on the neglected cases of refraction. Over every country area are cases of blindness or ill effects from eye diseases, which family physicians failed to treat wisely. Surely something must be defective in the training of family physicians, that so generally they are unqualified to occupy this neglected field of medicine.

Every general physician should know how to use the ophthalmoscope. He should be able to treat all minor eye troubles and be able to recognize the major ones, and place them in the specialist's hands at once. As Dr. Connor, of Detroit, says: "The laity need an all round doctor all the time, a specialist occasionally." The general practitioner should be able to make a simple inspection of the eyes, the movement of the eyeballs and lids, size of the pupils relative to each other, their motility and reaction to different quantities of light; the color of the iris as compared to its fellow; to take the fields roughly with the fingers or blackboard, noting their size, shape and similarity in the two eyes; to note the tension of a known healthy eye; to practise in everting the lids and to be familiar with the conjunctiva and adnexa. Medical men on entering practice should understand refraction until they are reasonably sure of their results, and they should know how to adjust frames to people's faces. They should know how to differentiate the different common forms of conjunctivitis, keratitis and iritis; a conical opacity from a cataract, and particularly glaucoma from all other eye diseases. You will say, I think he should do all eye work the

*Read at the Toronto Orthopedic Hospital, 13th March, 1909.

specialist does. No, but he should be able to treat these common diseases and should understand them, and know enough to send any patient to the specialist whose diseases he does not understand. He should send to the specialist all complicated cases of refraction; all eye cases for operation unless the very simplest, as opening a hordeolum and a chalazion, all cases of foreign bodies within the eyeball and all serious diseases of the eye in which vision seems in danger.

In the towns and country away from the cities, the majority of people are either unable or unwilling to call on the specialist when in eye trouble. These largely go to the optician, who practises ophthalmology much on the side. The trouble is due largely to the poor training of the general physician, and I contend that not only would the general practitioner lose less in fees and prestige, but the specialist would receive, as he deserves, a greater overflow instead of the general physician being patron, and too often an ally of the optician. Also the general practitioner would, by knowing his ophthalmology better, know his nervous, kidney and vascular diseases better, and the laity would be vastly better served. He would, by knowing refraction, be able to gain a foot-hold in a community much earlier when beginning practice.

Every general physician should have the following medicines in his case for office use.

1. Saturated boric acid solution.

2. A fluorescin solution with which to find abrasions of cornea, or foreign bodies on it.

3. A 4 per cent. solution of cocaine.

4. A quantity of Tr. Iodine to sterilize and cauterize ulcers of the cornea.

5. A bland ointment, as 3 per cent. Europhen.

6. A $AgNO_3$ solution.

7. A $HgCl_2$ solution 1-500.

A flat spud is very commonly used for removing foreign bodies, but I find a stop needle much better, and have it very sharp. The usual scraping with a spud is wrong. Have exceptionally good light to remove a foreign body. Use 4 per cent. sol. cocaine first until eye is anesthetized, then drop a fluorescin solution. Dissolved fluorescin in an alkaline water solution is brown, which in coming in contact with broken epithelium of the cornea, turns to a decided green. So when the epithelium of the cornea is broken as by a foreign body, ulcer or cut, fluoriscin colors the injured area green and the rest of the eye brownish, with a foreign body a green ring will surround it. This punctuates the point of attack and makes often an invisible foreign body of the cornea visible. Ask the patient to look at some object steadfastly, use good light (a headlight best) and push the sharp needle under the object instead of

scraping it off the cornea, and lift it out of its bed. By these means no part of the surrounding epithelium is injured. After the removal use a saturated solution of boric acid to flush out the eye, followed by a simple antiseptic ointment to prevent infection, but principally to fill up the depression left by the foreign body. By this means the lid does not fall in the depression, causing irritation and a feeling that the object was yet in place. If a deep depression, bandage the eye a day till the epithelium grows into it.

Do not treat ulcers that are not healing long without cauterizing them. This saves risk and aids greatly to their cure. This is done best by scraping out the ulcer, gently, with a small curette or spud, after the thorough use of cocaine, and then by means of a very small amount of cotton wound on a small applicator, apply Tr. Iodine directly to the ulcer. Wash out any excess with more cocaine solution, flush thoroughly with $Hg\ Cl_2$ 1-2,000 and apply an antiseptic ointment and hot water bathing. If a bad ulcer use a bandage and atropine as well.

How can we distinguish a conjunctivitis from a keratitis, iritis, glaucoma and other diseases. In conjunctivitis the redness fades away toward the cornea, leaving a more or less clear white ring round it. The congestion is much more prominent toward the fornices, while a conjunctival injection moves readily over the sclera. The color is brick red and comprised of fairly coarse vessels. In acute inflammatory glaucoma the condition lacks the brick color and the vessels are yet coarser than in conjunctivitis, while in iritis corneal affections the hyperæmia is most visible against the cornea and of a pink lilac color, made up of fine vessels starting abruptly at the cornea and fading away rapidly toward the fornices. In conjunctivitis the pupil reacts to light readily and is as large in the dark as in the normal eye. In the other diseases the tendency is to have a small pupil or no pupillary reaction. In glaucoma the pupil is large.

Although there are many kinds of conjunctivitis, a simple clasification is, those which are muco-purulent and those not. Samples of the first are, acute muco-purulent catarrh, or pink eye, gonorrhœal conjunctivitis and trachoma; of the latter are drug conjunctivitis, hyperæmia due to foreign body or traumatism, and phlyctenular conjunctivitis.

This paper would be much too long to describe different kinds of conjunctivitis, so we pass to general treatment. Cleanliness is of the first importance in conjunctival diseases, so if there is any discharge, frequent bathing with as hot water as possible is in order. Borax or baking soda added to the water will aid in the solvent action of the water on the discharge. I have discarded practically entirely the use of ice in eye diseases. In ordinary cases not in bed and not small children, I advise the use of a large kitchen spoon, on the bowl of which

is tied a soft clean cloth. Dipping this in water and applying the back of the bowl of the spoon to the eye, the cloth will hold the moisture and the spoon will hold heat, while the handle keeps the patient's hands out of the water.

If there is much discharge a silver solution is the best, perhaps a 1 per cent. Ag NO_3 solution applied to the lids once a day followed with a 15-20 per cent postnasal every three hours or after each cleansing with hot water. If the Morax-Axenfeld diplo-bacillus is found in the discharge, some form of zinc is needed, but most often a streptococcus, the pneumococcus or the Kocks-Weeks bacillus is found. If in doubt, a first class collyrium or eye drops is a combination of Hg Cl_2 in a saturated solution of boracic acid.

Hg Cl_2 gr 1/5-1/7.
Zn Cl_2 gr ½.
Boric acid sol. 1 oz.

Probably you will not see much gonorrhoeal conjunctivitis or ophthalmia neonatorum, the latter particularly, if you are always careful to use a 2 per cent. solution Ag NO_3 in the eyes of all your new born babies. The treatment of these cases, either in adults or children, is the same in a general way as any muco-purulent conjunctivitis, only very much more exacting. These patients must be put to bed, and two nurses employed, as a nurse must be in attendance all the time, to keep the eye as free as possible from discharge. Use hot water solutions of boric acid or permanganate of potash for cleansing, to be done every hour if there is much discharge, and very carefully done, too, followed with silver solution in preference to any others. My experience is that most children's eyes are saved if seen early and treated properly, and most adults' eyes are left with more or less, generally more, complete loss of vision, due to ulceration of the cornea. In adults I do not hesitate to slit open the outer canthus. Do not forget that poulticing the eye is the worst kind of practice, except when done with hot cloths from plain sterile water.

Many diseases of the eyelids are the same as found in other parts of the surface of the body, as herpes, erysipelas, eczema, and should be treated the same. When the margin of the lids are sore, blepharitis, yellow oxide of Hg ointment is the best treatment, along with correction of errors of refraction and systemic trouble. Chalazia should be opened always from the inside, and the granulation sac cleaned out with a small curette.

Trachoma you will seldom see, unless you practise among foreigners. I use very largely Savage's treatment, and have the very best

success with it. This consists of the following: In the morning a drop or two of adrenalin is put in the eye; at noon a solution of the following:

℞ Hydrastin.....grs. viij.
Acetic acid.....min. xij.
Zn acetate.....
Copper acetate.....aa grs. viij.
Aqua dest..... ʒiv.

This is followed in the evening by

℞ Hy cl_2.....gr. $\frac{1}{7}$
Zn cl_2.....grs iv.
Aqua..... ʒiv.

and this is followed by a Europhen ointment, grs. xvi to the ounce, at bed-time. Every other day Hg Cl_2 1-500 is applied with a swab to the conjunctiva. I have given up the use of alum and copper sulphate in treating trachoma as far too slow and painful, and practically useless.

Phlyctenular conjunctivitis, which occurs only in children, affects often the cornea as well as the conjunctiva, producing one or more ulcers near the corneal scleral junction or limbus. Here first treat the eczematous condition in the nose and adenoids as well as the sore eye. It might be laid down as good treatment to use atropine in all acute diseases of the cornea, and it is particularly useful here in allaying photophobia and irritation. As said before, nasal and throat treatment here is of prime importance, and corneal ulcers, if bad, should be cauterized.

