The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF MEDICINE AND SURGERY

VOL. X. TORONTO, OCTOBER, 1901. NO. 4.

Original Contributions.

ADDRESS IN MEDICINE.*

BY J. R. JONES, M.D., WINNIPEG.

Mr. President and Members of the Canadian Medical Association, —When the President of this Association deputed to me the honor of delivering the Address in Medicine, I had no little anxiety in the selection of a theme worthy of the occasion and which would command the interest of the members. This difficulty was accentuated by the fact that I had never attended any meeting of the Canadian Medical Association, and I had no knowledge of the addresses of my predecessors. However, at this particular juncture in the history of our profession in the Dominion of Canada, I have concluded it would be wise and, I hope, profitable to address you upon the unsolved problem of medical education. Its importance is especially manifest when we assume the possibility of the establishment of a Dominion Medical Board. It is necessary, therefore, for the various bodies engaged in teaching or in registration of qualifications to make ample provision and preparation for this long-looked-for event. Uniform or equivalent curricula will greatly facilitate paving the way for the accomplishment of Dominion registration. In Canada there are as many standards of medical education as there are political subdivisions.

The great aim of the medical profession, chiefly through the potent influence of this Association, is to create on a sound and enduring basis a Dominion Medical Board whose qualification can

*Read at Meeting of Canadian Medical Association, Winnipeg, August 29th, 1901.

be registered in every province of the Dominion. Nor should we rest here; its qualification should not only be Canadian but Imperial, capable of registration in Great and Greater Britain.

Preliminary Education.

In Dr. Roddick's bill provision is made for the proposed Board to conduct the medical entrance examination by examiners appointed by the Dominion Council. It is desirable that examination in general education be left to the universities and such other institutions engaged in general education and examination as may from time to time be approved by the Board. Let the Council select or erect the standard of medical matriculation, and then accept educational certificates of equivalent or higher value for registration as a medical student. This is the practice followed in England by all bodies granting qualifications, except the universities.

For our students' matriculation we should fall back on the national educational bodies, whose examination should reach a specific uniform or equivalent standard. We can safely entrust this department to our educational institutions, which will receive the recognition and endorsement of the Dominion Medical Board. By accepting approved certificates the Dominion Medical Board is not only relieved of responsibility and expense, but more students will avail themselves of Dominion registration than if they are compelled to prepare on a range of subjects out of harmony with the curriculum of the institution in which they are receiving their education. Every university in the Dominion of Canada will receive equivalent certificates from sister institutions; and these universities also will receive partial certificates granting, for example, *pro tanto* standing to school teachers holding first and second class certificates. These certificates are accepted by the university in all branches—law, medicine and arts.

Medical examiners in England as well as in Canada are fully convinced that there is some defect in the preliminary education of medical students. The standard is not high enough. Many students pass into the medical colleges utterly unprepared to profit by the education of their medical teachers—their minds not being disciplined that they might be competent to engage in the difficult studies of the profession with advantage.

The question naturally arises, What should be the range of the medical matriculation examination? Should Latin be eliminated and modern languages be substituted? Should an elementary knowledge of chemistry, physiology and comparative anatomy be demanded? I think there should be no special preparation for the study of medicine—that it should be that preparation common to all educated professions. Notwithstanding the advocacy of the elimination of Latin in medical entrance examination by such eminent men as Huxley, Sir Willoughby Wade, Jonathan Hutchinson, Herbert Spencer and Sir John Williams, the weight of argu-

ment to my mind is in favor of its retention. I would even go a step farther and advocate the inclusion of Greek.

The justification of the advocacy of Greek lies in the cardinal circumstance that it is *par excellence* the language of science. A very large proportion of technical terms, compound scientific words and descriptive names used in anatomy and physiology, medicine and surgery, are derived from the Greek. Almost the whole of scientific and medical nomenclature is derived from Latin and Greek, especially the latter.

Permit me to quote two eminent authorities who favor the retaining of classical education as training for professional studies.

Dr. Alexander Hill, a member of our own profession, who is master of Downing College, Cambridge, says: "How to make a competent biologist; how to obtain that proper balance between the development of observation, the cultivation of the memory and the attainment of the ability to correlate and compare observations; to draw inferences, and to base hypotheses—'an early training in science is the surest guarantee of eventual proficiency.' To this my experience gives an emphatic denial. Science scholars often cause their tutors the greatest disappointment. Their appearance in the examination before they are nineteen years of age—the limit for the entrance scholarship—means too often that they are the boys who at the earliest possible age have deserted what we may call the proper work of the school for the sake of preparing for the science scholarship. They are not 'lads of parts,' but boys who have been crammed with scientific facts by clever teachers and taught how to show them off in the most impressive way. Their knowledge is often extraordinarily accurate and extensive. They have a magnificent test-tube acquaintance with chemistry, they have thoroughly mastered the elementary formulæ of physics, they have acquired the elements of botany and zoology—but they have no mental training. Let them work never so hard during their three years' course at Cambridge, they are quickly overhauled by the youngest boys from the big public schools, who when they came up did not know the test-tube from a barometer. The science scholar as turned out by schools 'with a successful modern side' is a prodigy of information and difficult to beat on the earlier levels of his subject; but as soon as he reaches that region of information where solid facts are left behind—a region in which is needed a nice appreciation of the relative cogency of arguments, the close following of a train of inferences —he is like a clod-hopper on a glacier, without feet to grip or a heart to dare."

This, gentlemen, is the result of the experience of the Master of Downing. My second authority is Professor Jebb, of Berlin, who summarises under the five following headings the advantages of classical education:

"1. Ignorance of Latin and Greek is a positive obstruction to the pursuit of many branches of study.

"2. Ideality of the scientific sense is cultivated by studies which have not an immediate bearing upon daily life.

"3. An actual knowledge for its own sake is promoted by them.

"4. The power of thinking receives a varied general exercise in these studies.

"5. They are of historical value as illustrating the foundations on which so much of modern thought and life has been built."

This subject was discussed in the German Federal Council last year, and at the conclusion a resolution was passed affirming that the certificates of classical education should alone give the right of admission to the medical examinations. A few years ago Berlin University expressed a very decided opinion upon the question, and furnished a series of reasons for maintaining classical studies as a basis of professional education. The utilitarian and educationalist, who, vandal-like, would exclude classics from the preliminary examination, desire instead a knowledge of science, physiology, anatomy, biology, etc., thus partially relieving the medical curriculum and affording a partial preparation for the professional course.

Others, Professor Schaeffer, for example, more wisely recommend a year's course in science sandwiched between the passing of the preliminary examination and the student's entrance at a medical college. This is an ideal plan, but is scarcely practicable in Canada. I consider it a great mistake to cram in small elementary scraps of scientific information designated as "science" in the schoolboy's curriculum. Science should not be taught until a sufficient knowledge is acquired of the ordinary subjects of general education; hence it cannot be taken up till the final period of school life. The meagre scientific equipment of our schools and the unfitness of our teachers would render the teaching of science very elementary and most confusing.

Scientific knowledge and education thus produced would be of no appreciable practical value in a medical career. In regard to the subjects embraced in the medical matriculation, the most lamentable defect is in the English paper. This is the most neglected subject in our primary schools. The same defect exists in England. At a recent teachers' examination in England, the majority of those rejected came to grief over the English paper—a composition on the prosaic subject of tramways. The teachers were in revolt and demanded a revision of their papers, which confirmed the examiners' verdict.

The majority of rejections at the Conjoint Board in England were attributable to the results of a defective knowledge of English.

Having acted for many years as an examiner at our University, I have concluded that the teaching of English takes a very subordinate position in our schools. Spelling and composition prove that English takes a third or fourth position. Students from all parts of the Dominion present themselves at our Uni-

versity examination, and the same defect exists among the students from other provinces of the Dominion. It is obvious that English ought to be a prominent subject of the medical matriculation examination. Every student should be able to express his thoughts coherently and intelligently.

In this country of magnificent distances I suppose it is impossible to have a Medical Teachers' Association. Certainly such a competent body could deal with the revision of the medical curriculum as well as define the limits of the medical entrance examination. This important subject could not be delegated to this Association, which meets once a year for a few days at various points of the Dominion and mainly for the purpose of social recreation. Persistent, consecutive and complete work can never be accomplished by a committee of the Canadian Medical Association; it is rare for the members of any given committee to be in attendance at more than two consecutive meetings.

Professional Education.

The medical curriculum has subjects difficult to acquire, worthless as mental gymnastics, useless in practice and speedily forgotten when acquired. The methods of teaching are imperfect and vicious. The student in didactic lectures is not taught—he is over-lectured and undertaught. The lecturer describes rather than demonstrates, and instead of making the student follow him step by step in his methods of observation, collecting, comparing, testing and recording facts and of reasoning thereon, the didactic lecturer leaves them to be learned by being described, forgetful that they can be learned only by being practised.

The main tendency of the present method of didactic lectures is to give students smatterings of scientific knowledge at the cost of that thorough knowledge of their art which is essential to its successful exercise. In the curriculum there is overlapping of similar subjects in the didactic and clinical courses. The course of didactic lectures should be entirely abolished or radically modified. Teaching should be bedside work—oral and written examinations with comments by the teacher. In analyzing the didactic course, I would like to direct the attention of the Association to several defects and useless waste of time which could be more profitably employed.

What earthly use is there for a didactic lecture on descriptive anatomy, a subject which can only be mastered in the dissecting-room? Professor McAllister, of Cambridge, states "that anatomy being a practical subject can be learned only in the dissecting-room." The line of demarcation between descriptive and practical anatomy is arbitrary and fanciful. In a large class in descriptive anatomy, the favored few near the lecturer and dissected part derive some instruction, but to all the rest the hour is useless and wasted. Persistent work in the dissecting-room under the guidance of an experienced demonstrator who will describe, discuss and

constantly orally examine the student is a rational and effective method of teaching anatomy.

Another useless subject is medical jurisprudence; the interest in it ends after the examination, and to the general practitioner the knowledge thus gained is of no practical value. Few men are called upon to give evidence in criminal cases, and when we are, the knowledge acquired while at college is either useless, fragmentary or forgotten, and in order to cut a respectable figure in court, we frantically read up Taylor and Reese. All knowledge is useful, but that derived from medical jurisprudence is about as practical to the general practitioner as the geography of Timbuctoo or the philosophy of Confucius.

The object of medical teaching is to turn out good practitioners.

Another subject which, as at present taught, is a weariness to the flesh is Sanitary Science. Its pretensions are stupendous; it is supposed to teach everything—land surveying, architecture, organic chemistry, agriculture, plumbing, drainage and civil engineering. The student is crammed with this conglomerate stuff which he must intelligently reproduce at the annual examination. In sanitary science we have a splendid exemplification of the "cram" system and the utter uselessness of the knowledge, the very essence of smattering.

In order to show the uselessness of the hard work expended in Sanitary Science, I will quote a few questions from the examination papers on this subject:

"1. What do you understand by the expressions 'effective population,' 'dependent population,' and 'density of population.'

"2. Define the word 'nuisance' according to law. Show the statutory provisions under which nuisances may be dealt with.

"3. What impurities of a deleterious character may be found in bread.

"4. In the event of typhoid fever occurring in a family, what steps should be taken to ascertain that the water supply and sanitary fittings are in proper order?" (I will answer this question for the benefit of the association—"Send for the plumber.")

The questions I have quoted are well enough for the candidate for the science diploma, but of no use to the general practitioner.

The burden of the medical student of to-day is very great. More attendances at lectures are demanded, more subjects are being wedged into the curriculum. That conglomerate heap labelled "materia medica" might be treated in a bag and baggage fashion. It is impossible to encompass this large mass of dry technical knowledge in the students' course. Materia medica is a mere tax to the memory—the acquisition largely of bare facts being necessary, and facts that are neither retained nor applied. Mr. Huxley's views, in an address to the students of St. Mary's Hospital, are appropriate. He says:

"I am quite prepared to admit, and indeed I have always had a strong conviction, that there is something absolutely preposterous

in the volume and bulk to which some of our treatises on materia medica extend, and the enormous quantity of irrelevant matter with which their pages are crammed."

What scraps of information can a didactic lecturer impart to his students which they cannot readily find in the text-book? An occasional quiz class, with specimens of drugs and their preparation, should take the place of the systematic lecture; in fact, let pharmacy and therapeutics take its place.

The careful perusal of the materia medica examination paper convinces me that in this subject there is a great deal of misdirected energy in the acquisition of evanescent knowledge, because it is mere verbal memorizing. Let me give a few examples culled from English sources. I would not cull examples from Canadian examinations for reasons that are very obvious.

"1. Name the pharmacopœial preparations into which potassii tartras acidi enters, and give doses. Describe the action of this drug.

"2. What is lini farina? Give its source and enumerate all the preparations into which it enters.

"3. Contrast the physical and chemical properties of castor oil and oil of turpentine."

Apropos of these very questions, Mr. T. Prigden Teale says: "This is the kind of rubbish that the elaborate and costly machinery of a public examination has to waste its energies on." This, I would say, is the stuff doled out by your didactic lecturer on materia medica, and which demands the bodily attendance of our students for the prescribed course.

My sympathy goes out to the overburdened medical student, weighed down by an accumulation of courses and annual examinations. His corporeal presence is required at so many lectures that he has little time, inclination and energy for hospital work, recreation and private reading.

Sir William Stokes truly says: "I have satisfied myself over and over again that the failure of a large proportion of candidates to answer up to the required standard was due, not to want of diligent or conscientious work on their part, but simply to brain exhaustion from an attempt to overload it with facts which were believed to be essential."

The system of imparting instruction by lectures is a mediæval custom originating when text-books were few, costly and inaccurate. It is a purely traditional system. Now that there are text-books in abundance covering the whole range, and of excellent merit, these lectures should be modified. The chief value of lectures is that the student is obliged to hear a certain quantity of a subject every day, whether he likes it or not, whilst no authority can compel him to work at a text-book except by moral suasion or arguments of a practical character addressed to his self-interest. A restricted number of lectures may be advisable, but the number could be abbreviated with advantage and confined to the inculca-

tion of principles; removing difficulties and obstacles from the student's path; explaining types and divergences of disease; giving information not within the pages of a text-book The time hitherto employed in systematic lectures might be devoted to class examination on previously announced subjects in which the teacher should indulge in questions, explanations, corrections and comments. This is the true education—drawing out, instead of the pouring-in process.