In injuries of the cornea, if severe, use atropine and antiseptic treatment. If a perforation and prolapse of the iris, send the patient to a specialist. All affections requiring operation on the internal structures you will be safer in letting the specialist treat. If constitutional diseases affect the cornea, as syphilis in interstitial keratitis, use the appropriate internal remedy, along with atropine, shade to protect the eyes from light. Never use cold compresses in corneal diseases, always hot. Keep these patients in the semi-light and out of doors as much as general health will allow, bandaging the eyes or using dark glasses. In early stages of corneal disease use a mild ointment and antiseptic drops, later use a stimulating ointment as yellow oxide and dionin solution, particularly if there is any possibility of leucoma resulting. Internally use tonics and alteratives. Never probe a wound of the cornea or sclera to see if it penetrates through it. You may produce sepsis.

The symptoms of iritis are bluish, red hyperæmia about the cornea, lessening towards the fornices, pupillary reaction bad, and pupil small and often not round, and when a mydriatic, as cocaine, is instilled, the pupil dilates very unevenly, a sure diagnosis of an iritis either present

or past. Pain in the temple is common and often severe and worse at night. Lachrymation is excessive. Pain is not always a symptom. The tension is less than in the fellow eye, while the iris has changed color from the normal. The cornea is more or less hazy, especially in severe cases, or if the ciliary body takes part in the inflammation, small grey dots are deposited on the posterior layer of the cornea in the shape of a pyramid, the base at the lower corneo-scleral border. Hypopyon may exist.

The treatment of iritis and irido-cyclitis includes local and constitutional remedies. Atropine is necessary and should be used vigorously if the tension does not become increased. As syphilis is the most common cause, vigorous antisyphilitic remedies are very necessary, and if rehumatism be the cause, salicylates in very large doses. Use very dark glasses and absolute rest for the eyes. These patients have the blues very badly, so get them out of doors if possible. Dionin in 5-15 per cent. solution is very useful, relieving pain and hurrying a cure.

Glaucoma, the dread of the physician as well as the patient, is increased intraocular tension or increased hardness of the eyeball, with its consequences. Every practising physician should be familiar with the external symptoms of this disease, as the integrity of the eye and useful vision depend on prompt application of the proper treatment.

There are two varieties, primary and secondary glaucoma, the primary being divided into acute and chronic or inflammatory and non-inflammatory, the latter called simple chronic glaucoma, which may become the acute inflammatory any time suddenly. The acute may become a chronic inflammatory in distinction with the chronic non-inflammatory.

The symptoms of the acute form are headache of an especially severe dragging pain in the temple and often occipital neuralgia, also violent pain in the eye exists, accompanied by an intense, very coarse, congestion of the eyeball. Edema of the lids occurs in severe cases. The patient has, due to the very severe pain, attacks of vomiting, and feels and appears very sick. The characteristic objective signs are, diffusive haziness of the cornea, such that the patient sees a halo about a light, as is seen on a foggy frosty night. The anterior chamber is shallow, the pupil is dilated and refuses to react to light. The tension of the affected eye is increased, while a small bit of wound cotton can be rubbed against the cornea without the patient winking, due to great loss of sensitiveness. If the disc can be seen with the ophthalmoscope, it is found to be cupped or excoriated.

In non-inflammatory or simple chronic glaucoma, a very treacherous disease, the visual deterioration imperceptibly goes on to complete blind-

ness without the patient being aware of distinct attacks of pain and inflammation. On examination one eye may be found nearly or absolutely blind and the other partially blind; rise in tension is barely perceptible or even absent, but the optic nerve is found to be excoriated. The patient will generally admit he or she has had slight pain or dimness of vision. The loss is most on the nasal side of the field. The disease always affects both eyes and may be protracted for years, eventually passing into the inflammatory form. Inflammatory glaucoma rarely exists before the 50th year, and simple glaucoma more rarely.

In eye work diagnosis is more important than treatment, because knowing the disease, the different treatments being few are easily applied, but when wrongly applied the result may be anything but satisfactory. To help diagnosis I have arranged the diseases of the conjunctiva, cornea, iris and ciliary body, sclera and glaucoma in the different ages in which they most occur. Conjunctivitis is seen mostly in children and young people. Diseases of the cornea either in the young or the old, while foreign bodies occur in the active age of people. Iritis and cyclitis more from adolescence to middle life, scleritis and episcleritis more in rheumatic people of middle age. Glaucoma occurs practically always after fifty.

Take the tension of all eyes you examine, unless very good reason not to, and press on the lachrymal duct to see if any pus wells out of the puncta.

I want to use some hypothetical cases to fasten a few of the important facts on your minds.

1. A woman of 55 years of age is suffering with severe pain in the temple, eye coarsely injected. You must suspect glaucoma, so do not use atropin until sure of its not being glaucoma. The tension you find hard, + 1 or more, pupil dilated, anterior chamber shallow and cornea hazy. You are satisfied the case is glaucoma, even you cannot use an ophthalmoscope. You will instil iserine or pilocarpin in her eye.

2. Iritis is more often due to active secondary syphilis, so when a man between 20 and 45 comes with an injected eye, pain about the temple, severe lachrymation and photophobia, you suspect iritis, and if you are used to seeing cases of syphilis you can almost make a diagnosis without looking further. But you find tension is minus, the pupil is small, the eye flowing tears and your patient dreads the light so much you can hardly look in his eyes. On using cocaine to dilate the pupil, you find one or more synechia, (an adhesion of iris to the lens) and diagnosis of iritis is reasonably sure.

3. Again, a man of any age comes in with pain in the upper eyelid. Just about where he can place his finger on the spot, suspect a foreign

body. On looking you may find a sclero-corneal congestion more at one side of the cornea than another and by using cocaine, fluorescin and a loupe and good light, you will likely find a foreign body just about where you looked first for it. The patient may be sure it is on the lid, but you will find it more often on the cornea, as there is no feeling of position in the cornea.

4. A child is brought in, fearing the light, and has to be led by its mother or other person. The child looks muddy faced, white and poorly developed. You suspect interstitial keratitis. The cornea you find hazy, one worse than the other, the child has poor teeth, if not peg teeth, and you make the diagnosis secure when the mother admits symptoms of syphilis either in herself or father of child.

The child may be extremely afraid of the light, burying its face in its mother's lap, and its eyes are running as well as its nose. Phlyctenular conjunctivitis or keratitis or both are sure to exist and appropriate treatment is demanded.

In eye treatment use mild antiseptics in early cases of all diseases due to direct infection of the tissues. Use stimulating remedies, as Hg Cl_2 and Zn salts later; cauterize ulcers early. In diffuse discharges use Ag No_3 solution and instil silver solution. In all severe affections of the cornea, iris and ciliary body use atropine and use dionin in any of these cases where stimulation is required. In glaucoma use iserine or pilocarpine. You will not go amiss to use hot water applications in all severe acute cases and discard cold compresses, not that the latter is not sometimes beneficial, but they can do a great deal of harm if used wrongly.

Now, gentlemen, there are many diseases I have not touched, which affect the eye, but my endeavor has been to give a general working plan in eye diseases by which you can cure some eyes that will not cure themselves, and save some eyes you otherwise might destroy. Those cases you are not sure of, please do not send to the optician for glasses.

CURRENT MEDICAL LITERATURE

MEDICINE.

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

PURPURA HÆMORRHAGICA.

In the *Medical Record,* March 20th, Maher reports a case of purpura hæmorrhagica in a young woman of 25, fatal after a few days from the first appearance of the symptoms. A specimen of blood was secured in a sterile bottle by the nurse from a copious hæmorrage from the bladder, the second of two which followed each other in rapid succession, and was uncontaminated in high probability. Smears showed the presence in the leucocytes of lumps of a small coccobacillus, non-acid-fast and usually gram negative. There were no free individual bacilli in the blood. The findings are as follows :—

1. The recently extravasated blood of this case of malignant purpura hæmorrhagica contained clumped in its leucocytes bacilli having the cultural and other characters usually ascribed to the colon bacillus.

2. The bacilli isolated either from the fresh or from the old blood had the power on intraperitoneal injection into guinea-pigs, not only to kill the animals in a few hours, but to produce on the wall of the animal's intestines and stomach purpuric patches identical in appearance with those that characterized the disease in the human body.

3. This power to produce purpuric patches on the walls of the intestines of the injected animal was striking and constant even after the bacillus had passed through four series of guinea-pigs.

4. This power was diminished in the cultures that had been kept for eight days or more in the incubator, although the keeping of the cultures fourteen days in the incubator did not lessen the pathogenicity of the bacillus.

5. The white rat, though more resistant to the first cultures of this bacillus, succumbed in exactly the same way as the guinea-pig when injected with the bacillus that had been through four guinea-pigs.

6. The colon bacillus, although usually fatal to injected guinea-pigs, does not kill so quickly and does not cause the appearance of purpuric patches on the intestinal and stomach walls of the injected animals.

No cause has to the present been discovered for this disease, and these findings are extremely suggestive and interesting, even if there is not enough evidence for a certain etiology.

TREATMENT OF GASTRIC ULCER BY IMMEDIATE FEEDING.

In the *B. M. J.*, April 3rd, there is an article by Spriggs on this subject following the method of Lenhartz, of which the essential features are as follows:—

(1) Complete rest in bed for four weeks, during the first two she may not rise from the supine position for any reason. (2) The application constantly of an ice-bag to the epigastrium for the first two weeks. (3) Feeding the patient from the beginning of the attack, beaten up eggs and milk in small quantities at frequent intervals, with the addition where desired of a little sugar, wine or ice. (4) Adding to the dietary after the first week boiled rice, mince, and other solid or semi-solid foods until by the end of the fourth week the patient is on an ordinary diet of mixed food, with the avoidance of the indigestible or insoluble solids, as seeds, etc. (5) The administration of bismuth in doses of 30 grains in water, two or three times a day, and of iron after the tenth day.

The writer gives the results in detail in his own series of cases and concludes:—

(*a*) The Lenhartz treatment is not more dangerous than treatment by nutrient and saline enemata followed by a graduated milk diet. In these particular cases the recurrence of hæmorrhage was less frequent, and there were no deaths.

(*b*) The pain suffered by the patient in the course of treatment is less on the Lenhartz diet.

(*c*) The diet gives far more nourishment than can be introduced by nutrient enemata, and is therefore more desirable in patients who have frequently been for a long time in a state of semi-starvation or have suffered a loss of blood or both.

(*d*) In cases treated by this method rectal injections may be entirely avoided. This is an advantage in a hospital and a still greater advantage in treating patients at their homes.

A PURIN-FREE DIET IN SEASICKNESS.

Dr. A. Stanley Green writes in the *British Medical Journal*, calling attention to the possible influence of abstention from meat as a prophylactic of seasickness. He says he was always a great sufferer from seasickness until, for another reason, he put himself on a purin-free diet. Since then he has crossed the channel several times in very rough weather without a qualm.

GYNÆCOLOGY AND ABDOMINAL SURGERY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist to the Toronto Western Hospital, and Consulting Surgeon, Toronto Orthopedic Hospital.

THE DIAGNOSIS OF INTESTINAL PERFORATION IN TYPHOID FEVER.

A. J. Brown, Rome, *Journal of the American Medical Association*, February 27, 1909), calls attention to two new signs which seem to him to be important in the early diagnosis of typhoid perforation. These are what he calls the "dipping crackle" and the tendency of the pain and tenderness to approach the side that is lowermost when the patient is turned on the side. Both of these signs are illustrated by cases. The "dipping crackle" sign is heard on placing the bell of the stethoscope over the right iliac fossa and dipping suddenly with it as in dipping palpation. A very fine crackle was then heard which sounded much like a fine crepitant râle, or as if two sticky surfaces were being drawn apart. This was present in three of his seven cases, and appears to him to be a rather valuable confirmatory sign, as it seems to be due to the fact that in dipping suddenly the parietal and visceral layers of the peritoneum come in contact for an instant, and apparently the inflamed surfaces stick together for a moment and then pull apart. He has never found the sign present over an area of more than two inches in diameter, and never later than four hours after the initial symptom, presumably because the accumulated gas prevents the surfaces from coming in contact. The second sign is due to the gravitation of the extruded contents of the intestine. On the occurrence of a sudden, sharp pain in the lower part of the abdomen, and especially in the right iliac fossa, accompanied by tenderness, with or without rigidity, the abdomen should be carefully examined and the area of the tenderness mapped out. The patient should then be turned on the unaffected side, and, if, in from fifteen minutes to half an hour, the tenderness has moved one or two inches, or if, at any time the tenderness and rigidity become marked, immediate operation is indicated.—*Am. Jour. of Surgery*, April, 1909.

CARCINOMA OF THE BREAST.

We must remember that by far the greatest number of breast tumors are malignant; that growing tumors after 30, and especially between the ages of 40 and 50, should be looked upon with suspicion; that pain is not a very early sign of carcinoma; that when a pre-existing tumor of long standing takes on a sudden exacerbation of growth it is strongly suspicious of carcinomatous degeneration; that immobility of the

tumor with ill-defined borders, favors the diagnosis of malignancy; that, though retraction of the nipple may occur in chronic atrophic mastitis, when such retraction is met, it is strong presumptive evidence of malignancy. On the other hand, the absence of a retracted nipple does not contraindicate the existence of malignancy, as in such cases the tumor will be found at a distance from the nipple.—Adolph Bonner in *The Post-Graduate. Am. Jour. of Surgery,* April, 1909.

RETROVERSIONS OF THE UTERUS.

In the *Buffalo Medical Journal* for March. Dr. Herman E. Hayd writes a paper on the above subject. At the conclusion of the article he makes the following deductions:—

1. A plea for the more careful examination of young women by competent and skilled men who can undertake any operative measures that are necessary.

2. Every case of retrodisplaced uterus in the young or unmarried or married woman may not require any treatment.

3. If they produce a definite symptomatology, the Alexander operation should be employed, if the case be an operable one; that is, if the uterus is freely movable and the tubes and ovaries are healthy.

4. Retroversions and retroflexions in the young and unmarried should never be treated by pessaries, but by the Alexander operation. Tampons and pessaries have their place in retrodisplacements in married women or women who have been pregnant, but they accomplish practically nothing in the displacements of young women.

5. The Alexander operation is safe and without mortality incident to the operation, and no harm can come from its proper performance; even if the uterus subsequently falls, the patient is no worse off than she was previous to the operation.

6. It does not in any way interfere with pregnancy and future childbearing, but on the contrary materially helps the possibility of pregnancy.

7. No pain or distress follows the operation if the case operated upon be properly selected; and if pain and suffering result, there existed at the time of the operation latent tubal and ovarian trouble, which sooner or later perhaps would have required a radical operation. If it becomes necessary to do a celiotomy on a person who previously had an Alexander operation, the uterus will be found in its normal anteflexed position, which is necessary in every case, whether the tubes and ovaries are removed or not, to insure good health and freedom from future suffering.

8. Complicated retroversions must be treated on general surgical principles and preferably by the abdominal route where the benefit of sight enables us to not only do conservative surgery, but the very best surgery.

OBSTETRICS AND DISEASES OF CHILDREN.

Under the charge of D J. EVANS M.D., C.M., Lecturer on Obstetrics, Medical Faculty McGill University, Montreal.

AVORTEMENT BRUSQUE DANS UN CAS DE VOMISSEMENTS GRAVES.

In *Bullet. de la Soc. d'Obstet. de Paris.* No. 1, 1909, M. Brindeau reports the following case :—

Secondipara, nervous, well nourished. The first pregnancy terminated at six months by spontaneous abortion which was very long and painful, the placenta remaining for several days in the uterine cavity before being expelled.

Vomiting began almost immediately in the second pregnancy, gradually increasing in severity, accompanied by considerable retching and pain. In spite of treatment nothing could be retained on the stomach, and in a month the patient had lost considerable weight. The pulse rate was from 90 to 120, the urine scant and the urea was reduced.

When first seen in consultation by the author the patient looked extremely ill and wasted; she vomited a green pultaceous substance streaked with bloody mucus several times in the course of one half hour.

Abortion was decided upon, so a laminaria tent of small size was introduced into the long and somewhat rigid cervix. Ten hours later, under chloroform anæsthesia an endeavor was made to dilate by means of Hegar's bougies. This failed, owing to the rigidity of the cervix. Efforts were then made to dilate by means of the Bossi, but without success, and so it was abandoned for dilators. A small curette was introduced and the uterine cavity scraped out. Tht uterus was found to be bicornate. Recovery was uneventful.

The author in criticizing the case speaks of the rigidity of the cervix and the length of its canal. Ordinarily he prefers the course he adopted. He recommends in difficult cases the anterior and posterior hysterotomy as permitting complete examination of the uterine cavity.

Jeannin, in discussing the paper, was opposed to the employment of Duhrssen's incisions as giving rise to too severe traumatism. He prefers to dilate the uterus a far as possible by means of dilators and then pack with gauze, leaving the case for twenty-four hours, when usually dilitation can be completed without difficulty.

Several authorities in discussing the paper agree that in cases of severe vomiting the cervix is extremely rigid and difficult of dilation, and they raise the question as to the possibility of this condition having some relationship to the severity of the vomiting.

THE ETIOLOGY OF ECLAMPSIA.

Mirto calls attention (*Annali. di Ostetricia.* Sept. 1908. *Jour. Obstet. and Gyn. B. E.*, Jan. 1909) in this paper to the relationship between the weights of the placenta and the fœtus. In over 100 cases of eclampsia have been observed in this connection by the author.

Compared with the similar observation in albuminuria and normal pregnancy, Mirto finds in eclampsia that the relation of the weight of the fœtus to that of the placenta is always less, in other words that there is a deficiency in the development of the fœtus. The relation in the weight of the fœtus to the placenta is less in albuminuria than in normal pregnancy.

He concludes that there is commonly a certain correlation between the weight of the fœtus and the placenta, and that the former develops less when the latter is most marked in eclampsia. "This placental insufficiency may be due either to underactivity of the placental cells, or to diminution in the size of the active healthy area of the placenta.

Mirto is inclined to favor the view that eclamptic poison is fœtal in origin, and he opposes the view that eclampsia results from the passage of an increased number of healthy syncytial cells into the blood stream and to their dissolution there. The fact that injections of healthy placenta give rise to serious results he claims is due to the fact that these are only toxic phenomena common to all intoxications from animal albumines.

He concludes in general that the eclamptic poison is of placento-fœtal origin and that the maternal organs which eliminate or neutralize, circulating toxins are secondarily, but sometimes primarily, altered and contribute to the outbreak of the disease.

INFANTILE MORTALITY IN EARLY LIFE.