The lecture system reminds one of the daughters of Danaus, whose destiny was to fill pitchers which could hold no water. The students are percolated receptacles of transitory knowledge.

Mr. Dennis Hovell, in his address to the Hunterian Society, very truly says: "Education is a subject much misinterpreted in word and abused in deed. It is intended literally to mean a drawing out of the faculties, but by being altered into mere pouring in and puffing up, it has often resulted in checking and repressing some of the most valuable of them. Its highly necessary adjuvants, discipline and training, are not only too often but too entirely neglected, and the want of these is much felt because it operates negatively by preventing and neutralizing the good effects of teaching."

We might with profit emulate our brethren in the United States in our methods of teaching. In that country there is an approach to the tutorial system. Students in the various subjects are divided into small sub-classes, each presided over by a lecturer. Each student receives individual attention in the small group or section instruction. It is simply a means of enabling the individual to see, hear and touch for himself under the best possible scientific guidance. His weakness is discovered; his knowledge tested; his observation is stimulated and cultivated; his attention rivetted; his application of the laws of thought employed, and rightly prosecuted—it is the inductive method applied to medicine.

The "case" method, advocated by Mr. Cannon, of Harvard University, in March, 1900, has received the endorsation of many teachers in England and the United States. This method is supposed to supplant the dreary, old-fashioned didactic lecture, and is an imitation of the plan adopted in the law department of Harvard. The plan is to secure printed histories of actual cases which perhaps the student may have seen in the hospital. Each student is previously supplied with a printed copy of the history for careful perusal some time prior to the discussion. The class and teacher meet and discuss the diagnosis, pathology, symptoms and treatment. Text-books and other literature are consulted, and the case is thoroughly threshed out. The student is learning the judgment of clinical data; the estimation and relative value of the various symptoms; distinguishing between the important and the unimportant, the common features and the more unique. He not only receives but acquires knowledge. The case method may supplant or supplement the didactic and clinical courses. This plan is

no experiment, for it has been on successful trial by several professors at Harvard; by Dr. J. White, of Philadelphia, and Dr. R. E. Riggs, of the University of Minnesota.

Possibly I may be prejudiced, but from personal experience I favor the English system of clinical clerkships and dresserships as the most feasible, practical and thorough for the development of medical teaching. It embraces all the advantages claimed by the advocates of the case system and the sectional plan. Moreover, the student is brought into direct contact with the patient for whose history he is responsible.

By this method the medical student is trained to habits of minute, careful, methodised observation and registration of the phenomena of disease. The student observes his cases from the incipient stage to either recovery or the *post-mortem* room, to the verification or otherwise of his daily recorded observations. Upon this solid foundation of actual personal experience, he builds to fit himself for life's battle.

Dominion Registration.

The educational requirements of the proposed Dominion Board will completely determine the nature of the instruction imparted to all students at the medical colleges. If this Board is successful in securing even a modest number of candidates for its qualification, then the mandate of the Board will regulate the whole machinery of medical education, preliminary and professional, and the influence of this body will have far-reaching effects upon the profession in this country. The various medical colleges will be compelled eventually to conform to its regulations just as is the case between the teaching bodies and the General Medical Council of Great Britain. Although not endowed with the supreme prerogatives of the Medical Council of Great Britain, its enactments, regulations and requirements will practically have the same beneficent effects. Granting Dr. Roddick's scheme is launched, after some years, there will be conflict and confusion between the requirements and curricula of the Dominion Board and those of the licensing bodies of the various provinces of the Dominion, and these opposing requirements will tax the resources of the medical colleges to meet the necessities of the two classes of students—those desiring the provincial qualification and the others desiring the national one. Hence it is necessary that all medical colleges should have the same curriculum. The course should be identical, but the method of instruction should be left to the wisdom of each.

The alternative requirements suggested for the Dominion qualification may be summarized under the following headings:

1. The candidate must secure provincial registration before presenting himself for the Dominion license, and the Dominion Council would examine him in the intermediate and final subjects; the final examination to be passed five years subsequent to medical matriculation.

2. The second alternative is that the candidate must pass the Dominion Medical Board in all the subjects of the professional course, the primary and intermediate subjects to be taken under the supervision of the Dominion Medical Board at the various centres in which medical colleges are located.

In order that the license of the Dominion Medical Board should obtain a predominant position, I think it should demand examination in all subjects of the professional course. This hybrid examination, part by the Provincial licensing body and part by the Dominion Medical Board, might prevent us securing reciprocal arrangements with the Medical Council of Great Britain. This proposed joint scheme of examination might frustrate one of the great objects of Dr. Roddick's bill—registration in Great Britain.

Passing from the purely educational aspects of the question to the practical one, namely, the establishment of a Dominion Medical Board, the subject bristles with many difficulties—legal, financial and representative. The general Government of Canada cannot deprive the provinces of their vested constitutional privileges, nor can the Provincial legislatures unite and create the Dominion Medical Board. We are, therefore, on the horns of a legal dilemma, and in order to extricate ourselves are forced to resort to the most extraordinary round-about legislation. It is alleged that under Section 91 of the British North America Act the Dominion Parliament has power to "make laws for the peace, order and good government of Canada in relation to all matters not coming within the classes of subjects by this Act assigned exclusively to the legislatures of the Province." Under this clause it is proposed to create a Dominion Medical Board, and such legislation is alleged to be constitutional, possessing all the elements of permanence, but two essential pre-requisites are necessary before this bill can become law and be operative. One is to secure the consent of the Provincial licensing bodies, and the other is to secure such local legislation as will enable the local councils to legally register the Dominion qualification. Now, let us suppose that the consent of these bodies has been secured and the necessary local legislation obtained. The possessor of the Dominion qualification must register before the local Council of the Province, paying the usual fee were the parties to practise. Should he desire at any future time to locate in another Province, registration must again take place. In other words his Dominion qualification entitles him to interprovincial endorsement.

This complex, elaborate structure of Dominion registration may fall to pieces at any moment when any of the contracting provinces wishes to secede from the bargain. A province with grievances—real or imaginary—by its withdrawal in a moment of petulant irritability, may shatter the Dominion Medical Board and cause its complete disintegration. This is one of the weak points of Dr. Roddick's bill.

Manitoba and Quebec had reciprocal registration, when Quebec

without a single day's notice withdrew, and reciprocity ended. Dr. Roddick states that this weak point can be safeguarded by making secession difficult, intricate and expensive, by forcing the aggrieved province to appeal to the Supreme Court of Canada, or to a Court of Arbitration appointed by the Council.

Representation on the Council.

Adequate representation of the general profession in the various provinces, of the medical colleges and of the universities, implies a large, extensive and unwieldy Council. Still, all these elements should be represented. Under section 6, sub-section 21, Dr. Roddick's bill reads : "The Council is to be composed of three members from each province : Ontario, 3 ; Quebec, 3 ; Nova Scotia, 3 ; Manitoba, 3 ; New Brunswick, 3 ; British Columbia, 3 ; North-west Territories, 3 ; Prince Edward Island, 3 ; Homeopathics, 3. Total, 27." If provincial representation be according to population, then this large number is further augmented. Let me here cull an extract from a circular letter addressed to our registrar, Dr. Gray, by Dr. Roddick. Dr. Roddick says by way of suggestion, "The President of each Council shall be *ex officio* a member. The Governor-General-in-Council shall appoint one for each province and the Territories ; then the first 100 or fraction of 100 medical practitioners in each province should be entitled to one representative ; that the second 100 or fraction thereof over 50 per cent. shall be entitled to one representative, and for every 600 over that, one representative shall be allowed." This will give you four representatives in the Council for Manitoba. If university representation on the Council be added, and also a representative of the medical colleges, the whole number of members would be at least forty-eight. The General Council of Great Britain and Ireland consisted of twenty-four persons for many years. At the present date there are thirty, the increase being caused by the representation of the general profession. In the Council of Ontario there are thirty members.

There are two serious objections to Dr. Roddick's bill :

1. The great number of the representatives of the Council entailing expenses beyond, at least, our immediate resources.

2. The fact that one of the contracting parties to Dominion registration may secede, and the elaborate fabric, the work of many years, tumble to the ground. This is the most serious and fundamental defect. Will an expensive legal procedure prevent secession and disintegration? When these problems have been solved, then and not till then is Dominion registration in sight.

ORTHOPEDIC TREATMENT OF DEFORMITIES AND DISABILITIES RESULTING FROM DISEASES OF THE NERVOUS SYSTEM—SPECIAL REFERENCE TO TENDON TRANSPOSITION.*

BY B. E. McKENZIE, B.A., M.D., TORONTO.
Surgeon to Toronto Orthopedic Hospital, Orthopedic Surgeon to Grace Hospital, Associate Professor of Clinical Surgery Ontario Medical College for Women.

On reviewing the cases that have presented themselves for orthopedic treatment in the last thirteen years, I find that nearly 20 per cent. of all patients seeking advice do so because locomotion and symmetry are interfered with by deformity or disability arising from some affection of the nervous system. The proportion is about equal to that of cases arising from bone or joint disease, but smaller than that due to congenital deformities or defects.

Of the various nervous affections, acute anterior poliomyelitis is much the most common in producing the conditions for which alleviation is sought. The affection is marked by atrophy of the muscles involved, by altered electrical reactions, diminution or loss of the reflexes, and by a peculiar distribution of the paralysis according to function, rather than anatomy. This last feature is an interesting one, and has an important bearing, as will be seen, upon the treatment of these cases.

Joint Equilibrium.

The normal condition of a joint implies that the muscles exercising control shall be able to maintain a balance. If at the knee the quadriceps femoris be reduced in power or completely paralyzed, its antagonistic group, the hamstrings, will so disturb the balance as to make flexion easy and habitual, while complete extension will be difficult or impossible. Under these circumstances the condition of flexion soon becomes permanent and contracture of the hamstrings results, so that we have a fixed deformity. (It is important to note that the word "contracture" here used is meant to imply a permanently shortened condition of the muscle.) It is seldom, relatively, that any muscle or group of muscles thus affected is completely paralyzed. There is generally some degree of power left, and quite frequently the muscle is only slightly disabled. These effects, also, as will be seen, have an important bearing upon the treatment.

If the peronei muscles be partially or completely paralyzed, those muscles passing to the inner border of the foot draw it in-

* Read at the meeting of the Canadian Medical Association, at Winnipeg, August 28th to 31st, 1901.

ward and deformity is gradually produced; or if the anterior leg muscles be partially or completely disabled through paralysis, then the back group, acting through the tendo Achillis, gradually bring about a condition in which the heel is kept drawn up and the anterior portion of the foot is pointed downward, a condition known as talipus equinus. If the quadriceps extensor of the thigh be disabled, the hamstrings tend to produce permanent flexion at the knee; if the glutei have less than normal power, the flexors of the thigh will tend toward its permanent flexion upon the pelvis, and in a similar manner through disablement of other groups of muscles various other deformities and disabilities may be caused.

Mechanical Treatment.

Until comparatively recent years, the only aid given to these patients was afforded through the use of appliances, generally consisting of steel braces strapped about the legs and attached to the boots. Both in books and in practice even at the present time this method of dealing with weakened limbs is far too common.

The constant use of braces and straps tends to prevent a development which might otherwise be induced. While the use of braces cannot be given up in all cases, yet it may be said that their employment has been quite too general. They may be frequently employed with advantage, especially at night when the patient is in bed. It is then that the part is allowed to assume the position of deformity, the knee to be continuously flexed and the hamstrings are permitted to become contractured, or the anterior part of the foot is allowed to drop downward and the tendo Achillis to become permanently shortened. The wearing of a simple night-brace that will hold the leg or foot in position during the hours of recumbency, is much less objectionable than it would be when the patient is moving about. It does not prevent development of muscle, it is not seen by the public, and its inconvenience is reduced to a minimum.

Some Peculiarities of Infantile Paralysis.

There are some peculiarities of acute anterior poliomyelitis which will bear special study because they afford indications for its rational treatment.

The paralysis is not general, but local. Mary Putnam-Jacobi, in Pepper's "System of Medicine," shows that in thirty-seven cases the paralysis was distributed as follows: Left lower extremity in thirty-four cases; right lower extremity forty times; right upper extremity and left lower extremity twenty-three times; all four extremities seven times; both upper extremities three times; both lower extremities twenty-three times; left upper and lower extremity twice; right upper and lower extremity once;

right upper and left lower extremity three times; muscles of trunk and abdomen once.

It will be noticed that the lower extremities are much more frequently involved than the upper. Here is a feature of the disease specially worthy of consideration in view of treatment. The difference of function between the upper and the lower extremity is marked. In order that the hand and arm may be of service, it is necessary that the fingers should be capable of considerable dexterity. They need the deftness which can finger a musical instrument, tie a knot, grasp a handle, hold and use a needle, etc. The upper extremity, which cannot approach in delicateness of function to this ideal, falls proportionately below its requirements. The lower extremity, on the other hand, serves comparatively well its purpose if only it can be a secure and substantial post to bear the body weight. The further it can go beyond this in adding to the activity of the individual the better. The comparative coarseness of function of the lower extremity, however, makes it much more amenable to treatment in the manner which is to be indicated in this paper than is the upper extremity.

It is further noticeable that the paralysis, even in a single extremity, is not general, but is limited to muscles functionally related. In the upper extremity the supinator longus generally escapes in spite of the fact that all the extensor muscles of the forearm are paralyzed, and though these are supplied by the same nerve; in the lower the sartorius generally escapes, though the quadriceps femoris be greatly disabled. On the other hand, the supinator longus is generally affected along with the deltoid, biceps, and brachialis anticus, with which it is functionally associated. The tibialis anticus is generally paralyzed in connection with the quadriceps extensor. These muscles are supplied by different nerves, but are associated in extension movements of the leg in walking.