Abram Brothers in an interesting paper, *Am. Jour. of Obstet.*, Feb., 1909, evidently carefully prepared, presents numerous statistics upon which he bases his conclusions, which are a follows:—

That in the United States as well as abroad, the mass of evidence indicates that there has been no decrease in infantile mortality in the last twenty years. Owing to the disinclination of the native born American women to undertake the responsibilities of child-bearing, the author believes that immigration of rugged stock from abroad must be essential, as being the only means of guaranteeing the increase among the newly born which the further development of United States demands.

He states that he is convinced that in family practice the mortality and morbidity of the puerperal woman have not improved in the last twenty years. This also applies to the newly born child. He urges the adoption of out door departments in connection with hospitals to deal with the care and management of children in the early periods of life after the plan of Budin, of Paris.

PERSONAL AND NEWS ITEMS.

ONTARIO.

Dr. and Mrs. William Sloan, of Toronto, recently celebrated the 50th anniversary of their wedding.

Dr. J. M. Piper, of Toronto, has gone for a trip to the Mediterranean. He expects to return in August.

Dr. J. T. Wright, who practised at Plevna, has gone to Manitou, Manitoba.

Dr. G. D. Porter, of Toronto, is now giving lectures in the interests of the Canadian Association for the Prevention of Tuberculosis.

Dr. R. G. Parry, has been appointed an Associate Coroner for Wentworth County.

Dr. Parker, of Milverton, has taken in as a partner in his practice, Dr. Tye, of Goderich.

Dr. Sutton, of Maynooth, has taken over the practice of Dr. Wilson, of Norwood.

Dr. E. C. Wilford, of Blyth, has removed to Toronto and accepted a position on the General Hospital Staff under Dr. Primrose.

Dr. John J. Sheahan, of Chapleau, in the District of Sudbury, has been appointed an Associate Coroner for that district.

St. Catharines will soon have a hospital for tuberculosis. A site has been secured.

Dr. A. J. Preston has purchased the practice of Dr. G. H. Dunn, of Creemore.

Good progress is being made with Brantford Hospital for tuberculosis. Mr. E. L. Cockshutt has given $4,000 to the fund.

Hamilton is to have a fever hospital. It has not yet been fully decided whether or not it will be placed under the management of the General Hospital Board.

Mr. Joseph Downey withdrew his bill before the Legislature, a leading feature of which was to call for the reporting of cases of tuberculosis. He said he would introduce it next session.

The late Edward Brokridge, of Corinth, Ont., who died a few weeks ago, bequeathed to the Thomas Williams Home for aged people in St Thomas the sum of $13,000.

Dr. D. G. McIlwraith, of Binbrook, has been appointed Associate Coroner for Wentworth; Dr. R. G. Parry, of Hamilton, for Wentworth, and Dr. R. H. Green, of Embro, for the County of Oxford.

Dr. Don. S. Skinner, while on a visit to his friends in St. Marys, dropped dead on 20 April. He had been practising for some years in Michigan.

Dr. Howard, of Boston, and Dr. Christian Holmes, of Cincinnati, were in Toronto a couple of weeks ago examining the plans of the new General Hospital for Toronto.

Mrs. Thompson, wife of Dr. S. G. Thompson, died from the effects of carbolic acid poisoning. She swallowed the poison in a moment of mental depression.

A commission composed of a physician, a milk dealer, and a milk producer, will be appointed to enquire into the clean milk question of Ontario.

Dr. W. T. Grenfell, who has done such excellent work among the fishermen on the Labrador Coast, spent a short time in Toronto, where he gave a number of addresses.

Dr. O. R. Avision, Medical Missionary in Corea, was in Toronto recently. He gave an very interesting address on his work at the Toronto Western Hospital.

The Ontario Government has decided to make a grant of $4,000 towards the Brantford Hospital for the treatment of tuberculous patients. Mr. E. L. Cockshutt has given a suitable site, and $4,000 has been raised. The sum required is said to be $14,000.

Dr. A. T. Hobbs, Superintendent Homewood Sanitarium, Guelph, is in Europe taking up the study of Mental and Nervous Diseases. He will spend some time in Berne, Munich, Vienna, Berlin and London, returning to Canada early in July.

Returns from the six city cemeteries of Toronto show an increase of 87 in the death rate for March over the previous month; 381 persons were interred as against 294 in February and 290 in January; 51 were over 70 years of age and 40 under five years. Diphtheria caused 6, typhoid fever 4, and scarlet fever 3 deaths.

Dr. D. Albert Rose, of Toronto, was assaulted recently on the street. He was in the company of two men, one of whom he had met before. As they were walking along the street the two men dragged him into a lane, beat him on the head and robbed him of his watch and some money. The doctor had a somewhat similar experience two years ago.

The recently-organized London Health Association have appointed a committee to select a site for the proposed tuberculosis hospital. It is intended, if possible, to secure grounds of about one hundred acres in extent. The committee includes Hon. Adam Beck, Sheriff Cameron and Messrs. Philip Pocock, J. B. Smallman and H. E. Gates.

Dr. Sheard, Medical Health Officer for Toronto, expressed the opinion that it would be unwise to allow doctors to follow patients into the Western, Grace, and St. Michael's Hospitals who pay only 70 cents a day or $4.90 a week Dr. Sheard also expects that the hospitals will provide extra accommodation for 150 patients, with the $150,000 voted by the ratepayers.

The committee that is arranging for a conference on health in schools met in Inspector Hughes' office a sort time ago. Dr. Charles A. Hodgetts, Secretary of the Provincial Board of Health, was requested to see the Minister of Education with a view of having representatives of the educational bodies throughout the Province called as soon as convenient to discuss questions of school sanitation, medical inspection, and general questions connected with the health of the children.

QUEBEC.

Dr. E. W. McBride, of McGill, will leave Montreal soon to enter upon his duties as Professor of Zoology at the Imperial College of Science, London.

The annual report of the Montreal General Hospital showed an income of $101,848 as against an expenditure of 128,909. The total number of patients admitted during the year was 3,103, of these 204 remained over at the end of the year, and 292 died during the year.

The Medical Society of the District of Terrebonne, after a good deal of discussion, agreed to adhere to its former decision to demand $5 for making examinations for life insurance companies. This society is in a flourishing condition with a good membership and a fair sum in the treasury.

Some extensive alterations are proposed in the Montreal General Hospital. These changes will call for an expenditure of about $400,000. Towards this there are the following amounts available: The Alexander fund of $210,000. and the Orkney estate of $100,000. It is thought that citizens of Montreal will contribute the remainder.

The Royal Victoria Hospital, the Montreal General Hospital, and the Notre Dame Hospital have united in sending a strong resolution to the Board of Health, calling upon it to take steps to prevent the spread of typhoid fever in the city, and claiming that the recent outbreak was due to a contaminated water supply. The Mayor and Council are urged to take prompt action to protect the citizens.

Several examples of the persistency of typhoid fever bacilli in patients were mentioned at a recent meeting of the Montreal Medical Society. One of these cases yielded the bacilli from a bone 20 years after the original attack. In another case the bacilli were found 11 years after the attack of typhoid fever. The case of 20 years standing gave a positive Widal reaction.

MARITIME PROVINCES.

The authorities have excluded one thousand unvaccinated children from the schools.

The Womans Antituberculosis League, of Halifax, has a membership of over 500. It is proposed to carry on an educative campaign, and to raise funds for sanatorium work.

WESTERN PROVINCES.

The Manitoba Medical Association meets this year in Brandon on June 22nd and 23rd. A good attendance is expected.

In Saskatchewan the following coroners have been appointed, namely, Dr. Johanesson for Leslie, Dr. Dixon for Watrous, Dr. McLean for Lang, and Dr. Warren for Lanigan.

The ladies in Edmonton have pledged themselves to raise $50,000 for the new hospital. A great bazaar is on foot as one means of raising money.

The College of Physicians and Surgeons of Manitoba has appointed Drs. Patterson and Milroy to confer with the representatives of the other Western Provinces with the view of bringing about reciprocity among the Western Provinces.

Dr. Blanchard paid an extended visit throughout the eastern portions of the Dominion in the interests of the Canadian Medical Association, of which he is President this year. The Association meets in August, 21 to 25.

The annual report of the Victoria Hospital of Prince Albert showed good progress last year. There were treated 246 patients at an average daily cost of $1.73. The Ladies' Aid Society collected $1,000 for the hospital.

Dr. Woollard, of Winnipeg, is going to take a trip to Britain before settling to practice in Winnipeg. While on the steamer of the Canadian Australian Company, he greatly distinguished himself in the case of the wreck of the Aeon. He was presented with a travelling clock in recognition of his services.

Physicians and surgeons of Western Canada are about to hold a conference in Winnipeg in the near future to discuss the question of

a uniform law for the profession in the West, with a uniform examining board of higher qualifications. Delegates have been appointed from Manitoba and Alberta, and no doubt Saskatchewan will be represented, although they have no college of physicians at present. The doctors will work along the lines suggested in the memorable Roddick bill.

BRITISH COLUMBIA.

Dr. R. Bucher, who has been doing post-graduate work in London and Vienna for the past two years, has located in Vancouver.

Dr. H. L. Burris has settled in Kamloops, B. C., having removed from Vermillion, Alta.

The Finance Committee has urged the Civic Council of Vancouver to make a capitation grant of 40 cents a day to patients treated in the Vancouver General Hospital.

The Associated Charities of Vancouver are taking steps to raise funds for the erection of a convalescent ward to the hospital.

Peachland, B. C., has had an epidemic of typhoid fever. The health authorities are investigating the matter.

Dr. Doherty, Medical Superintendent of the B. C. Hospital for the Insane, reports that 230 patients were received during the year. He states that 70 per cent. were foreign born, and 30 per cent. had been in the country less than two years. An additional private ward and a new laboratory were added during the year.

FROM ABROAD.

Sir John Williams has given his collection of 20,000 volumes in the Welsh language to the National Library of Wales.

M. Paul Strauss was elected to the Academy of Medicine of France as an *associé libre* to take the place of M. Chamberland, deceased.

Dr. S. Squire Sprigge has been appointed editor of the *Lancet* (London), a position made vacant by the death of Dr. Thomas Wakley.

The Society for the Destruction of Vermin in Britain reports that the annual damage done by rats amounts to £15,000,000.

It is reported that Dr. Trueworthy, who attended the late E. J. Baldwin, of Los Angeles, is said to have received fees amounting to $100,000. This is the largest medical fee ever paid.

The American Proctological Society will meet this year in Atlantic City, N. J., on June 7th and 8th. An excellent programme has been arranged.

Stringent regulations have been adopted in France for the suppression of contagious diseases in the army. All cases must be reported by telegram to the under Secretary of War.

The Antivivisection Bill before the Massachusetts Legislature has been withdrawn. This is the eleventh or twelfth time that the same thing has occurred in that State.

The General Anæsthetics Bill for Britain provides that the Medical Colleges must give suitable instruction in the administration of anæsthetics.

The Howe Memorial Association has been formed for the purpose of placing in Boston a memorial of Dr. Samuel C. Howe, who was the first in America to interest himself in the care of the feeble-minded.

On the occasion of the delivering of the Hunterian Oration this year before the Royal College of Surgeons of England, the Prince of Wales was present and was made a Fellow of the College.

The second Congress on Physiotherapy met a short time ago in Paris under the Presidency of Professor Laudouzy, Dean of the Faculty of Medicine.

Dr. Arthur Gamgee, Emeritus Professor of Physiology in the University of Manchester, died at the age of 67, recently in Paris. He was well known as a writer and teacher.

In 1908 there were in Germany 31,690 practising physicans and surgeons. The population was 63,000,000. This gives about one practioner to every 2,000 persons.

The news comes from Berlin that Professor Greef has discovered the germ of trachoma. This comes with much authority, as Professor Greef is director of Berlin University Eye Hospital.

Through the generosity of some Americans a hospital for Americans has been established in Neuilly, a suburb of Paris. Two villas have been purchased and transformed into a comfortable hospital.

Dr. C. E. Hill, who graduated last year from Toronto, has been appointed House Surgeon to the New York Hospital, for a period of two years.

Dr. Margaret S. Wallace, a Trinity graduate of 1898, has been appointed professor of medicine in the Woman's Medical College of North India.

A vigorous effort is being made under a strong committee with Sir Robert Hart at its head, to raise funds enough to put four medical colleges in China on a sound footing. It is estimated that £40,000 would be required.

Dr. Mabbini, of Marseilles, has reported two severe cases of anthrax cured by complete excision in the infected area. By this operation the infecting organisms are removed. The operative treatment was first suggested by Drs. Broca and Tielal.

The number of medical men in Great Britain is steadily increasing. It is now estimated that the average income of the general practitioner

is from £200 to £300. A few may make £1,000. This is a very poor return on a profession that costs at least £1,000 to secure.

Dr. Giselsberg, of Vienna, has operated several times on the hypophysis cerebri with good results. The most important point in the operation is to keep strictly to the nasal line to avoid both optic nerves, as any deviation from the middle line may do serious harm.

Miss LaMotte, a trained nurse in charge of visiting tuberculous patients in Baltimore, found that out 1,160 patients, 9 were careful, 143 fairly careful, 719 careless, and 289 utterly indifferent to any instructions.

At a recent meeting of the Prussian Academy of Sciences, Professor Orth delivered an address on the Origin of Cancer, in which he stated that nothing to date sustains the assumption of a parasitic origin for cancer, although such may yet be proved.

According to the report of the United Kingdom Temperance and General Provident Institution for the year 1908, the expected deaths in the Temperance Section were 457, but the actual was only 274. In the general section the expected deaths were 461 and the actual really 407. This showed a remarkable difference in favor of the Temperance Section.

Thaddeus A. Reamy, of Cincinnati, died at the age of 80. He was a man of great physical and mental power. For many years he was among the foremost of the gynæcologists of the United States. He was a Virginian by birth, and graduated from Starling Medical College, of Columbus, O., in 1854.

A woman died in the poorhouse at Colber, Germany, recently, who had been in the habit of swallowing and pushing needles under the skin. There were many found under the skin in various places. There were 8 embedded at the root of the tongue, others found in the liver, the heart, the aorta, the mesocolon, etc.

The British Imperial Department has introduced a variety of small hardy fish into the West Indies. These fish breed with great rapidity and consume all sorts of larvæ in the waters. They swim readily against the stream. This method of dealing with the Calex, Stegomyia and Auopheles is looked forward to with much hope.

The Royal College of Surgeons of England has agreed to allow women to qualify as members and fellows, and as licentiates in dentistry; but they are not to be allowed to vote for the election of Fellows, nor to attend meetings of members and Fellows, except such as are of a scientific character only.

In Britain it has become the custom for friendly societies wishing to engage a medical officer to advertise for tenders. In this way there is a great disparity in the fees asked, and also a marked tendency to cut down the emolument received by the lucky (unlucky lowest) tenderer. The medical profession should stop such methods as this.

Further experimentation with radium appears to demonstrate its great value as a remedial agent. The Paris Radium Institute reports 68 cases of superficial cancer subjected to its action, of which 64 were cured while a large number of other cutaneous affections such as eczema, moles and birthmarks have promptly yielded to the treatment.

Plans announced by the President of the Board of Education of Chicago are to the effect that tubercular and subnormal children in the public schools of Chicago are to be segregated and provided with a special mental and physical training institute to be founded on a 240-acre tract of land in Riverside.

The British National Conference on Infantile Mortality has been doing good work. The death rate under five years of age has fallen from 57 in 1900 to 41 in 1908, per 1,000, or a saving of 15,000 lives yearly, and a vastly improved state of health for many of those who are living.

At the meeting of the Senn Club, held March 26th, it was decided to perpetuate the memory of Nicholas Senn and to bring before the public, lay and professional, the valuable services rendered by Dr. Senn. The means to be employed for this purpose will be decided on later. Dr. Alex. Hugh Ferguson was unanimously elected president of the club, and Dr. Arthur MacNeal was re-elected secretary.

Thomas Wakley, L.R.C.P., Editor of the *Lancet* (British) died recently at his home in London, at the age of 58 years. He was a son of Thomas Henry Wakley, who died two years ago, and was editor of the *Lancet,* and grandson of Thomas Wakley, who founded the *Lancet* in 1823. He leaves a son four years old. The editorship of the *Lancet* must now pass out of the Wakley family.

Drs. D. C. David and J. R. Kauffman, of the house staff of Cook County Hospital, Chicago, report two cases of poisoning following the injection of bismuth vaseline paste for the cure of tuberculosis. One of the cases ended fatally. In both cases there was severe stomatitis and blue pigmentation on the gums. Toxic effects may result from the moderate use of bismuth-vaseline paste.

Dr. Phineas S. Conor, of Cincinnati, died on the 26th of March. He was born in West Chester in Pennsylvania in 1839. He graduated from Jefferson Medical College in 1861, and served in the army throughout the war. He was a professor in the Medical College of Ohio for 40 years. He was a distinguished surgeon and possessed a charming manner.

The prevention of malaria is an important problem for many parts of the world. In Italy the plan has been adopted of the free distribution of quinine, which is to be used as a prophylactic. This, with the

guarding of the houses at nights by proper screens, has reduced the deaths in Italy from 21,033 in 1887 to 4,160 in 1907. By these means alone the disease may ultimately be exterminated.

The annual meeting of the Council of King Edward's Hospital Fund was held recently. The total receipts for the year 1908 were £345,792 15s., and the total disbursements £140,000. The expenses of managing the fund was only one and one-quarter per cent. The investments have appreciated £100,000 over what was paid for them. This is truly a marvelous record.

In the State of Massachusetts the law permits State Inspectors of Health to examine person between 14 and 21, employed in factories, and the State Board of Health and the minor's parents are notified of any ill-health. The workmen in many factories are now asking that this be extended to all employees, with the view of excluding tuberculosis from factories.

Drs. Reed, Lazear, Carroll, and Agramonte, with one exception, have all perished in the prime of life, as martyrs of science. Dr. Agramonte is still alive and a member of the University of Havana. An appeal is made for funds in aid of the family of Dr. James Carroll, who lost his life in his work on yellow fever. Mayor M. W. Ireland, Washington, D. C., is treasurer.

Mr. George Smith, M.R.C.S., Eng., who died recently, left £11,669. After giving a few bequests, he left the residue to the Royal Infirmary, Manchester, and University College Hospital, London. These two bequests are for the benefit of those who may become incapacitated through wounds or sepsis while in the discharge of their regular hospital and college duties. This is as noble as it is unique; but it should find imitators.