In the lower extremity the peronei muscles situated at the outer border of the leg and foot, and employed to move the foot outward, are most frequently affected. Next in frequency is the posterior tibial and then the anterior thigh muscles, and least frequently the posterior thigh muscles. Rarely an entire extremity or a large group of muscles may be permanently paralyzed, but the paralysis is sometimes restricted to a single muscle.

The definitely localized paralysis and atrophy point to the importance of massage and electricity being applied early to stimulate the nutrition of the affected muscles. If contracture has been allowed to occur, section of the tendons of the contractured muscles and immediate replacement of the deformed member are indicated. Such replacement must be followed by the use of mechanical means to prevent recurrence, and under such circumstances results which are most gratifying are frequently obtained.

A further study of the mechanical conditions present affords a basis for a novel and bold, but quite a rational and effective, method of treatment. The conditions of the foot when the calf muscles are paralyzed and the peronei escape, will serve to explain the method of treatment here referred to.

Muscle Transposition.

The muscles causing movement at the joint should maintain an even balance among themselves, but in the case where the calf muscles are paralyzed and the peronei active the heel will drop down, the outer border of the foot raised up, and the foot drawn outward.

No surgical intervention can add to the sum total of the power manifested by the muscles producing movement at the ankle, but a readjustment may be made so as to establish a more even balance. The effect of the peronei when unopposed is positively harmful and if nothing better can be done their tendons should be cut so as to permit correction of the deformity. This procedure would further lessen the sum of power possessed by the muscles at the ankle; hence a transposition of the peronei is made. The tendo Achillis having been freely exposed, and the peronei tendons having been cut subcutaneously in front of and below the external malleolus, these latter are reached at a point where they are nearest to the incision made over the tendo Achillis and are drawn from their sheath. The proximal segments of the peronei tendons are now inserted into the tendo Achillis as close as possible to the os calcis. It is generally advisable to shorten the tendo Achillis before the peronei tendons are sutured as here advised. If each of the peronei tendons have its proximal segment split, it can be introduced in a fork-like manner along with the split portions of the tendo Achillis, so as to make a very strong union. In suturing these parts together the posterior extremity of the os calcis should be pushed as high up as possible and the peronei tendons should be drawn down so as to make the distance between the origin of the peronei and the new insertion as short as possible. The union which takes place under such circumstances is nearly always without failure or defect. Circumstances permitted the cutting down upon such grafted tendons a few months ago when the splicing was found to be most complete, a strong union having been formed at the point where the tendons had been sutured together.

When the healing is complete, it will be noticed that the power of the active unparalyzed peronei, which before were harmful in their action, is transposed so as to permit them to pull upward at the insertion of the tendo Achillis. Thus, without lessening the sum total of power manifested at the joint, its action has been so rearranged as to establish a better balance of the foot, and to

change its position so as to bring it more directly and effectively under the body weight, thereby improving its function.

History of Cases.

In a similar way numerous other transpositions may be made with signal advantage to the usefulness of the affected extremity. I shall report briefly a few cases to illustrate some of the many varieties of transposition which may be made.

Case 1.—December, 1892. H. B., a boy, aged 11; infantile paralysis; history incomplete; lame from childhood, but not from the time when he first learned to walk. Both legs affected; right leg, in all its parts, is smaller and weaker than the left, but the paresis is more marked in the internal and extensor muscles of the foot. The gastrocnemius, soleus, and posterior tibial muscles are powerless. The flexor longus digitorum, the flexor longus hallucis, the tibialis anticus, and peronei are active. The latter muscles are displaced one inch forward from their natural position behind the external malleolus.

Operation.—An incision was made extending three inches directly over the tendo Achillis, which was found to be a firm fibrous cord about the size of a lead pencil. The tendon was split, the incision being continued down to the os calcis. The tendons of the peronei were cut subcutaneously, and the proximal segments having been drawn from their sheaths, were stitched into the tendo Achillis as close as possible to the insertion into the os calcis. The tendon of the flexor longus digitorum was reached by dissection from the first incision, cut and sutured with the peronei. Healing was satisfactory, and three months afterward walking was much improved. He has increased power of raising the heel, though not sufficient to enable him to sustain his weight by raising the heel from the floor and balancing upon the anterior part of the foot. A properly constructed boot was made supporting the inner border of the foot. He wears no brace, and walks much better than formerly.

Case 2.—R. M., aged 14; had a severe attack of anterior poliomyelitis in infancy, greatly disabling both extremities. The right foot was drawn into strongly marked valgus, as shown in Fig. 1. The quadriceps extensor of the left side was so completely disabled as to make it necessary to place his hand on his knee in walking. Otherwise the knee would become flexed and the body weight coming upon the limb cause him to fall. Various other groups of muscles were so affected as to make it impossible for him to walk more than a couple of blocks at a time, the disability increasing as his age and weight increased.

Feb. 21st, 1901, the scaphoid of the right foot was removed, the cartilages of the head of the astragalus and of the cuneiform bones were completely cut away so as to leave a fresh bleeding

surface of bone. The gap was closed up by adducting the anterior portion of the foot, and the freshly-cut surfaces were brought into intimate contact, purposing to obtain a synostosis.

The tibialis posticus being completely paralyzed, and the extensor hallucis being left unaffected, and acting with such vigor that it dislocated the great toe dorsalward when an effort was made to dorsiflex the foot, the tendon of the former muscle was cut by an open incision two inches above the tip of the internal malleolus, and the distal segment of the tendon, being pulled from its sheath, was carried up in front of the malleolus and sutured into the split tendon of the extensor hallucis. The result in improving the position of the foot may be seen in Figs. 1 and 2. The result in improved function is just as satisfactory as the improvement in appearance. The strong extensor which before was able to dislocate the toe upward can do so no longer because

(Fig. 1.)
R. M.—Flat foot from infantile paralysis.

(Fig. 2.)
R. M.—Showing result of operation.

its force is expended partly in adducting the foot and raising its inner border.

May 2nd. In the same patient, who was obliged to place his hand on his knee in walking because of the disability of the quadriceps extensor to maintain extension, the sartorius was cut from its insertion and sutured in just above the patella. An incision five inches long was made midway between the patella and the tendon of the sartorius. The sartorius being found an active muscle, but inefficient, because of its insertion, to accomplish the work that is most needful for such a patient, it was cut near the insertion. The end of its proximal segment was drawn through a slit made in the fibrous structure just above the patella. The leg was kept fully extended for several weeks until healing had occurred. This patient was allowed to return home in five weeks after the last operation, able to walk further and with greater ease than formerly, he does not find it necessary to place the hand

on the knee, and he can propel his bicycle with much greater force than he could before the operation. Time, development, and education of these muscles in their new role will greatly improve their efficiency.

CASE 3.—September, 1899. C. M., aged 18. Left talipes valgus paralyticus. The extensor proprius pollicis and the peronei were found active, while both tibiales were greatly disabled. In this case the tendon of the extensor pollicis was cut, and the proximal portion transposed to that of the tibialis anticus and the proximal segments of the peronei were carried in front of the tendo Achillis and grafted into the tibialis posticus. The result was a very marked improvement.

CASE 4.—H. C., aged 18, has right pes equino-cavus and loss of power of extension of the left knee from anterior poliomyelitis. This young woman walked with crutches constantly, except to move about in the house, which she could do by placing her hand upon the knee to prevent its giving way under her. The disability was increasing as her age and weight increased, and she had gradually become more dependent upon her crutches.

January, 1899, the sartorius was transposed as in Case 2 with a most gratifying result.

Enough cases have been related to illustrate this method of dealing with disabled and deformed extremities in such cases as are due to lack of balance in the muscles which control the foot and knee. It is a most satisfactory method of dealing with such affections of the lower extremity, but less helpful in the similar conditions which are found much less commonly in the upper.

CASE 5.—One case may be related to show what is the practice at the wrist. January 2, 1900. M. A., aged 33, had hemiplegia when 19 years of age; has flexion at the wrist with contracture of the anterior muscles and tendons, and extreme pronation. The proximal segment of the flexor carpi ulnaris was carried around the ulnar border and grafted into the extensor carpi ulnaris, and the flexor carpi radialis was in a similar manner carried around the radial border and grafted into the extensor carpi radialis longior. Several bands of fascia and of carpal ligaments were divided subcutaneously and the hand dressed in a position of supination and extension. Healing was satisfactory, and there is some improvement in the use of the hand, arising largely from the fact that the wrist is no longer kept flexed, but remains in about a medial position. There is also greater readiness in letting go of an object on which the fingers have fastened. It is possible that greater gain might have resulted in this case if the tendons had been carried more directly to their point of action by putting the tendons through between the bones. There is also another step in the operation which might have been taken with benefit, namely, the pronator radii teres might have been cut from its ordinary inser-

tion at the outer border of the radius and so transplanted as to pass between the radius and ulna to the same insertion at the tubercle of that bone. Much less opportunity has presented itself for operating upon the upper extremities, but so far as our observation goes the results are less satisfactory, not because the transposition could not be so well made, but because the requirements of the hand are so very different from those of the foot. Even in the hand and arm, however, much good may be effected by judicious tendon operations.

Before deciding what tendons to transpose and where to insert them, each case should be studied carefully with a view to determining exactly the effect produced by the action of each muscle both at its original and its new insertion. Either the distal segment of the tendon of a paralyzed muscle may be grafted into the cut tendon of one that is active, as in case illustrated; or the proximal segment of an active muscle may be transferred to the tendon of one that is paralyzed, as in Case 3. There are some who advocate doing the former as frequently as possible and avoiding the latter, deeming it inadvisable to run the risk implied in cutting the tendon of an active muscle. It should be noted, however, that such active muscle is not an efficient one. On the other hand, it would often be better to cut the tendon, even if it were only possible to destroy its action thereby, as in the case of the peronei when unopposed drawing the foot into a position of extreme valgus, or when the tibiales unopposed draw the foot into extreme varus and supination. After operating in both ways upon many cases since December, 1892, I do not regard the distinction as important.

If good judgment be exercised in the transposition made and care be taken in the operation, the success of the grafting is certain and always attended with improvement in function. The operation was first performed in 1882 by Nicoladoni and described in the Archives of Clinical Surgery of the same year. But little attention was paid to it, however, till Parish of New York employed the same principle in 1892, and described it in the *New York Medical Journal* of the same year. In recent years it has come rapidly into favor with orthopedic surgeons as a most valued means for improving the condition of many who suffer from paralytic disabilities.

Other methods of treatment employed are much more widely known, and call for only a brief notice.

Mechanical means must often be employed because the disability is so great that the limb could not otherwise bear the body weight; but it should be carefully borne in mind that the use of braces retards the development of the extremity, and is therefore contraindicated if the limb can be kept in position and can perform its function fairly without aid. If the knee or ankle be so com-

pletely paralyzed as to be fairly described as the flail joint, then the subject of excision for the purpose of securing ankylosis should be considered. A leg without motion at either one or the other of its joints is much more serviceable than one that is extremely weak. Amputation because of paralysis should seldom or never be practised, even in the most completely disabled lower extremity. The limb can better be employed as a core for a good mechanical appliance than can its place be taken by an artificial limb.

One important condition, and one often overlooked, is that of deformity arising from paralysis. Where this exists it is, in most instances, the surgeon's first duty to correct the deformity. In many cases the contractures resulting from the paralysis are insuperable obstacles in the way of progress, and it is not uncommon to find both children and adults unable to walk whose trouble is not due chiefly to the paralysis, but to the secondary deformity. One girl, four years of age, having spastic paralysis, the adductors being strongly affected, had never learned to walk because she could not carry one knee past the other. There were other troubles in the same child, namely, strongly marked flexion at the knees through contracture of the hamstrings and some deformity of the feet. Within three months of the time when all these contractures and deformities were overcome, so that the knees and feet could be kept in a correct position and the knees be fully extended, and the legs abducted so as to make with each other an angle of 60 degrees, the child was able to walk about the house from one room to another.

Because of multiple neuritis following typhoid fever in a young woman of nineteen, and because of the deformity of feet and flexion of the knees resulting from contracture of hamstrings and calf muscles, she had not walked for nearly eighteen months. Rectification of the deformity was easily accomplished, and when followed up by physical training, including massage, her recovery was speedy and satisfactory. Without first getting rid of her deformities the power to walk could not have been restored.

Of other forms of disease of the nervous system concerning which advice is sought because the power of locomotion is defective, spastic paralysis is the most common. Section of the tendons of the muscles most affected, and pulling widely apart of the cut ends and their continued separation until healing has occurred, results in much benefit. A most important element in prognosis is found in making an accurate estimate of the patient's mental condition. More than half of these patients suffering from spastic paralysis are below par mentally. The better the mentality the more hopeful the prognosis.

Even cases of locomotor ataxia, pseudo-hypertrophic paralysis, and obscure forms of progressive muscular atrophy, seek advice

because of defects of locomotion. It is only in rare instances and in limited measure that orthopedic surgery affords them any help.

On the other hand, neurotic patients frequently seek advice because of supposed disability of spine and of other joints. They are a class deserving of much judicious sympathy and are very amenable to treatment. A regularly constituted and well-equipped gymnasium is a powerful aid in the successful management of these patients.

Permit me to summarize:

1. Many patients who seek the advice of the orthopedic surgeon are suffering from some form of nervous affection—usually chronic.

2. When deformity exists it should be corrected.

3. When there is lack of balance at a joint an effort should be made to restore equilibrium.

4. Tendon transposition is an effective means to secure this end in selected cases.

5. Braces and splints should not be employed except in meeting the clearest indications.

6. Mechanical means wisely employed may do much to supplement the defective lower extremity.

7. Arthrodesis of a "flail" joint is often better than mechanical aid.

8. Amputation of a limb because of paralytic disability should seldom or never be performed.

9. The gymnasium is a powerful means of enforcing the discipline which is essential to successful treatment of so many neuroses.

NOSE AND THROAT IN GENERAL PRACTICE.*

BY JOHN HUNTER, M.D., TORONTO.