A very successful gathering was held in Sanders Theatre, Cambridge, Mass., on the 27th of April in commemoration of the centenary of the birth of Oliver Wendell Holmes. The real anniversary day is August 29, but it was felt that this would be an inconvenient date. President Eliot, of Harvard University, presided, and a number of speeches were delivered. Dr. Holmes was Professor of Physiology and Anatomy from 1847-'82.

The first class of Filipino physicians trained under the American rule received their degrees from the Philippine Medical School at Manila, February 27, 1909. The dean of the faculty, Dr. P. C. Freer, formerly of the University of Michigan, presided over the commencement and addresses were delivered by commissioners D. C. Worcester and Newton W. Gilbert and Senor Rafael Palma, a member of the Philippine Assembly. Forty Filipino women who are studying to become trained nurses attended the ceremony.

At a discussion on the Antivivisection Bill before the Legislature of Massachusetts, President Schurmann, of Cornell University, said: "The real humanitarian is the earnest, patient and humane investigator, who, with the minimum of pain to animals compatible with his high aim to relieve the sufferings of mankind, devotes himself to enlarging our knowledge of the nature and causes of disease and discovering the means of their prevention and cure. The man who opposes this beneficent work is either a misguided sentimentalist or an unthinking enemy of his own species."

The Practitioner, British, speaking of "Dust," remarks: "The grit of which it is composed would be bad enough if it were clean grit; but, as a matter of fact, it is filthy grit, mixed up with dried horse excrement and dried sputum, and so forming an admirable medium for the culture and dissemination of pathogenic micro-organisms, which the wind blows into our mouths and up our nostrils, and which the trailing skirts of careless women introduce into our houses. Probably it is the cause of a great many of those sporadic cases of typhoid fever, septic sore throats, and stomatitis."

Tuberculosis causes annually more than 150,000 deaths in the United States at the average age of thirty-five years, and if we assume that the net value of a human life is about $5,000, which is not high, the real loss to the nation resulting from this disease may be estimated at $240,000,000 per annum. This estimate does not take into account the social, mental and industrial value of at least 150,000 lives, which under different conditions, might reasonably be expected to continue many years. On the same basis for Canada the deaths would number about 12,000, and the annual loss would be about $20,000,000.

At a meeting of the Association of American Medical Colleges recently held in New York, the question of raising the standard of requirement for admission to medical schools was discussed. The sense of the meeting was that present conditions of education do not permit a sudden elevation of standard, but the recommendation was made that a standard of preparatory work equivalent to a four years' high school course of the best character be established, if possible, with the expectation of demanding later two years of undergraduate work in a recognized college. It was furthermore decided to urge the extension of the medical course to five years as soon as practicable.

On February 3 Dr. Elizabeth Blackwell, who enjoys the distinction of being the first woman doctor to graduate on either side of the Atlantic, celebrated her eighty-eighth birthday. She is living a retired life at Hastings and has no sympathy with many of the phases of the women's rights movements. She, however, considers that women ought to offer themselves for such useful purposes as serving on the Board of Guard-

ians, and has twice unsuccessfully contested elections for these appointments at Hastings. Another woman doctor has recently been elected to a municipal post. Mrs. Garrett Anderson is this year mayor of Aldeburgh, a small town on the coast of Suffolk. Her father was the first mayor of the town, and the present mayor was born here, and has now retired to her birthplace. For twenty-two years Mrs. Garrett Anderson was dean of the London School of Medicine for Women.

OBITUARY.

P. D. GOLDSMITH, M.D.

Dr. Goldsmith died in Belleville on the morning of April 5th. He had practised in that city for many years. Formerly he had also resided in Peterboro, Campbellford, and Stirling. He was in his 64th year. His son is Dr. Perry G. Goldsmith, of Toronto. For the past two years he has resided in Toronto. He leaves a widow.

CHARLES H. McKENNA, M.B.

Dr. McKenna graduated from the University of Toronto in 1899. He was for a time one of the house surgeons in St. Michael's Hospital. He located in Dublin, Ontario, where he died last January.

DANIEL YOUNG, M.D.

Dr. Young died on the 10th of March, 1909, at 188 Grace street, Toronto. He practised at one time in Adolphustown, Ontario. He left a considerable amount of money to be divided among his nephews and nieces; and also some legacies to the Anglican, Presbyterian and Methodist churches, and the Canadian College of Music.

DUNCAN A. STEWART, M.D.

Dr. Stewart died at his home in Ailsa Craig last December. He was a graduate from Toronto, of the class of 1877.

DR. DUROCHER.

Dr. Durocher died in Montreal a couple of weeks ago. He was one of the best known of the French-Canadian physicians. He was a graduate of Victoria University, and was at the head of the Montreal School of Medicine that was in affiliation with Victoria University. It was decided to establish a medical faculty of Laval University. Of this faculty, Dr. Durocher became the head, a position which he successfully filled for a long time.

ALFRED C. SMITH, M.D.

The death is announced from Tracadie, N. B., of Dr. Alfred C. Smith, leading authority on leprosy in Canada. Dr. Smith was a graduate of the Medical School of Harvard University in 1864, and subsequently received another medical degree, in 1884, from the University of the Victoria College, in Ontario. He was for many years at the head of the medical department of the government retreat for lepers at Tracadie. Tracadie in New Brunswick and Darcy Island in British Columbia are the two centres in the Dominion of Canada where leprsoy is cared for. He was 68 years of age and leaves a widow and two children.

JOHN F. MACDONALD, M.D.

Dr. Macdonald died at Shubenacadie, N. S., last November in his 72nd year. He was educated at Truro and at Dalhousie University, and took his medical course at Harvard, where he graduated in 1868. He was a pupil of Sir Charles Tupper. He practised at Elmsdale and Hopewell, retiring in 1907 to Shubenacadie. He took a very active interest in the various medical societies of Nova Scotia, and in the prevention of tuberculosis. He enjoyed a large practice and was held in very high esteem by his patients.

MANFRED H. MACDONALD, M.D.

Dr. M. H. Macdonald, of Hampstead, Queen's County, N.B., died 28th February, 1909. He was in his 63rd year, and had followed his profession for 35 years in Hampstead. He leaves a widow and three children. He was of a very amiable disposition and much loved by his patients.

J. C. GOODWIN, M.D.

Dr. Goodwin died suddenly at his home in Meteghan, Digby County, N. S., on the 14th of February, 1909. He was a graduate of Dalhousie University and was at one time a resident physician at the Victoria General Hospital, Halifax. Dr. Goodwin was only thirty years of age, and leaves a widow. The cause of death was typhoid fever and pneumona. In Meteghan and vicinity he was very highly respected and had acquired a large practice.

CHARLES MOXLEY, M.D.

Dr. Moxley died on the 20th March, 1909, at the Royal Victoria Hospital, Montreal. He had been in practice in North Bay. Deceased was only 30 years of age.

BOOK REVIEWS.

AGE, GROWTH AND DEATH.

The Problem of Age, Growth, and Death, a study of Cytomorphosis based on Lectures at the Lowell Institute, March, 1907, by Charles S. Minot, L.L.D., (Yale and Toronto), D.Sc., (Oxford). James Stillman, Professor of Comparative Anatomy in the Harvard Medical School; President of the Boston Society of Natural History. Illustrated. E. P. Putnam's Sons, New York and London. The Knickerbocker Press. Toronto: Tyrrell's Bookstore. Price, $3.00.

Just 29 years ago, the author of this work on Age, Growth and Death, examined the writer of this review on the subject of Botany, when a candidate for the degree of M.B., at the University of Toronto. The reviewer has still a lively recollection of the fact that the paper on that occasion took the candidates considerably by surprise, owing to its scientific character. The graduating class of that year came to the conclusion that Professor Minot would require to be a merciful examiner, or the failures would be very numerous. Since that time, Professor Minot has become a scientist of world-wide repute.

In the present volume of 250 pages, consisting of six lectures and a few appendices, we have a very clear exposition of the doctrine of *Cytomorphosis*. In appreciative language he refers to the influence on the teachings of this book of his great master, Carl Ludwig, of Leipsig.

To use the author's own words: "This book deals with a series of important biological problems, yet it is essentially a study of a

single phenomenon—the increase in the amount of protoplasm. The increase to be considered is not that which takes place at large in the body of the growing animal; but that which takes place within the limits of single cells, and occurs in such a manner that the proportion between the cell-body and the nucleus in volume, or bulk, is changed—the cell-body becoming relatively either larger, as more frequently happens, or smaller, as happens in special cases." It is contended that the proportionate volumes of the nucleus and cell-body reveal certain law of growth, death and sex; and that variations in the volumes of these portions of the cell are fundamental to the correct conception of the problems of life." Professor Minot holds "that there is a distinct correlation between the amount of protoplasm and the rate of growth." From the moment of impregnation animals and plants pass through changes until they reach the limit of life. "Genescence is a problem of living matter."

In discussing the decline of growth and vitality we meet with the following statement: "All of these qualities show a loss, and we commonly think of the old as those who have lost most, who have passed beyond the maximum of development and are now upon the path of decline, going down ever more rapidly." He then goes on to show that age is the period of slowest decline and that youth is the period when the changes take place with the greatest rapidity that make for decline and decay. This is illustrated by the rapid ossification of the skeleton in the early years of life. Bone is a more advanced tissue than the softer cartilage, yet the change is physiologically a disadvantage, so that, while the man has gained in the anatomy of the body, he has really lost ground.

Much attention is given to the lessening in size of the fibres and cells of the body with the changing conditions of age. When a muscle is exercised it enlarges by the thickening of each fibre and not by the formation of new fibres. As age comes on these fibres become thinner and cause the loss in bulk of the entire muscle. As age comes on and the arteries harden, the heart muscle-fibres thicken to meet the strain. this is a sign of anatomic failure going on throughout the body, however. This hypertrophy of the heart is a measure of the sclerosis in the blood vessels.

With regard to the brain the statement is made, backed up by ample proofs, that after about 40 years of age, the brain begins to gradually grow less in weight for the persons of the same age and weight. This loss in brain weight is due to loss in weight in the individual cells, in other words, the protoplasm is gradually disapearing from the cells. The atrophy of the various structures of the body "is pre-eminently a characteristic of the old." But as the cells of the

organs of the body waste in size, the connective tissue or the common tissue of the organs increases in amount. There is, therefore, a constant battle going on between the higher forms of tissues and the lower, with a steady mastery on the part of the lower. Man, the highest manifestation of animal life, suffers most from the condition known as old age. It is in him that the characteristics are most revealed. "The human species stands at the top of the scale and it also suffers most from old age." Blood corpuscles are dying and being used as coloring matter, the hairs fall off and do not grow again, the epithelium of the skin is being constantly shed, and so on throughout the body.

The problem of age is indeed a biological problem in its broadest sense, and we cannot study the problem of age without including in it also the consideration of the problems of growth and death. "Old age has for its foundation a condition which we can actually make visible to the human eye." These statements the author then goes to work to prove by an appeal to what the microscope tells us of the changes which take place in the cellular elements of the body. Each consists of two parts; a central kernel or nucleus, and an outer covering mass of living material called the protoplasm. Steadily on there is change from the germ plasm to the embryo, from the embryo to infancy, from infancy to maturity, and from maturity to age. The cell reaches a stage at which it no longer reproduces itself. In the history of every cell there is the period of undifferentiation, then that of progressive differentiation, next comes degeneration, and finally death. "The period of most rapid decline is youth; the period of slowest decline is old age." This is the biological view taken by the author from his study of the cell.

"Death is not a universal accompaniment of life. In many of the lower organisms death does not occur, so far as we at present know, as a natural and necessary result of life. Death with them is purely the result of an accident, some external cause. Our existing science leads us therefore to the conception that natural death has been acquired *during the progress of evolution of living organisms.*" This is explained by the author as the result of differentiation. When the cells pass beyond the simple stage and become more complicated, they lose some of their vitality, power of growth, and possibility of perpetuation. Thus, as the body rises higher and higher the inevitable tendency is towards the end. "Death is the price we are obliged to pay for our organization, for the differentiation which exists in us." Cytomorphosis is the only true explanation that can be offered for the problems of growth, age, and death.

This law of differentiation is revealed in the body in its types of cells. In cells of the young type there is the power of regeneration; in the second type, say the muscles, there is still some power of regeneration,

but much of the protoplasm has become stupid contractile material; in the third type, say the cells of the liver, there is still a remnant left of the power of regeneration, though it has become very low; while in the highest type of cells, as those of the nervous system, the power of regeneration is entirely lost, because specialisation and differentiation is now complete. The price paid for this is the loss of power to reproduce itself.

The author sums up most of his arguments in a few categorical statements to the effect that cytomorphosis begins with an undifferentiated cell; that it is always through progressive differentiation and degeneration towards death, and varies in degree for different tissues. With regard to age and death it is held that "rejuvenation depends on the increase of the nuclei, and that senescence depends on the increase of the protoplasm and the differentiation of the cells." "Natural death is the consequence of cellular differentiation."

The foregoing is a brief summary of the main arguments to be found in this interesting work of Professor Minot. In the words of the author there is still something to be found out yet. "This is the scientific view of death. It leaves death with all its mystery, with all its sacredness; we are not in the least able at the present time to say what life is, still less, perhaps, what death is. What is essential in these two states, science is utterly unable to tell us at the present time."

MORRIS'S HUMAN ANATOMY.

A complete systematic Treatise by English and American Authors. Edited by Henry Morris, M.A., and M.B., Lond., F.R.C.S., Eng., President of the Royal College of Surgeons of England; Consulting Surgeon to Middlesex Hospital, London; Honorary Member of the Medical Society of the County of New York; formerly Chairman of the Court of Examiners of the Royal College of Surgeons; Examiner in Anatomy in the University of Durham, and Examiner in Surgery in the University of London; and J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy, University of Toronto; formerly Professor of Anatomy, University of Michigan; Member of Association of American Anatomists; Member of Advisory Board, Wister Institute of Anatomy, etc. Ten hundred and twenty-five illustrations, three hundred and nineteen printed in colors. Fourth Edition, revised and enlarged. Philadelphia: P. Blakiston's Sons and Co., 1012 Walnut Street.

This is a very complete work on anatomy consisting of 1530 pages. One might review the book by stating that it is as complete as our knowledge of anatomy at the present moment will permit of its being made. The contributors are among the best known of anatomists, and contain the names of Henry Morris, the leading editor; R. J. Terry, Washington University, St. Louis; Peter Thompson, King's College, London; Irving Hardesty, University of California; G. Carl Huber,

University of Michigan; J. Playfair McMurrich, University of Toronto; Abraham T. Kerr, Cornell University; Charles R. Bardeen, University of Wisconsin; Florence R. Sabin, Johns Hopkins University; R. Marcus Gunn, F. R. C. S., London; W. H. A. Jacobson, F. R. C. S., Guy's Hospital, London.

In this list there are names that are known wherever the English language is known as the very foremost in anatomy and surgery. Their long experience as teachers, together with their thorough knowledge of the subject of anatomy, places them in a unique position, and justifies, in a very special sense, their giving the medical profession and students of medicine a work on anatomy.

But anatomy has now become a very extensive subject, and few men are able to keep themselves equally abreast of the work that is being done in all its departments. This is overcome in this work by each one of the contributors taking charge of sections of the work with which has a special familiarity. By this plan the very best results are secured. This method of specializing within a specialty has led in many instances to the most efficient work and satisfactory progress in scientific pursuits. In this work we have this method bearing excellent fruits.

Morphogenesis (the development of structure) is by Professor J. Playfair McMurrich; Etiology is by Professor Peter Thompson; Articulations by Henry Morris; the Muscles by Professor Charles R. Bardeen; Heart, Blood Vessels and Lymphatics by Professor Florence R. Sabin; the Nervous System by Professor Irving Hardesty; the Special Senses by Mr. Gunn and Professor Kerr; Organs of Digestion by G. Carl Huber; the Organs of Voice and Respiration by Professor R. J. Terry; the Urinary and Generative Organs by Professor McMurrich; the Ductless Glands by Professor Huber; the skin and Mammary Gland by Professor Kerr; Surgical and Topical Anatomy by Mr. W. H. A. Jacobson.

This division will show at a glance that each section has been assigned to those who are in a very special way, by long study and experience, well qualified for the work of writing the section assigned to them. Many of the sections are entirely new, and the others have undergone a thorough revision from the form of the previous edition.

The Basle nomenclature, or the the BNA, has been adopted. This can easily be defended. Any one who is familiar with anatomy will readily see the advantage of having a terminology that is common to all countries. It has not only this advantage, but the still further one of being the most accurate and expressive arrangement of names possible.

Coming to some of the details of this work, it will be noticed at once that the illustrations are such in a very real sense. They have

been taken from very fine dissections, and the artistic work to bring out the beauties of these dissections could not be excelled. The coloring is good and done with taste, and is most helpful to the student of anatomy. Where selections of illustrations have been made from other works of anatomy the utmost care has been taken to secure the best. The work is profusely illustrated as shown by the number, namely, 1,025. The language of the book throughout is free from errors and is in a clear and readable style. There are no obscure passages in the book. This must be admitted as a merit of no small moment.

The publishers have spared neither time nor money to give effect to the wishes of the contributors. The paper, typography, and binding are such as one would wish to see in a work of such importance. The thumb index is a great convenience for quick reference to the various sections.

After a most painstaking review of this work and speaking from long experience as an anatomist, we can recommend this work as one of the most useful on the subject to be found in any language.

AIDS TO MEDICINE.

By Bernard Hudson, M.D., M.R.C.P., Lond., Assistant Physician to the City Road Chest Hospital; Pathologist and Registrar to the East London Children's Hospital; Late Casualty Physician to St. Bartholomew's Hospital. London: Bailliere, Tindall and Cox, 8 Henrietta Street, Covent Garden, 1909. Price, cloth 3s. net; Paper, 2s. 6d. net.

The "Aids" series is well known. Many a student has made extensive use of these books, and found much help from their pages. This book takes the place of the former one of the series by Dr. Norman Dalton. The book is quite trustworthy, and can be safely recommended to students who wish to review their work in a short time and at the same time reliably.

URINARY TESTS.

Three Important Time-saving Urinary Tests, by Henry R. Harower, M.D., 2806 North Paulina Street, Chicago, Ill.

The three test discussed in this little pamphlet are "The Estimation of Indican," "A New Instrument for the Estimation of the Urinary Acidity," and "A New Instrument for the Rapid and Accurate Estimation of Albumin in the Urine." The author lays down the clinical significance of indican, acidity, and albumin. The instruments are simple and easily manipulated. The reagents required inexpensive and easily procured. Wish for this little pamphlet a wide circulation.