It may be impossible to estimate with any degree of accuracy the percentage of cases met with in general practice that are complicated by morbid conditions in the nose and throat. In regard to such complications two facts are in evidence: (1) the percentage is quite high, and (2) the general practitioner, as a rule, does not unduly worry himself about them. How many physicians who are experts in diagnosing morbid conditions of cerebral, pulmonary, abdominal, or genito-urinary origin, look upon pathological manifestations in the nose and throat with merely a sentimental curiosity? It is not any part of the purport of this paper to undervalue in the least the splendid achievements of the general practitioner, but to try and enlist more interest in one of the most important, but hitherto most neglected, portions of his domains.

When I saw the list of subjects to be presented at this meeting of the Canadian Medical Association, and the standing of those who were to read the papers; when I knew with what zest the members of this Association would enter into the discussion of the subjects presented, inspired not only by the merits of these, but also by the bracing atmosphere of this beautiful city of Winnipeg, the political, commercial, and literary metropolis of one of the largest and richest expanses of country on this or any other continent,—under such circumstances, Mr. President, I thought any good cause would attract attention.

I do not purpose confining this paper to any special phase of nose and throat work, but rather endeavor to imitate the example of the early pioneers of our older provinces who, on wending their way through the primeval forests, "blazed" a tree here and there, not only to mark out the path for their followers, but also to inspire these with a sense of the vastness of the country through which they were travelling.

My subject, like most orthodox ones, may be considered under three heads: (1) anatomy and functions; (2) abnormal and pathological conditions; (3) principles of treatment.

The anatomical landmarks of the nose and throat will be briefly summarized: Deformities, either congenital or arising from traumatism, of that portion of the nose constituting such a special feature of the face, will be passed over, as these belong to general surgery. At the entrance of each nasal passage there is an oval-shaped opening leading into the vestibule. The walls of

*Read at Canadian Medical Association Meeting, Winnipeg, August, 1901.

this chamber are formed by cartilage, and from the inner surface project a series of short, firm hairs (vibrissæ), whose function is to arrest the coarser particles floating in the air. There is a well-defined cartilaginous rim forming the upper and outer part of the archway between the vestibule and the nasal cavity. In the normal nasal fossa, the inner wall is formed by the smooth, reddish-colored perpendicular surface of the septum, but owing to the difference in the character of the tissues, and modes of development of the three structures—triangular cartilage, vomer, and perpendicular plate of the ethmoid—entering into the formation of the septum, many irregularities are found. These are known as deflections, curves, and spurs of the septum. When the roof of the mouth is much arched, the floor of the nasal fossa is displaced upward, thus lessening the nasal space, and obstructing its functions. The cribriform plate of the ethmoid constitutes the roof. The most interesting feature of the nasal cavity, especially from a pathological point of view, are the three scroll-like processes of bone known as the superior, middle and inferior turbinated bones. The inferior and middle ones run somewhat horizontally from before backward, and can be seen quite distinctly. The size and color of their posterior extremities are of great clinical importance. These conditions have to be ascertained by the aid of a laryngeal mirror. The porous character of these bones, together with the large amount of erectile tissue in the thick layer of elastic mucous membrane surrounding them, make them veritable reservoirs for storing blood, hence their great vulnerability to disease.

The mucous membrane of the nares varies in thickness. It is chiefly lined with ciliated columnar epithelium, and in it are embedded a large number of serous and mucous glands. It performs an exceedingly important function, viz., to purify, disinfect, moisten and warm all the inspired air. This is accomplished by the air coming in contact with the walls of the nares, which are rendered warm and moist by the abundant secretion of serum, and somewhat tenacious by the presence of mucus. When the inspired air contains, as it generally does, myriads of bacteria, very few of these escape destruction, on their passage through the nasal chambers. The filaments of the olfactory nerve are distributed in the vault of this cavity. The choanæ or posterior orifices of the nares, open into the naso-pharynx. The presence of the pharyngeal tonsil and the orifices of the eustachian tubes give special clinical interest to this space. Hypertrophy of this glandular mass, known as "adenoids," gives rise to very grave features, which will be referred to later. The tubal orifices open up direct communication with the middle ear.

The functions of the pharynx may be considerably impaired by hypertrophy of the faucial tonsils, as well as of the glandular masses situated at the base of the tongue—lingual tonsils. The

superficial vessels of the lingual tonsils are often varicose, and slight hemorrhages from this source may give rise to a suspicion of a pulmonary lesion.

The larynx presents intensely interesting anatomical, functional and clinical phenomena. Its functions give to man an immeasurable pre-eminence over every other form of animal life.

Beginning from below, we have the ring-shaped cricoid cartilage. This is firmly attached to the upper edge of the trachea, and thus becomes the foundation of the structures above. Articulating on its upper edge are the pitcher-shaped arytenoid cartilages. Each arytenoid has a posterior or muscular projection, and an anterior or vocal one. Muscles acting on the former as a lever separate or approximate the delicate pearly-white bands—the vocal cords attached to the latter. The movements of the vocal cords give rise to that characteristic in voice production technically known as pitch. The functions of the cords in association with those of the resonance chambers of the pharynx, nose and mouth, give expression to all those shades of pitch and tone so charming in eloquence, so alluring in love, and so enrapturing in song.

The mission of the crisp little leaf-shaped epiglottis, like that of the gates of paradise, is to prevent the entrance of anything objectionable into the aerial regions beyond.

There are several accessory cavities in communication with the nares. These are the maxillary, frontal, ethmoidal, and sphenoidal sinuses. The mucous membrane extends from the nose into these, hence their liability to become involved in infectious diseases.

Passing now to the second division, viz., abnormal and pathological conditions, the abnormal conditions most frequently met with are those of congenital origin, *e.g.*, cleft palate, or those due to irregular development. Some are the result of traumàtism in early life.

The anatomical characteristics of the structures in the nose and throat, as well as their functions, naturally suggest the nature of the pathological phenomena to be found in these regions of the respiratory tract. The delicate vascular tissues are often suddenly exposed to the influence of extremes of heat and cold, exposed to every conceivable irritating element that can float in air, and subject to attack from countless myriads of infectious bacteria. In the variety of tissues, too, is to be found suitable soil for the growth of many morbid products, benign or malignant.

We can readily understand why hyperemic, congestive or inflammatory processes—acute, subacute, or chronic—should be not only the most frequent pathological manifestations, but also the most frequent sources of functional disturbance. About the first local evidences of disease in these portions of the respiratory tract are the suppression or diminution of the secretion of serum,

and swelling of the soft tissues. These are the initial processes in "colds," rhinitis, or nasal catarrh or laryngitis. After a period of twelve or twenty-four hours, a second stage is ushered in by a profuse secretion of serum and mucus, and by an exudate of lymph and pus cells. The proportion in which these elements are mixed gives to the discharge its clinical features. The further progress of the disease depends on several factors, *e.g.*, continuance of the exciting cause, and resisting powers of the tissues, the latter depending very largely on the condition of general health. The term subacute or chronic nasal catarrh, is applied to those cases in which the morbid discharge continues indefinitely. When the exciting cause is a specific micro-organism, as in syphilis or tuberculosis, we have in addition to the above, special pathological manifestations, such as mucous patch, ulcer, and tubercle.

Under certain conditions the mucous membrane of the nares may atrophy, the secretions diminish and become very tenacious and hard to dislodge, hence they may decompose and give rise to the horrible odor of ozena.

In addition to the diseases already mentioned, the functions and proper drainage of the nasal passages may be impaired by the presence of hypertrophied turbinates, deflections, and spurs of the septum, polypoid and other tumors.

Passing to the naso-pharynx, we find very grave conditions arising out of hypertrophy of the pharyngeal tonsil. The morbid phenomena due to the presence of adenoids in the vault of the pharynx, should challenge the prompt attention of the physician, in order that these may be removed. The clinical features caused by obstruction from adenoids, are mouth-breathing, a peculiar, listless expression of face, mental dullness, impaired voice production and articulation, deafness, reflex cough, and deformity of chest.

The ready entrance of infectious germs into the eustachian tubes makes affections of the middle ear very frequent complications in disease of the naso-pharynx.

Hypertrophy of the faucial and lingual tonsils present many of the clinical features already referred to in describing the lesions in the naso-pharynx.

The structures of the larynx are vulnerable to similar morbid conditions to those found in the nares. The clinical features are acute, subacute, and chronic laryngitis, and the presence of ulcers, tubercles, or tumors. The implication of the vocal cords impairs voice-production. The especial danger in intra-laryngeal disease is obstruction to the free passage of air through the narrow chink of the glottis.

Principles of Treatment.—In regard to treatment, the physician will be successful or otherwise, just in proportion to the importance he attaches to this part of his work. Why a physician

should be more expert in the use of the stethoscope than in that of the laryngoscope is a problem rather difficult to solve. In personal discomfort, many diseases of the nose and throat are at least the "peers" of any pulmonary or cardiac ones, and in point of gravity, laryngeal and nasal diphtheria and tuberculosis stand in the front ranks of malignant diseases. When we consider, too, that every breath of air we inhale is liable to be contaminated with a few, or it may be myriads, of pathological bacteria—that, under normal conditions, are destroyed in their passage through the nares—we can imagine something of the danger to which the lungs are exposed when disease has destroyed the germicidal powers of the mucous membrane of the nares, and countless myriads of these bacteria are allowed free access to the delicate tissues of the air-cells; under such circumstances does it seem unfair to say that the physician who ignores morbid conditions in the nose and throat is any less culpable than the commander of a besieged city who leaves the main entrance unguarded?

Here, as in every other department of the physician's work, prevention, in the parlance of the mining camp, pre-empts the first claim. Every orthodox law laid down by sanitary science in regard to abundance of sunshine and pure air, personal cleanliness, wholesome food, proper clothing, work, exercise, diversion, rest, should be most religiously lived up to, and every moral law, anathematizing all excesses in eating, drinking, and in the grosser sensualities conscientiously observed. I would like to suggest, *en passant,* that some special instruction in regard to the respiratory functions, and the use and abuse of the voice, would be a valuable addition to the curriculum of our schools and colleges.

The duties that should engage the attention of the physician are (1) to secure the unobstructed passage to and fro of an abundant supply of air, and (2) to establish free drainage for all morbid discharges. These two objects are, as far as possible, to be accomplished by straightening deflections of the septum, removing spurs, osseous and other forms of tumors, and by reducing or removing hypertrophied tissues. Strong objections are sometimes urged against the removal of hypertrophied tonsils, on the ground that they become smaller as maturity approaches. These tissues may atrophy, but the chest deformities, deafness, mental hebitude, and other morbid habits they beget live after them. Enlarged tonsils are positive evils, and as they can be very safely removed, the surgeon's duty is very plain, and especially in regard to adenoids in the naso-pharynx, a very imperative one, viz., to remove them.

When a patient presents himself for treatment, *i.e.,* for a cold, rhinitis, acute, subacute, or chronic nasal, pharyngeal or laryngeal trouble, the general practitioner should investigate carefully his vocation, habits, and state of general health. The specialist should always refer such patients back to the general practitioner

for a bill of health. No system of local treatment can be carried out successfully without a due appreciation of every other morbid condition that may be present.

The aim of all local treatment should be the removal of any morbid discharges and the complete restoration of the normal functions. The means used to accomplish these purposes are the use of the spray, douche, and inhalations. The remedies to be used are detergents, antiseptics, stimulants, and anodynes. In prescribing mixtures for the spray or douche, the delicate and sensitive character of the mucous membrane and glandular structures must be most carefully considered. The ingredients should be mixed in such proportions as to give the solution such a density as not to be too readily absorbed by the mucous membrane, producing a very stuffy, disagreeable sensation following the use of the spray or douche, or on the other hand so strong as to act as an irritant, *e.g.*, with salines such as boric acid, sulpho-carbolate of soda, etc.; four to twelve or twenty grains to the ounce may be used. In standard text-books, such as Price Brown's, Lennox Browne's, Bishop's or Kyle's, elaborate series of very efficient formulæ are given. No general practitioner should be without some one or more of these authors.

Before giving a patient the douche to use, he must be taught how to use it properly. There must be a free exit for the return current, the mouth kept open, and no attempt made to swallow or cough whilst the fluid is passing through the naso-pharyngeal space, otherwise infectious matter may be very readily carried into the eustachian tubes, and, as a result of this, violent inflammatory action set up in the middle ear.

Inhalations of hot, dry, moist or medicated air are very serviceable in many forms of nose and throat trouble. The heat has important therapeutic action on all the various tissues, and as the hot air penetrates everywhere, the diffusion of the remedies is very widespread.

In conclusion, a word or two on climatology. Now that physicians are beginning to more fully realize the value of open-air treatment, they can appreciate the importance of securing the most favorable climatic conditions for those affected with nose and throat trouble. Broadly speaking, in those cases where there is excessive discharge and the tissues infiltrated, a dry bracing atmosphere, like our North-West prairies, New Mexico, or Arizona, answers best. Where the tissues are irritable, reflexes exaggerated or the secretions diminished and thickened, an equable, warm, moist climate is preferable.

THE SANATORIUM TREATMENT OF TUBERCULOSIS.*

BY ARTHUR J. RICHER, M.D., MONTREAL,
Director Laurentian Sanatorium, Ste. Agathe des Monts, Que.

In 1859, Brehmer, of Goerbersdorf, laid the foundation for the hygienic or institutional treatment of pulmonary tuberculosis, not, however, without meeting with some opposition from the Government of the Silesian province before the first sanatorium was constructed. The treatment as first conceived by him was most simple. He believed out-door life, exercise and a liberal diet were the essentials for the cure, but he also held the belief that the climate in the vicinity of Goerbersdorf was a specific one, being supposedly immune from the disease. Dettweiler, who had been a patient, and later assistant physician to Brehmer at Goerbersdorf, opened another sanatorium at Falkenstein in 1876.

Dettweiler held somewhat different views, and modified to some extent the treatment which had been originated by his teacher, recommending rest instead of exercise in the treatment of pulmonary tuberculosis. It is needless to say that these two pioneers had to face the harsh criticisms of the whole professional world for nearly twenty years before the medical men took up the subject and discussed it in a fair manner, as the prevailing opinion at that time rather pointed to the belief of incurability. Towards the end of the struggle these two phthisio-therapeutists had created a small school which soon added to its number of adherents, until now we find the field of phthisio-therapeutics an established department of medicine in every civilized portion of the globe.

The essentials of the sanatorium treatment as understood and practised at the present time by the phthisio-therapeutists the world over, may be summed up in the following terms: *Rest—Out-door Life—Over-feeding—Medical Supervision.* For the sake of convenience we shall consider each subdivision of the hygienic or sanatorium treatment separately in the order named.

Rest.—This should be an absolute term, understood as such by all serious-minded, well-intentioned medical men who are looking forward to the permanent recovery of their phthisical patients. In incipient cases *rest—absolute rest*—must be enjoined. A score of personal observations might be cited of patients giving promise of complete recovery, who have simply murdered themselves with the mild (?) exercise prescribed for them.

I have very little hesitation in making the statement that the time is not far distant when the term "rest" will mean the recumbent position as applied to the treatment of incipient pulmonary phthisis. I have kept patients in bed, in the open air, during the incipient stage of the disease for three, four and five

*Read at the Winnipeg Meeting of the Canadian Medical Association, August 1901.

weeks, at the outset of their treatment and always with most beneficial results

I recall one instance of a male patient gaining one pound in weight every day during a three weeks' stay in bed, and ultimately making a most perfect recovery in three and a half months.

The *rest cure* as practised at the present time is in a semi-reclining position in a steamer chair, or an adjustable invalid's chair, out of doors. The patient is made as comfortable as possible with the aid of cushions, rugs, etc., and in winter a hot soapstone is placed at the feet Each sitting of two to three hours is interrupted by the ingestion of food, and a short walk of forty to fifty steps on the verandah.

The term "rest" should imply even more. A wound on any part of the body is set to rest by protective bandages. The wound in the lung should also be protected as much as is possible. Hilarious outbursts, loud and excessive talking, singing, forced expiration and inspiration, or any attempt at chest expansion, until there is evidence of arrested disease, are bound to be injurious. In a like manner emotional reading, sexual reflections, or indulgences however mild are to be avoided.

Smoking and the unwarranted use of intoxicants, as well as games of an exciting nature, should not be allowed. Anything that will increase the respirations or pulse rate is going to interfere with speedy recovery by irritating the wound which is attempting to heal by resolution.

Out-door Life.—In the summer time not less than ten hours, in the winter season not less than six hours, should be spent in the open air. In the Laurentian Mountains our patients put in an average out-door stay of twelve hours in the summer, and eight in the winter, inclusive of inclement weather.

Patients sleep with their bedroom windows open both summer and winter. During the extreme cold weather a hot soapstone is usually placed at the foot of the bed, thus keeping the feet and body warm with comfortable bed-clothing, while the head is kept quite cool, the patient constantly breathing fresh air, practically continuing his out-door life while sleeping.

Gradually accustoming your patients to this open-air method of living makes them extremely resistant to cold, and increases the power of food assimilation and metabolism.

The following summary of meteorological observations will give you some idea of what out-door life means in the Laurentian Mountains, where is situated the now well-known resort and Sanatorium of Ste. Agathe des Monts.

1900.

Min. Temp. January.	Max. Temp. July.	Mean Temp. Jan.	Mean Temp. July.	Days of Sunshine. June.	Days of Sunshine. Oct.	Rainfall. June.	Rainfall. Oct.
17°	82°	7.88°	62.98°	20	18	3.6 in.	1.13 in.

The fact that open-air life in favored resorts is not hindered by inclement weather, and the further well-known fact that the outdoor life is practically carried on throughout the night as well as the day, make the possibility of a similar treatment being advocated at a very moderate altitude anywhere, if one can only be assured of a plentiful supply of pure air. The very good results obtained in the Laurentian Mountains, where the elevation is quite moderate, varying from 1,200 to 1,700 feet above sea, should encourage every physician to seek suitable resorts as near the home of the patient as possible. We know from experience that the permanent cures are those obtained in home climates.

Over-feeding.—This does not necessarily mean "*gavage*" or "forced feeding." The average patient does not require these extreme measures, as the change to a suitable climate, with health-giving and restful surroundings, usually develops in the individual a voracious appetite. The northern altitudes particularly enhance food assimilation, and the winter season in northern climates is remarkably stimulating in this direction.

Food must be given at frequent intervals as digestion is much more rapid under this *régime* of life. Before rising the patient should be given some light liquid food or some fruit, hot milk, gruel, coffee and cream, etc., the choice being left to the physician, or guided by the desires of the patient. The patient is then allowed to rise and dress and take his regular breakfast an hour or so after the breakfast of awakening. The regular breakfast should be varied, but oatmeal or some other cereal food should be taken daily. Honey, hot rolls, cornmeal cakes, fish, either smoked or fresh, lamb cutlet or a small steak, eggs in any form, sometimes bacon, toast, coffee, milk, etc., should be varied and used at breakfast time.

Between breakfast and mid-day meal (which should be the heaviest meal of the day) a small luncheon should be taken consisting of biscuits and cocoa, Tropon chocolate or Tropon biscuits, cold milk with Somatose, one or two raw eggs, broth or beef tea with buttered bread, etc. This intervening lunch should be varied each day as much as possible, yet when patients can be made to ingest one, two or three raw eggs without producing nausea, it is preferable to keep on giving the eggs daily.

The mid-day meal should be taken at one o'clock, and should invariably begin with a rich consommé not too highly seasoned, in which one may add a small teaspoonful of Tropon or Somatose. This should be followed by a light entrée of fish, or some cold meats, or daintily made dishes, followed by roast meat, such as lamb, fowl, beef (underdone), etc., with large quantities of vegetables, such as cabbage, potatoes, lettuce, spinach, asparagus, green peas, etc. Desserts are not considered necessary, yet such a meal requires relieving dishes, so that ices, milk puddings, light cake, and preserved as well as fresh fruits may be partaken of. Fruit should at all seasons be made use of in the diet of a consumptive,

unless the condition of the bowels should be a contra-indication. Between the mid-day meal and supper, a light lunch, such as the one outlined for the forenoon, should be partaken of. The supper should not be a hearty meal—some hot or cold meat, bread and butter, with tea or milk, and some preserved fruit. Before retiring at nine o'clock, some hot milk or an egg-nog usually procures a restful night. The supervision of the cooking should not be neglected by the physician; in fact, the successful phthisio-therapeutist is the man who thoroughly understands the culinary art, and devotes a great part of his time to supervising the preparation of the food his patients are called upon to ingest. Quite often a patient will come to the conclusion that over-feeding, or stuffing as he calls it, is going to ruin his digestive organs. You must in such instances make use of your persuasive powers, and convince your patient that even if he should have no desire for food, his digestive organs will assimilate all he can ingest, even if he forces himself unto nauseation. Impress upon him the fact that the digestive organs are more apt to become inactive if given but little to do, while the stomach itself possesses the indisputable privilege of relieving itself speedily when overloaded, which seldom happens.

If it becomes necessary to resort to forced feeding, the greatest firmness is required on the part of the physician, in order to confirm his earnestness in helping the patient in the battle for life. After the stomach tube has been used a few times, the patient usually realizes that he can ingest his food quite well without it, and he usually becomes the hero. Persuasion and firmness, however, usually render it unnecessary to resort to extreme measures.

A palatable combination of proteids and carbo-hydrates, with a small quantity of alcohol given between meals, will, in the majority of cases, favor the assimilation and storage of hydrocarbons contained in the usual diet.

Medical Supervision.—This is the key-note to success in the treatment of tuberculosis. It is this supervision which has carved the name of victory in the field of phthisio-therapy. It must, however, be constant. The physician must be the friend as well as the adviser of the consumptive. He must study the peculiarities of each patient, and individualize his treatment, if the *régime* may be called such. In appalling numbers the victims of this lack of supervision are to be found in open health resorts. To-day you may be called to attend an individual who has an exacerbation after having been for a long walk, a bicycle ride, a canoe or boat outing, either paddling or rowing; to-morrow you may be summoned to the bedside of a young mother, with an extension of her lung lesion through having had to sacrifice herself at the altar of devotion attending her child during an acute illness; the next day a young lady seeks your advice; she has had a slight rise of temperature following a prolonged drive, having returned home in an exhausted condition, and in the course of a few weeks a new

focus develops under your observation. How many instances one could recite of the fatality of this lack of medical supervision, which is nowhere else so absolutely necessary as in the treatment of pulmonary tuberculosis.

Medical Treatment.—Outside of a few symptomatic indications, drugs are seldom of any real value in the treatment of pulmonary phthsis; in fact, the patient who is made to follow hygieno-dietetic treatment exclusively is the one who improves most speedily. Where indicated, strychnine in doses of 1-30th of a grain has proved very useful. Creosote still remains the most reliable internal antiseptic in tuberculosis. It should, however, be used in the form of creosote water, nearly to saturation, and both the creosote and water must be strictly pure, as otherwise disastrous results are bound to follow its administration. The doses exhibited in creosote water may safely reach thirty drops three times a day, but should not be long continued. Recent hemoptysis, as you know, is a contra-indication to the use of creosote or any of its derivatives.

The fever of tuberculosis should invariably be treated by rest in bed. The use of antipyretics should not be encouraged. If antipyretics are used at all, the chosen one should be given from one-half to one hour preceding the time of the expected rise of temperature.

Cinnamic acid and cacodylate of soda, of which we have heard much lately, are not to be recommended.

One might enumerate by the dozen the different remedies which have been advocated for the treatment of phthisis. Let me tell you that very few of these have ever proved beneficial, while we have proof positive of the dangers of supermedication in the treatment of this disease.

The *cough* is usually controlled by the use of codeia, heroin or dionin. The *night sweats* usually disappear with increased nutrition. They can be controlled if necessary by the use of atropine (1-80 gr.) or camphoric acid (20 to 30 grs.).

The hemoptysis when profuse is always a dangerous complication. Absolute rest in bed in semi-reclining position must be enjoined. For twenty-four hours after a hemorrhage the movements of body, limbs or head must not be allowed; even whispering must be avoided by the patient. Ice packs to the chest, with a hypo of morphine sulph. $\frac{1}{4}$-gr., and atropine 1-75 gr. in combination, will as a rule hasten the formation of the sealing clot.

According to the severity of the hemorrhages, rest in bed must be enjoined for some time, varying from two to fifteen days after the last trace of blood has disappeared from the sputum.

Conclusion.—We usually judge of the efficiency of any treatment according to the results such a treatment produces. Looking into the records of older institutions, such as Goerbersdorf and Falkenstein in Germany, giving a percentage of permanently arrested disease in over 60 per cent. of cases treated, and

also taking into consideration the very excellent results obtained at the Adirondack Cottage Sanatorium, with a percentage of over 70 per cent. of cures, we must come to the inevitable conclusion that the hygienic treatment has definitely established its superiority. I have quoted the two oldest institutions in Europe (over thirty years), and the oldest institution in America (over twenty years), as the results obtained during a long period are far more convincing. I do not wish to enumerate the different institutions in America which are now doing similarly good work, and obtaining results quite as good, as such would encroach upon your time.

Being favored by many ideal health resorts in different parts of the North American Continent, one cannot but ask why more sanatoriums are not in operation. The reason is to be found in the fact that the erection and maintenance of such institutions is largely a social problem, and the public has not yet been aroused to the needs of the population which is being decimated by this disease.

A most important factor in sanatorium treatment is the education given to the patient which will allow him to lead a more hygienic life at home, as well as graduating him as a teacher in the prevention of disease.

It is a well-known fact that when pulmonary tuberculosis becomes arrested, the disease cannot be considered as positively cured, unless good health has been enjoyed for at least eight years after the arrest of the disease. Thus the necessity of a practical hygienic education becomes imperative, and this can only be obtained by a sufficiently long stay in a supervised institution.

The time is not far distant, I hope, when every city in this Dominion will have its sanatorium at as short a distance as possible, with its rural probating as well as isolating home, in the immediate vicinity of its suburbs.

A TRIP AS SURGEON WITH THE NEWFOUNDLAND SEALING FLEET

BY WM. F. ADAMS, M.D., TORONTO.

THE spring of 1901 saw a new departure from old customs in this great industry. In the past, although over four thousand men and some twenty large steamers are engaged annually in the arduous and perilous occupation of "ice hunting" in the North Atlantic, yet no physician has been sent out with them to render professional services to the needy. The spirit of progress, however, is abroad in Newfoundland, and the opening of the new century has been marked by the sending out of six doctors this year, on board some of the larger vessels of the sealing fleet. This

was a tentative measure on the part of the vessel-owners, who had been urged thereto by Rev. Dr. Harvey and the late Governor of the Island, who pointed out to them very strongly the claims of humanity and the necessity of guarding the lives and bodies of the men who ran great risks in their interests.

Dr. T. G. Roddick, of Montreal, and Dr. E. Herbert Adams, of Toronto, took an interest in the matter, and as a result four of the six surgeons were from Toronto, and they will not soon forget the novel experiences of their trip to the ice, a trip which many others may be privileged to enjoy in the future, as the owners were well pleased with the results of the doctors' presence on their vessels, and have signified their willingness to engage physicians in the coming years.

When we consider the risks which are run on these annual trips to the ice, it is a matter of great surprise that the services of physicians have not been engaged before this, but the men are hardy and accustomed to facing danger in very many forms, and when accidents happened—well, it was too bad, but it could not be helped.