MISCELLANEOUS.

PROGRAMME FOR THE ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

Tuesday, June 1st, 1909. Morning Session.

Medical Section, 10 a.m.

1. Paper ..... A. Sangster, Stouffville.
2. Grave's Disease ..... H. B. Henderson, Toronto.
3. Paper ..... E. Ryan, Kingston.
4. Differential Diagnosis of Cerebellar Tumors ..... Ernest Jones, Toronto.
5. A Case of Opium Poisoning..... A. Taylor, Goderich.
6. Paper ..... R. J. Dwyer, Toronto.

Surgical Section, 10 a.m.

1. Hodgkin's Disease ..... W. J. O. Malloch, Toronto.
2. Surgical Treatment of Gall Stones ..... C. F. Moore, Toronto.
3. Paper ..... J. W. S. McCullough, Alliston.
4. A Cure of Appendicitis ..... Everett Hicks, Port Dover.

Section of Preventive Medicine, 10 a.m.

1. Paper ..... J. C. Connell, Kingston.
2. Paper ..... W. R. Hall, Chatham.

Section on Gynæcology, Obstetrics and Diseases of Children, 10 a.m.

General Session, 2.30 p.m.

1. President's Address.
2. Acute Septic Peritonitis ..... J. B. Deaver, Philadelphia.
3. Ultimate end of Surgery, with special reference to the Surgery of the Pelvic Organs in Women.....W. P. Manton, Detroit.

Tuesday Evening, 8.30 p.m.

1. Paper .....L. Emmett Holt, New York.
2. Paper .....J. Adler, New York.

Wednesday, June 2nd, 1909. Morning Session.

Medical Section, 930 a.m.

I. Symposium. Present Day Therapeutics.
   (1) Nihilism in Therapeutics..... J. T. Fotheringham, Toronto.
   (2) Nostrum Evil .....J. Ferguson, Toronto.
   (3) J. H. Elliott, Toronto.
   (4) Bier's Hyperæmic Treatment.S. H. Westman, Toronto.
   (5) Recent Advances in X-ray & Radium Therapeutics.
II. Therapeutics of Digitalis..... V. E. Henderson, Toronto.
III. Paper .... W. B. Thistle, Toronto.

Surgical Section, 9.30 a.m.

1. Paper ..... C. B. Shuttleworth, Toronto.
2. Repair of 3 cm. Defect of the Medium Nerve, due to old injury. Almost complete restoration of function. ..... Ingersoll Olmsted, Hamilton.
3. Paper ..... J. S. Wardlaw, Galt.
4. Paper ..... R. R. Wallace, Hamilton.
5. Diagnosis of Genito-Urinary Diseases of Women ..... Ellice Macdonald, New York.

Section on Gynæcology, Obstetrics and Diseases of Children, 10 a.m.

Section on Diseases of the Eye, Ear, Throat and Nose, 9 a.m.

I. Exhibition of Cases.
   Exhibition of Specimens, Instruments, etc.
   Demonstration of New Methods.
II. Papers.
   (1) Influence of Light Rays on the Retina .....J. M. MacCallum, Toronto.
   (2) Paper .....W. F. Chappell, New York.
   (3) Bronchoscopy, etc. ..... D. J. Wishart, Toronto.

Wednesday Afternoon, General Session, 230 p. m.

1. Copious Water Drinking in the Treatment of Typhoid Fever. E. F. Cuching, Cleveland.

Thursday, June 3rd, 1909. Morning Session.

Medical Section, 9.30 a.m.

1. Paper ..... A. Fisher, Stratford.
2. Paper ..... J. A. Bauer, Hamilton.
3. Gastrogenous Diarrhoeas ..... Graham Chambers, Toronto.
4. Landry's Paralysis ..... R. G. Kelly, Watford.
5. Results in Vaccine treatment of Certain Bacterial Diseases..... G. W. Ross, Toronto.

Surgical Section, 9.30 a.m.

1. Movable Kidney ..... W. McKeown, Toronto.
2. Intussusception ..... J. M. Elder, Montreal.
3. Paper ..... J. M. Rogers, Ingersoll.
4. Paper ..... Hadley Williams, London.

Section of Gynæcology, Obstetrics and Diseases of Children, 9 a.m.

1. Vomiting of Pregnancy..... J. M. Slemon, Baltimore.
2. The Use of Hyoscine and Morphine in Obstetrical Work..... C. H. Vrooman, Winnipeg.
3. Case in Practice ..... W. Spankie, Wolfe Island.
4. Paper..... H. E. Haight, Buffalo.
5. Paper..... S. A. L. Lockhart, Montreal.
6. Toxæmias of Pregnancy..... H. M. Little, Montreal.
7. Paper..... A. E. McColl, Belleville.
8. Paper..... K. C. McIlwraith, Toronto.
9. Paper..... F. Fenton, Toronto.
10. Paper..... Allan Baines, Toronto.
11. Symposium in Slight Contraction of the Pelvis in Pregnancy and Labor.

CANADIAN MEDICAL ASSOCIATION.

For the forty-second annual meeting of the Canadian Medical Association in Winnipeg on the 23rd, 24th and 25th of August, 1909, transportation arrangements have been completed. For delegates, their wives and their daughters (no others), from points east of Port Arthur, the rate will be single fare plus twenty-five cents for round trip tickets, provided fifty or more are present holding Standard Convention Certificates. These tickets will be on sale from August 14th to 21st, final return limit from Winnipeg Sept. 25th. If Ontario Lake route is used payment of the following arbitraries must be paid to the pursers of the Richelieu lines: During August, Toronto to Montreal $8.00; from Kingston to Montreal, $4.50: During September, from Toronto to Montreal, $6.65; from Kingston to Montreal, $3.50. Upper Lakes: Going $3.50 additional; returning $8.50 additional. Side trips from Winnipeg one fare for the round trip, Aug. 25th to Sept. 24th, inclusive. Alaska-Yukon-Pacific rates will apply for side trips to Pacific Coast points. Side trips to interior points in British Columbia will be announced in the annual circular issued in June or July 1st. Local convention plan arrangements will prevail for the west as far west as Laggan and Coleman, Alberta. Lowest one way first class fare from British Columbia. Date of sale of tickets beginning August 16th to 19th, inclusive, with final return limit Sept. 25th. Any one can find out the single first-class fare to Winnipeg by enquiring of their station agents.

ATROPINE AS A HEMOSTATIC.

CANADA LANCET, Editor,
Toronto, Canada.

Dear Doctor:—

I am collecting material for a paper upon atropine as a hemostatic, and would be obliged to any of your readers who would send me notes of their experience with this remedy. I am particularly anxious to receive adverse reports as well as those favoring the remedy.

Thanking you for the courtesy of inserting this note, I remain,

Very sincerely yours,

WILLIAM F. WAUGH.

1424 E. Ravenswood Pk., Chicago, Ill.

ASSOCIATION OF MEDICAL OFFICERS OF THE MILITIA OF CANADA.

The following officers were elected for the ensuing year:

President, Lt. Col. H. S. Birkett; Vice-Presidents for the Military Districts, Major Rankin, M.P., Lt. Col. G. S. Rennie, Major Kilborne, Major A. T. Shillington, Major E. R. Brown, Captain Williams, Major E. A. LeBell, Lt. Col. Murray McLaren, Lt. Col. Currie, Lt. Col. Blanchard, Captain McTavish, Lt. Col. Jenkins, Captain Hewetson; Secretary-Treasurer, Lieut. T. H. Leggett.

Notice of motion given by Lt. Col. Jones, P.A.M.C., at the last Annual Meeting:—

"That this Association of Medical Officers of the militia of Canada expresses its approval of the scheme of forming, in Canada, an Association having for its object the development of Ambulance and Red Cross Work in the Dominion."

The motion was adopted.

The next Annual meeting will be held at Ottawa, February 24th and 25th, 1910.

A GENEROUS GIFT TO THE ACADEMY OF MEDICINE, TORONTO.

The Academy of Medicine has recently received, through the generosity of Mr. E. B. Osler, an interesting collection of portraits and other engravings, selected by Dr. Osler, while in Paris, lately. Among them is an engraving of Holbein's celebrated painting, "Henry VIII. Granting the Charter to the Barbers-Surgeons, London, 1547." The painting is valued at £80,000; another, perhaps better known to the medical profession, is, "Une Leçon du Docteur Charcot à la Salpètriére." There are many portraits in the collection of men whose names are familiar to every student of medicine—Abernethey, Bichat, Lavater, Borelli, Cromel, etc.

INTERNATIONAL MEDICAL CONGRESS.

The 16th International Medical Congress will be held in Budapest from August 28th to September 4th. Arrangements have been made for those who may attend the congress at the various hotels and in private houses. Prices range in the hotels for single bedded rooms from 21 to 140 kronen, for double bedded rooms from 35 to 210 kronen, and for three bedded rooms from 42 to 245 kronen. In private houses the terms range for the foregoing from 16 to 70, 30 to 100, and 45 to 115 kronen.

Persons wishing accommodation should write to the Central Ticket Office of the Hungarian State Railways. Money must be remitted with the order for rooms. Should any not be able to attend money will be refunded if the order is cancelled by 20th August. A small charge of 10 kronen will be deducted for the trouble.