Not infrequently a vessel is lost, usually by being crushed in the ice, and then the men must walk across the ice, perhaps for days, before they reach the shore. Many a tale of terrible suffering could be told by these rugged fishermen of tramping over the frozen bosom of the deep, blind from its glare, without provision or shelter, and, worst of all, with a knowledge of the suffering that awaits that little family at home when the bread-winner returns with empty pockets. Yet it is surprising how few fatalities there are. The most serious catastrophe which has overtaken the sealers in many years was that of 1898, when the steamer *Greenland,* Capt. Geo. Barber, while jammed in the ice, was overtaken by a terrific storm. The men were out on the ice at the time, and in the blinding tempest could not find the vessel. Many, after enduring untold sufferings, reached the ship's side, but it was a sorrowful return, for they carried on board the frozen corpses of twenty-eight of their comrades, while twenty more were lying in an unknown resting-place, frozen in the ice and snow, or perchance had already found a grave in the great deep as the moving ice broke up and relinquished its grasp upon their mortal remains.

Such an accident is fortunately rare, but not uncommonly in fog or storm an odd man or two loses his life while ice-hunting. This year the fine vessel, *Hope,* was lost, but all the men were saved.

Should an epidemic break out, the results would be truly awful, for the men are compelled to huddle together in such close quarters that it is almost a matter of impossibility to keep the place in anything like a sanitary condition. Then, again, they have been left in ignorance of even the simplest laws of hygiene, and to this may be attributed the rapid increase in the number who are annu-

ally sacrificed to the great white plague. The presence of physicians on sealing vessels will do much to enlighten these sturdy toilers who, in striving to wrest a precarious livelihood from the treacherous deep, are placed in circumstances that prevent them attaining even a meagre rudimentary education.

The captain and officers, on seeing the doctor carefully dressing a finger-cut for one of the men, expressed the opinion that the men were making babies of themselves. Why should they not just pour on a little Friar's balsam, tie on a rag over the (very dirty) finger, and let it go? The results of such treatment in the past were very much in evidence among the men in the form of missing fingers. Septic arthritis ensued as the result of such treatment, the men had what they call a swoile finger (seal-finger). It became greatly swollen and, rather than lose the summer's work, and have only a stiff joint at the end of the suffering, he would submit to amputation. Many of the men, including the officers, had lost from one to four or five fingers in this manner.

The great drawback to Newfoundland is the lack of education among the people. It is a magnificent country, and like old England, this sea-girt isle produces men of prowess and physique. Their calling as fishermen brings them face to face with all the perils of the great deep. Inured to hardship and danger, they grow up brave in heart and sturdy in mind and body. They are loyal to their native land, and are content to fight bravely on through poverty and distress till the great interior of the country be opened up and the vast mineral wealth shall be placed upon the markets of the world, and Newfoundland, England's oldest colony, but oppressed and downtrodden by unfair legislation, shall rise out of the shadow and stand strong and fair and prosperous, the home of the brave and the free. Newfoundland offers attractions as a summer resort which compare favorably with any place in the world. She has been well named the Norway of America. The railway system operated by Newfoundland's millionaire, R. G. Reid, runs across the island, and numerous branch lines connect important places. Game of all kinds is to be found in the interior, and interesting trips may be taken upon the various steamers. The people are quaint and interesting, and the yarns which the old fishermen can spin arouse admiration for the simple, sturdy race and for the country which can produce such worthy sons of the old Anglo-Saxon heroes of Britain.

Proceedings of Societies.

CANADIAN MEDICAL ASSOCIATION.

THE 34th annual meeting of the Canadian Medical Association opened at Winnipeg, Manitoba, on the morning of August 28th and continued for the two following days. There were in attendance over 175 members from all parts of the Dominion, the second largest gathering in the history of the Association; but the meeting itself has been pronounced the most successful of any yet held under the auspices of this Association. There were several visiting doctors from the United States.

Dr. H. H. Chown, of Winnipeg, the President, occupied the chair, while Dr. F. N. G. Starr, of Toronto, discharged the duties of Secretary.

In the absence of Chief Justice Killam, Dr. J. H. O'Donnell, one of the oldest practitioners in the West, delivered the address of welcome. He referred to the conditions present in 1869, when Winnipeg was an outpost of civilization, and gave interesting references to Drs. Cowan, Curtis J. Bird, Dr. Beddom and Dr. Bund, who were already in the West when Dr. O'Donnell moved there in 1869. His address was very much appreciated by the members of the Association.

Dr. R. W. Powell, of Ottawa, the past President of the Association, then introduced Dr. H. H. Chown, the President-elect.

Dr. Chown, on rising to reply, was received with hearty cheers, testifying to the high esteem in which he is held by his fellow-practitioners throughout the Dominion. He briefly thanked the Association for the honor they had conferred upon him at the meeting in Ottawa one year ago.

Dr. Starr, the Secretary, presented his Annual Report. It referred to the meeting at Ottawa last year, to the attendance of 153 members, which was an increase over former meetings in that city, to Dominion Registration, and to the formation of a Physicians' Protective Association.

Dr. Edebohls, of New York, and Dr. Sutton, of Pittsburg, were welcomed to the Convention, and requested to participate in the discussions.

The Question of Medical Defence.—This was introduced by Dr. Russell Thomas, of Lennoxville, Que., who had been delegated by the St. Francis District Association to present this subject to the Canadian Medical Association. He made a strong plea for the

formation of a Medical Defence Union, and thought that all were agreed in the necessity for such. He supported his contentions by citing two or three cases already well known to medical practitioners in Canada, and after showing that such Defence Unions were a success in England, he concluded by outlining the plan of medical defence already in vogue and supported by the St. Francis District Medical Association. The discussion of this important matter was deferred until later on in the session.

Address in Medicine.—"*The Question of Medical Education.*" —Dr. J. R. Jones, of Winnipeg, delivered this address. In opening his remarks, he referred to the unsolved problems of medical education, the importance of which were especially manifest in view of the establishment of a Dominion Medical Board. Uniform or equivalent curricula, he thought, would greatly facilitate paving the way for the accomplishment of this object. He thought that the great aim of the Canadian Medical Association should be to create a Dominion Medical Board upon such a sound and enduring basis that the qualifications could be registered in every province of the Dominion. They should not only be Canadian, but Imperial—capable of registration in Great and Greater Britain. There should be no special education for the profession of medicine, and the defect in the preliminary education of medical students should be corrected. The standard is not high enough. Many students come into the medical college, their minds totally unprepared, undisciplined, not competent to engage in the different studies of a profession to advantage. Dr. Jones would not eliminate Latin, but would go a step further, and advocate a more general knowledge of Greek, as Greek was *par excellence* the language of science. He quoted from two eminent authorities, who favor the retaining of "Classical Education" as a training for professional studies,—Dr. Alexander Hill, a member of our own profession, who is Master of Downing College, Cambridge, and Professor Jebb, of Berlin. He referred to medical matriculation examinations, and deplored the lamentable defects in the English paper, the most neglected subject in our primary schools. From an experience of many years as an examiner at the University of Manitoba, Dr. Jones has concluded that the teaching of English takes a very subordinate position in our schools. The defect was a universal one; and it was obvious that if English should become a prominent subject of medical matriculation examinations, every student ought to be able to express his thoughts coherently and intelligently. The Didactic Lecture came in for adverse criticism, and defects and useless wastes of time, which could be more profitably employed, were pointed out. Persistent work in the dissecting room under the guidance of an experienced demonstrator, who will describe, discuss, and constantly orally examine the student, is a rational and effective method of teaching Anatomy. Medical Jurisprudence and Sanitary Science were not properly taught.

Dr. Jones supported the "case" method of teaching; and from

personal experience he favors the English system of clinical clerkships and dresserships as the most feasible, practical, and thorough for the development of medical teachings. He referred to the question of Dominion Registration, and pointed out two serious objections to Dr. Roddick's Bill: First, the great number of the representatives on the Council, entailing expenses beyond at least our immediate resources; and second, the fact that one of the contracting parties to Dominion Registration may secede, and the elaborate fabric, the work of many years, tumble to the ground. The able paper of Dr. Jones was received with much gratification by the Association.

Dr. R. B. Nevitt, Dean of the Woman's Medical College, Toronto, in moving a vote of thanks to Dr. Jones for his excellent paper, stated that he had placed his finger on the weak point of medical education. Dr. S. J. Tunstall, of Vancouver, seconded the motion for the vote of thanks, and also congratulated Dr. Jones for the excellent manner in which he presented his subject.

Dominion Registration.—Dr. T. G. Roddick, of Montreal, who has so long and so ably advocated this much-to-be-desired measure, delivered a stirring address on the subject, ably reviewing the subject of Inter-Provincial Registration from the time of its inception to the introduction of his bill at the last session of the House of Commons. The special committee appointed on this subject had not yet reported, so the discussion was postponed until the committee had a chance to meet and report later on in the session. Dr. Roddick now seems to hold to the opinion that the suggestion of Dr. Britton, of Toronto, that of representation by population, for Ontario at least, would be advisable.

Infectious Pneumonia.—Dr. W. S. Muir, Truro, Nova Scotia, read this paper. He reported four cases, all of which had occurred between the 1st and 13th of April of this year, in the same house and in the same family. The first occurred in a child of ten years, the disease terminating by crisis on the sixth day, the child making a good recovery. A sister, aged 14, contracted the disease; terminated by crisis on the ninth day, but followed two days after by left-sided pleuro-pneumonia. This proved fatal. The third occurred in a sister fifteen years of age, beginning with a pain on the left side and terminated on the tenth day by crisis and recovery. Number four developed pneumonia, but recovery was quick, the patient being about in two weeks. There was no influenza in the town at the time. Dr. Muir spoke of the organism of pneumonia, its cultivation and its detection.

FIRST DAY—AFTERNOON SESSION.

President's Address.—As this was the first time that the Canadian Medical Association had met in Manitoba, Dr. Chown referred briefly to the future of that important province. Although less than 10 per cent. of the arable land was under cultivation,

Manitoba's farmers would this year have a crop estimated at 85,000,000 bushels of grain. He then referred to the work performed in Winnipeg for the purpose of making that city a healthy one, and in spite of the level nature of the land an excellent system of sewers had been introduced through all the streets, and efficient arrangements ad been made for regular flushing of the sewers by means of tilting basins at the upper end of each main sewer. As Winnipeg has two rivers at her door the problem of removing sewage was easily and safely solved. Dr. Chown then referred to the water supply, and said that the people of Winnipeg enjoyed as pure water as could be found in the world. An examination of the city water would show that there was in it only nine to thirty colonies of bacteria. The water is taken from an artesian well seventeen feet in diameter and forty-eight feet deep, and although they have been pumping for months a supply of from two million to three million gallons per day, there is not the slightest evidence of any diminution of the amount flowing in. This well is supposed to tap an underground passage which runs from Lake Manitoba, and as this lake is 130 miles long the supply is inexhaustible. The underlying rock formation in that section of Manitoba is a magnesia limestone and, consequently, the water contains a large amount of the carbonate of lime and of magnesia, and is too hard for satisfactory use in boilers and hot-water appliances. This is overcome by using Clarke's method of softening by precipitation of these carbonates through the action of limewater; and the softening plant is unique on this side of the Atlantic. Dr. Chown then referred to the question of tuberculosis, and thought that Koch's tentative denial of the oneness of tuberculosis of man and tuberculosis of cattle still needs the proof of non-inoculability from cattle to man. He instanced cases of young farmers free from tuberculous taint, living in newly-built houses harboring no bacilli, and separated by long distances from their neighbors, in whom tuberculosis constantly makes its appearance, and we have here an experiment on a wide scale, and if you can eliminate heredity, house infection and contagion from other cases, to what cause can you ascribe the origin of these outbreaks? Medical education, the plan of Dominion Registration as introduced by Dr. Roddick, malarial fever, proprietary drugs, the progress in surgery, and the future of bacteriology and hematology, were subjects ably dealt with; and in concluding Dr. Chown felt that a duty rested upon the medical profession to get at the true cause of all forms of disease and rescue the public from both the honest fanatic and the ignorant pretender by doing not only all what these claim, but doing more and doing it better.

Sir James Grant, of Ottawa, moved a vote of thanks to the President, and characterized the address as extremely interesting and instructive. Dr. J. L. Bray, of Chatham, seconded the motion.

Epidemic Cerebro-Spinal Meningitis.—Dr. James McKenty, Gretna, Manitoba, presented this paper, which gave an account of

an epidemic occurring in North Dakota during the winter and spring of 1893. It occurred within an area extending fifty miles from east to west and twenty miles from north to south, and was comparatively definitely limited. About seventy persons were seriously ill, and almost as many others suffered from mild manifestations of the disease. Of the seventy cases twenty-five ended fatally—a mortality of about 35 per cent. In the practice of Dr. McKenty there occurred some thirty cases, a brief record of twenty-two of these being kept. The average age was seventeen years; the youngest fifteen months, the oldest thirty-eight years. The duration of the disease extended from twelve hours to fifteen weeks. No *post-mortem* was made in any case. Dr. McKenty then described in detail the clinical aspects of several cases.

Splenic Anemia, with Case.—Dr. A. J. Macdonnell, Winnipeg, contributed this paper with the history of the case. This was an exceedingly rare disease. In 1898 the number of cases recorded did not exceed thirty, but since that time there have been fifty additional cases reported. R. N., aged 27; environment good; has never had malaria; habits and mode of life good; positively never had syphilis. The present illness began in August, 1899. Felt heavy on the right side with a feeling of fulness and weight. In January, 1900, gave up work on account of muscular weakness. There was no vomiting. The patient consulted Dr. Macdonnell in March, 1900, walking into his office with considerable difficulty. There was no enlargement of lymphatic glands. Enlargement of the stomach could never be percussed or palpated. Liver dulness was practically normal. There was no jaundice or pain in the liver region. The patient succumbed to the disease, but no *post-mortem* was held. Another case occurring in a patient aged 17 was reported. Dr. Bell made a blood count in this case, which at different times ranged 3,540,000, then 3,600,000, then 3,400,000, with 7,602 white blood cells. In this case all the other organs were normal, and there seemed to be no predisposing cause in this case. Dr. Macdonnell stated that only ten autopsies had been made on people dying from this disease. He referred to the conditions found *post mortem* in these cases. The treatment for these cases was stated to be rest, diet, and vigorous doses of arsenic. The mortality is set down at 20 per cent. As far as operation is concerned, physicians will not be satisfied until it is clear that the patient recovers from the operation as well as from the disease. If we are sure of our diagnosis, then surgical intervention is deemed advisable.

Physical Development.—Dr. J. N. Hutchison, of Winnipeg, read a carefully prepared paper on Physical Development. The paper did not deal with anything new, but called attention to and emphasized certain facts of considerable importance. He considered that children were sent to school at too early an age, and as a result there was danger of brain over-work. He insisted upon the necessity of having healthy parents, and deplored the system of

education which develops the mind at the expense of the body. He was an advocate of periodical lectures by duly qualified physicians to separate classes of boys and girls on the subject of sex; but the primary responsibility in this matter, he placed upon the parents. There would be real progress in the prevention of tuberculosis when people, the subject of the disease, recognized that they should not marry. The paper, which was listened to with close attention, closed with a reference to the problems of those unfortunates who are neither mentally nor physically qualified for the duties of life.

Report of Cases Treated with Superheated Dry Air.—Dr. W. H. Pepler, of Toronto, introduced this subject in a paper which cited his experience and observations in the treatment of certain cases by this plan or process. He briefly described the apparatus and the method of treatment. It only takes twenty minutes to reach a heat of 300° F. The average duration of the application of the heat is forty-five minutes. The physiological and therapeutical effects noticed were referred to, as dilatation of blood vessels, etc. He administers the treatment one hour after meal time with due regard that there shall be as little excitement and exertion as possible. He has not seen any ill effects from the treatment. He first gave notes of the case of a patient, a man aged 35, who had suffered for some time with varicose ulcer of the right leg, with considerable pain. This patient had a treatment of thirty-five minutes' duration, and was able to walk home with very little discomfort. After three times, in ten days, the ulcer was very much reduced in size. The second was a patient twenty-two years of age, who had been troubled with rheumatism for two years past. A temperature of 320° was employed with good satisfaction. Several other cases of rheumatism and eczema were reported. The treatment in each case proved highly satisfactory, patients never complaining of any discomfort, and all expressing satisfaction with the treatment. Dr. Pepler subjects a considerable portion of the patient's body to a temperature from 280 to 320° F. The results are often not apparent for some time after treatment.

Dr. McAdam, of Battleford, asked Dr. Pepler if he had ever tried the treatment with high temperature, where he had any doubts of the condition of the heart.

Dr. MacDonald, of Brandon, referred to a case which had come under his observation in which there was heart trouble. Perspiration occurred freely, but with no effect in a depressing way upon the circulation. Treatment in this case was continued for two weeks, but he had never determined that there had been any effect upon the heart, although there was a small heart-lesion at the time.

Dr. Pepler, in reply: He could not speak personally as to any deleterious results from weak heart. Of course there were many cases reported where heart trouble was present. He personally had never noticed any heart or head symptoms in his cases. He thought with care there would be no bad results.

Orthopedic Treatment of Deformities and Disabilities Resulting from Diseases of the Nervous System, with special reference to tendon transposition.—By Dr. B. E. McKenzie, of Toronto. He spoke of disabilities and deformities resulting from paralysis, some of which were commonly regarded as hopeless; but the conditions of a great majority of them were remediable, and should receive a considerable amount of attention. He was at some pains to explain the respective motion of joints, particularly the ankle joint and knee joint, especially calling attention to the normal conditions of equilibrium, and then showed how the muscles of some of the groups at times become paralyzed, and the balance and equilibrium thereby destroyed. Mechanical treatment was often necessary, and often efficacious as well; massage and electricity had their respective places, but he made particular reference to the method of treatment that had been in vogue for twenty years and had been introduced on this continent by Dr. Parish, of Philadelphia. He went carefully into an explanation as to how muscles can be transferred from their usual point of action, and then he gave an account of several cases in which he had successfully accomplished this. In his opinion amputation of a limb because of apparent disability should seldom or never be resorted to.

In answer to Dr. McAdam, Dr. McKenzie disapproved of jackets in treatment of curvature of the spine.

Dr. Clarence Starr, of Toronto, stated the subject was of great interest to him as he was interested pretty largely upon the same lines of surgery. Dr. McKenzie had indicated a large number of cases of paralyses which can be wonderfully helped by operative procedures. Dr. Starr thought that Dr. Bowlby, of Boston deserved a great deal of credit for the work he has performed in this connection.

Dr. H. B. Small, of Ottawa, referred to a case Dr. McKenzie had operated on. In this case, previous to operation, the boy had great difficulty in arising from the sitting posture, and when walking he had to rest every few yards. After the operation he was very much improved, and when Dr. Small last saw him about a week ago he could walk very easily, and never had to support himself. The improvement during the last four or five weeks was especially very marked.

SECOND DAY—MORNING SESSION.

Mild Small-pox.—Dr. G. A. Kennedy, McLeod, Alberta, presented this paper. It dealt with the recent outbreak of the disease in the North-West Territories—an outbreak which was widespread and which had existed for some time before its true nature was recognized. Dr. Patterson, Quarantine Officer for the Dominion Government, was satisfied that there had been 1,500 cases. A noteworthy fact was that the greatest number of cases occurred among the French half-breeds, who had never been vaccinated, and further,

Indians on reserves had not suffered to any great extent, as annual vaccination is the rule. Not one case was seen or heard of among Galicians, Doukhobors, or Roumanians, which was due to the fact that compulsory vaccination was the rule in youth, and they had been re-vaccinated on their recent passage across the Atlantic, and at Halifax. Fifty per cent. of all cases were extremely mild in character; forty per cent. were cases of typical varioloid; ten per cent. were severe, almost confluent. The mortality was slight, only thirteen deaths occurring; and the disease prevailed fully as much amongst adults as amongst children.

Dr. Muir, of Truro, N.S., discussed the merits of the different vaccines on the market, and the paper was further discussed by Dr. MacDonald, of Brandon, Dr. Inglis, of Winnipeg, Dr. D. H. Wilson, of Vancouver, and Dr. Montizambert, of Ottawa. The latter considered it would be unfortunate if the impression went abroad that any doubt existed in the minds of the members of the Canadian Medical Association as to the true nature of the disease which had been epidemic for some years. He considered the facts presented in Dr. Kennedy's paper relating to Doukhobors and Galicians were perhaps the most valuable portion of it.

At the close of this discussion, the following resolution was moved by Dr. R. S. Thornton, seconded by Dr. J. L. Bray, and unanimously adopted: "That in view of the general prevalence of small-pox throughout the continent, this Association desires to urge upon the profession and the public generally, the necessity of vaccination and re-vaccination."

Chronic Ulceration of the Stomach Simulating Cancerous Disease—Relation of a Case of Gastro-Enterostomy with Murphy Button—Recovery.—By Dr. J. F. W. Ross, Toronto. This occurred in a woman twenty years of age, the condition of whose stomach had been bad for three years. She was a nurse in the Training School of a hospital, and her gastric conditions grew gradually worse and worse. Dr. Ross was asked to see the patient by Dr. E. B. O'Reilly, Hamilton, in December, 1899. He found her emaciated with the opium habit already formed. In January, 1900, he again saw her, with Dr. Griffin, of Hamilton. At this time rectal alimentation was being persevered in with considerable benefit. In March, 1900, she was discharged from the hospital, and remained well for two weeks. As soon as food passed into the stomach, great rigidity of the right rectus muscle was noted. When the patient came under Dr. Ross's attention she weighed about 75 lbs. As malignant disease of the stomach is rare at this age of life, it was difficult to diagnose the tumor as such, and the symptoms pointed to the pyloric end of the stomach. It was not possible to say whether cancerous or not. The symptoms pointed to the presence of ulcer, but the thickening easily made out led to the belief that malignant disease had been grafted on to the ulceration. Some dilatation also could be made out, but the rhythmic muscle

waves so characteristic of pyloric obstruction could not be found; but a large growth was found at the pyloric end. The case was looked upon as hopeless, and decision was arrived at not to remove the growth, but to give temporary relief by gastro-enterostomy. This was done, and the patient made an uninterrupted convalescence. Eleven months after the operation the patient weighed 140 lbs., and looked the picture of health. On examination of the abdomen no mass could be felt, and the patient was not suffering from any gastric symptoms at all. Dr. Ross then went into the literature on the subject, quoting Fagge, Sydney Martin, Moynihan, and Mayo Robson.

Dr. Lapthorn Smith, Montreal, began the discussion, stating that the case was especially interesting to him, but rather from the general practitioner's point of view. He believes that no case of cancer of the stomach ever begins as cancer of the stomach. First, there is some sort of irritation of the mucous membrane. This irritation finally becomes a chronic ulcer, and upon this the germ of cancer is engrafted, or whatever it is which is the essential constituent of the cancerous process.

Dr. Martin, Montreal, discussed the importance of the examination of the stomach contents in these cases.

Dr. Bruce, Toronto, stated that he had an experience with a case a year ago which corresponded closely to the one Dr. Ross has reported. His patient was thirty-eight years old.

Dr. Gilbert Gordon, of Toronto, thought that we should look at these cases from the standpoint of the physician as well as from the standpoint of the surgeon.

Dr. Howitt, of Guelph, stated that the second case of ulceration of the stomach upon which he operated was one of acute perforation.

Dr. Ross thanked them for the reception they had given his paper.

Some Forms of Hyperacidity and their Treatment.—Dr. C. F. Martin, of Montreal, presented notes of some interest, judging from the results of systematic examination of the gastric contents. The unfortunate general employment of the term dyspepsia is responsible for the disregard of this condition. In the case of organic disease producing excessive secretion, the diagnosis is often difficult. He gave the history of two cases in illustration, the second being an individual forty-five years of age, who gave the usual history of having been ill for six months. There was no obstruction of the pylorus, but simple dilatation, and the diagnosis was hyperchlorhydria with simple dilatation of the stomach. He also referred to the medical treatment following gastro-enterostomy.

Dr. Macdonnell, of Winnipeg, discussed this paper.

Medical Defence.—The report of the Committee on Medical Defence was here presented by W. S. Muir, of Truro, N.S. It reported favorably on the formation of a Medical Union, and the organization thereof was immediately perfected. It will be known

as the Physicians' Protective Association will be incorporated, and will have for its object the protection of the character and interests of medical practitioners in Canada. It will further promote honorable practice, will aid in suppressing or prosecuting unauthorized practitioners, and will seek to advise and defend, or assist in defending members, in cases where proceedings involving questions of professional principle or otherwise are brought against them, and other like matters. Dr. R. W. Powell, of Ottawa, was elected President; Dr. McKinnon, of Ottawa, Secretary, and Dr. James Grant, jun., of Ottawa, Treasurer.

Report of Committee on Dominion Registration.—It is proposed to secure an amendment to the B. N. A. Act, or to take advantage of section 91 of that Act, and under it obtain legislation from the Dominion Parliament, by which the profession in Canada might form a Dominion Council, and which could be supplemented by legislation by the various provinces recognizing any certificate of standing issued by the Dominion Council as entitling a holder to practise in such provinces. Dr. Muir approved of Dominion Registration and spoke for the Province of Nova Scotia. Dr. Jones voiced the sentiments of the profession in Manitoba. Drs. A. A. Macdonald and J. L. Bray endorsed the scheme for Ontario. Dr. Russell Thomas spoke for Quebec. Dr. Christie said that New Brunswick was in favor of Dominion Registration. Dr. Lafferty said the North-West Territories were favorable.

SECOND DAY—EVENING SESSION.

Address in Gynecology: Cancer of the Uterus with Lantern Demonstration.—This was a very interesting and profitable demonstration conducted Dr. Thos. S. Cullen. In introducing Dr. Cullen, Dr. Chown spoke of him as a young Canadian who had gone wrong in having removed to the United States and having never returned. Dr. Chown considered that the experimental work pursued by Dr. Cullen if done in Canada would meet with as signal success as that which attended his labors in the United States. For over an hour Dr. Cullen was engaged in showing a large number of excellent lime-light views, the results of microscopic examinations of tissues, each view being lucidly explained by the demonstrator. At the close of this excellent demonstration Dr. Cullen was accorded a hearty and unanimous vote of thanks moved by Dr. Eccles, of London, and seconded by Dr. Gray, of Winnipeg, and carried amid great applause.

Skin Diseases, with Lantern Demonstrations.—This was another valuable demonstration, and was conducted by Dr. Francis J. Shepherd, of Montreal. He first exhibited cases of blastomycetic dermatitis, and further spoke of a few cases which he had seen of this disease. Views were given also of cases after treatment with iodide of potash. Some interesting views were those caused by drug eruptions, of which he showed two or three due to salicylate

of soda. In one of these Dr. Shepherd said that the lesions first came out with large welts like urticaria. This is rather a rare form of drug eruption. It appeared after two doses of ten grains each of the drug. One case almost died of acute laryngitis from the eruption in the throat. Amongst other vie s shown were papular purpura, which is generally associated with rheumatic attacks, psoriasis of the nails, X-ray burns as the result of one application, and most interesting were cases of small-pox, one showing pustules upon the palm of the hand, particularly interesting as in adults you never see chicken-pox upon the palm of the hand, but you invariably do in small-pox. Views of feigned eruptions were also shown. This demonstration proved so interesting to the members that Dr. Shepherd was frequently called upon to give more or go on.

The Varieties and Distribution of Bacillus Diphtheria and Their Clinical Significance.—Dr. F. F. Westbrook, of the University of Minnesota, presented a paper on this subject, primarily from the laboratory point of view. He exhibited a carefully prepared chart showing in tabulated form the results of numerous examinations in schools, and stated the conclusions which he deducted from these facts. Formerly. it was believed that the bacillus remained localized at its point of entrance, but now within recent years, however, careful observations have shown that the toxins had been distributed throughout the body and the bacillus itself found in organs far removed from the atrium. From evidences of 230 cases of diphtheria at autopsy observers had called attention to the frequency with which the bacillus of diphtheria was found in the organs of the body. The bacillus and its toxins have been shown to be capable of producing lesions which differ greatly from each other, as in ulcerative endocarditis, meningitis, etc. In summarizing Dr. Westbrook said where each school was reported, and where great care was taken in the isolation of clinical cases with typical form, the percentage was very small.

Removal of Hairy Tumor from the Stomach Weighing 23 Ounces—Specimen—Recovery.—By Dr. H. A. Bruce, Toronto. The subject of the case was a woman, aged 26; had been married six years and had two children. A lump was noticed in the abdomen two months previous to the birth of the last child. Patient had no symptoms. The lump was about five inches in width and it could be lifted forwards. It reached to within three inches below the umbilicus. It gave the patient no special discomfort, there being absolutely no symptoms present. Dr. Bruce advised exploratory incision. This was done on July the 22nd last, at St. John's Hospital, Toronto. On opening the abdomen in the middle line the spleen and kidneys were found in a normal condition, but there was a large mass in the neighborhood of the stomach. The surgeon could make out the mass lying free in the stomach, a portion extending through the pyloric end of the stomach. An incision was made into the stomach and the mass removed. After

removing the mass of hair the opening of the stomach was closed in the usual way. Hot solution was given for two hours and nutrient enemata for six hours. Twenty-three hours after the operation sips of hot water were given by the mouth. Forty-eight hours after operation patient was given half an ounce of milk and limewater every half hour. She left the hospital on the twentieth day. The tumor was entirely of hair exactly the same color throughout, and the same color as the hair on her head. It was about 24 inches in length, being two inches in diameter at one end and gradually tapering to a point at the other. Dr. Bruce considered this case rare, but offered no solution as to how the hair got into the stomach. There were no evidences of hysteria present in the patient. There are some specimens of hairy tumors at the McGill Museum at Montreal.

THIRD DAY—MORNING SESSION.

A Case of Transplantation of the Ureter for cure of Uretero-Vaginal Fistula.—By A. Lapthorn Smith, Montreal. This occurred in a married woman, thirty-four years of age, who came to Dr. Smith on the 1st of July, 1901. During parturition forceps were employed and the vagina lacerated, and ever since there has been a constant flow of urine by the vagina. Operations for her relief had been performed in England without success. Dr. Smith had seen Sanger perform an operation of this character in Leipsic when there three years ago, namely, to open the peritoneum running over the large vessels at the brim of the pelvis and to feel for the artery, see the vein and pick up the third tube, which was the ureter. The operation was done in the highest Trendelenburg posture. A very small incision was made in the peritoneum lining the pelvis in the line of the ureter, a silk ligature was passed around it, and then the ureter was severed a little above the ligature. The end of the ureter was split open to a distance of a third of an inch. A slit was then made obliquely into the right upper corner of the bladder, and the ureter stitched into it, the mucous membrane of the ureter to the mucous membrane of the bladder, with very fine chromicised catgut. This is the first time this operation has been done in Canada, and Dr. Smith stated that not a drop of urine had passed through the fistula since.

Syphilis as seen by the Ophthalmic Surgeon.—This paper was read by Dr. F. Buller, Montreal. In commencing his paper, Dr. Buller expressed the hope that it would elicit a little discussion. It often falls to the lot of the ophthalmic surgeon to discover the presence of active syphilitic virus where the disease had long since been considered cured, or where the subject cherished the belief that there was no more to fear from it. The ophthalmic surgeon is scarcely, if ever, called upon to treat the disease in the primary stage. The largest share of his work is in connection with the tertiary period, and in this class of case the disease has been

apparently cured for a long period of time. Dr. Buller considers that the time at which the syphilitic lesion makes its appearance is always a very important element in the diagnosis. Discussing medication, Dr. Buller does not believe that the protiodide of mercury, at least as ordinarily administered, is a reliable anti-syphilitic. He appears to favor the inunction method first and then gray powder. The following took part in the discussion of this paper: Dr. Lafferty, of Calgary; Dr. Muir, of Truro; Dr. Lapthorn Smith, of Montreal, and Dr. Shepherd, of Montreal, who also condemned the protiodide treatment.

The Present Outbreak of Small-pox in America.—This subject was presented by Dr. H. H. Bracken, Health Officer, Minnesota. He outlined the origin and traced the course of many outbreaks in various parts of the State of Minnesota. The case of a porter on the Great Northern Railway, who arrived in St. Paul in March, 1899, was mentioned as the source of the outbreak. He was supposed to have contracted the disease in Seattle, and when told that he had the small-pox, he said that if so there was plenty of the same disease where he came from. Other epidemics were spoken of in various parts of Minnesota, with a total of 9,429 cases; and the disease has still many centres in that State. It is impossible to locate positively the source of the present widespread epidemic further than that it spread from the southern and south-western States into North Dakota, Minnesota, Nebraska, Montana, and Texas. Dr. Bracken showed that returning soldiers from the Philippines were not responsible for its introduction. He suggested that it was probably imported into the United States by Cuban refugees before war broke out between that country and Spain.

An interesting discussion took place on this paper. Dr. Russell Thomas wanted to know where the best vaccine was manufactured —a product that could be relied upon.

Dr. Inglis, formerly Medical Health Officer, Winnipeg, related his experience in the schools of Winnipeg, and spoke of some of the bad results resulting through impure vaccine.

Dr. Bracken, in reply: Vaccine was frequently spoilt by not being kept in proper temperatures, as it was frequently being shipped in cans which were too hot, and subsequently kept in warm offices. The Health Commissioner of Minneapolis kept all his vaccine in an ice-box, but, of course, not frozen, and he had obtained good results. Replying to a question in regard to isolation, Dr. Bracken favored eighteen days' quarantine.

The Necessity of a Recognition and Isolation of Trachomatous Patients in Canada.—In the absence of Dr. W. Gordon M. Byers, Montreal, Dr. C. F. Martin, of the same city, read this paper. The paper recited the history of a young girl from Glengarry County, Ontario, who came to the clinic at the Royal Victoria Hospital, Montreal, with a most intense condition of granular lids. She had been unable to open her eyes properly for months past, and her vision was reduced to the counting of fingers. The seriousness of

her disease had not been recognized at home, as she mixed freely with other members of the community. Another case was referred to in the County of Leeds, and in this case as well no precautions had ever been taken to prevent the spread of the disease. Dr. Byers believes that there are many unrecognized and untreated cases scattered here and there throughout the Dominion. The disease is said to be prevalent in districts of Manitoba and certain centres in the eastern counties of Ontario, and others in Quebec. The trachoma problem has had to be faced by one Government in Europe, and the matter has been brought to the attention of the Dominion Government, which has not yet taken any action in the matter. Dr. Montizambert stated that the question of exclusion of trachomatous immigrants had been under consideration by the Government for some time. He considered these people somewhat undesirable immigrants.

A Few Notes on the Treatment of Typhoid Fever.—Dr. J. L. Bray, of Chatham, discussed this subject under medicinal, dietetic and hygienic headings. The first he thought might be eliminated except in cases where complications arise, and he thought a certain amount of medicinal treatment useful during the initial stages. He was in the habit of employing calomel. Tympanites could be avoided to a great extent by a proper diet. In feeding he now gives very little milk, but that little always peptonized. He believes in making the patient drink two or three quarts of pure water in the twenty-four hours. Albumen water with sugar may be given from the first, after the first two weeks he gives liquid peptonoids, or some of the numerous preparations of beef, jellies, mutton broth, or a soft boiled egg.

As regards the hygienic treatment, the bedding and the night clothes should be changed daily. The room should be kept thoroughly ventilated, admitting plenty of fresh air and sunshine. The patient should be sponged frequently with tepid water, and you can get just as good results from tepid water as from sponging with very cold water or the cold bath, and it is not so distasteful to most patients. In hospital practice Dr. Bray used the electric fan after using the tepid water. He has found this plan very satisfactory, especially in young and sensitive children.

Dr. Russell Thomas discussed the paper and said that he had found the ice-cap beneficial, that it did not disturb the patient and had a decided effect in reducing the temperature.

THIRD DAY—AFTERNOON SESSION.

The Address in Surgery.—This was delivered by Dr. O. M. Jones, Victoria, B.C., and it proved a very able and masterful effort. He opened his address with a reference to surgical diseases in Western Canada as compared with those in the East, and stated that he had often found Western sufferers more impatient, which often demanded severer methods. He illustrated this by citing a

humorous incident. A lodging-house keeper on learning that one of her lodgers was to have an operation performed on a Wednesday, wrote to the surgeon asking that it might be postponed until Friday, as her daughter was to be married on Thursday, and they didn't want the corpse home until after the wedding. The address dealt mainly with surgery of the stomach, and related the deductions Dr. Jones had arrived at from his own experience of twenty-six cases. His first operation upon the stomach was in 1893—a case of pyloric obstruction in a wiry woman. Senn's plates were used. The patient died in three days, the result not being encouraging; and Dr. Jones attributed the failure to the use of catgut instead of silk sutures. The introduction of Senn's plates and the Murphy button gave a great interest to intestinal surgery, as before 1890 operations on the intestines were rare. He discussed the preparation for operation, and first spoke of gastrostomy, an operation which he had performed five times for ulcer of the esophagus. In four of the cases the operation was performed with very excellent results. He then discussed the class of cases in which pylorectomy is indicated, and said that rapidity of operation in these cases is the very important factor; prolonged operation has generally proved fatal. A suitable case should be cancer of the pylorus. The time occupied in performing the operation is not great. In one of his cases he performed posterior gastro-enterostomy; this patient still lives, and it is now nearly three years since the operation. Gastro-enterostomy was next discussed. This Dr. Jones considered the most important and most interesting part of the whole subject. It is the most frequent and the most useful and the simplest of all the operations upon the stomach. It is performed for pyloric cancer, ulcer and stenosis, and for gastric ulcer, dilatation, etc. Nothing can be simpler than this operation performed with the Murphy button. Dr. Jones has used it in fourteen cases, and in only one case was there any trouble. In two of his cases, which died from shock, he examined one and found perfect union. He has found that the passage of the button has taken from fourteen days to four months; and in several cases he has not been able to obtain the button. A recital of several cases followed which proved very interesting. Dr. Jones closed his paper with a few words on duodenal ulcer.

Dr. F. J. Shepherd, of Montreal, proposed a vote of thanks; Dr. A. A. Macdonald, of Toronto, seconded this; Sir James Grant, of Ottawa, supported the motion, which was unanimously passed by the Association.

A Surgical Procedure for the Relief of Ovarian-Tension Pain.—Dr. Henry Howitt, Guelph, Ont., read this paper. Is not pain frequently, if not usually, caused by tension on some nerve filament? In Dr. Howitt's opinion the answer should be in the affirmative. The operation Dr. Howitt employs is quite simple. The ovary is exposed and then a number of cross sections are quickly made through the tense capsule in such a manner as to

divide it. Then the larger Graafian follicles are opened. These are merely touched with carbolic acid. If the capsule is thickened a portion should be removed. Hemorrhage has never been troublesome. Adhesions give rise to no complications. Dr. Howitt recited the histories of two or three cases in support of the operation.

Dr. Lapthorn Smith stated that he had never heard of this operation before, and considered that it was original with Dr. Howitt.

Symposium on Tuberculosis.—Prof. Russell, of the University of Wisconsin, introduced this subject in a careful yet exhaustive paper on human and bovine tuberculosis and their inter-relation. The importance of any phase of investigation relating to tuberculosis and its relation to milk is unquestioned in these latter days when the general public is beginning to appreciate, for the first time the magnitude of the problem that confronts them in attempting to lessen the ravages of the "great white scourge" of the human race.

In considering this subject it may be approached from two points of view:

1. From the standpoint of animal industry.
2. From that of public health.

Bovine Tuberculosis and Animal Industry.—The rapid extension of the disease amongst cattle within the last few decades has forced upon breeders and dairymen the necessity of considering this subject whether they desire it or not. It is customary in many quarters, even yet, to decry all consideration of this matter as unnecessary, inexpedient, and harmful to the dairy interests. But, as is too frequently the case, the motive for such action rests upon a financial foundation, and many breeders are averse to a calm, judicious discussion of the matter simply because it may mean financial loss to them.

Since the introduction of the tuberculin test as an aid in the diagnosis of the disease in cattle, it has been positively determined that the malady, at least in its incipient form, is very much wider spread than was formerly supposed, but it by no means follows that all animals that react to the tuberculin test are actually in a condition in which they or their products are dangerous to man and beast.

The slow, insidious nature of the disease that characterizes it in the human is also to be found in the cattle, and not infrequently an animal may be infected with the seeds of the disease for a considerable time—even a year or so—without showing in any degree physical symptoms that are manifest to even the animal expert. Such animals are not diseased in the ordinary meaning of the term, *i.e.*, they are not capable of transmitting the disease, either directly or indirectly, through their milk or meat. The affection in such cases is latent, generally confined to various lymphatic glands; but animals so affected are, however, potentially dangerous, for the

latency of the disease may be overcome through the operation of various factors, and the chronic type may thus be awakened into an acute phase. It is in this way that the disease spreads slowly and unperceived through a herd. Before it has made such inroads as to cause actual death of any considerable number of animals, many more have acquired the trouble, at least in the earlier phases. Necessity of controlling its spread and eradicating it is evident for the sake of the herd itself, if from no other point of view. Successful animal industry, especially with cattle, requires that herds shall be kept free from all taint of this disease. As to treating milk, Prof. Russell said pasteurization and sterilization were the two best forms of applying heat to destroy the organism. He recommended the rotary pasteurizing machine, one of which has been used in Winnipeg for some years, as the best method of removing organisms from milk.

Dr. Good, of Winnipeg, in discussing the paper, said that it afforded him some relief to learn that milk is not so dangerous after all. He stated that he had been avoiding milk and all organic fluids for the past year or two, but he was glad to know that he could now go back to its use with the same freedom as in its younger days. He then moved a vote of thanks to Prof. Russell, seconded by Dr. McArthur, which was unanimously adopted.

Dr. A. J. Richer, of Montreal, contributed the next paper on "The Sanitorium Treatment of Tuberculosis." This treatment had been introduced by Dr. Trudeau in America under great difficulties, and at the present time this distinguished scientist was able to house and treat over one hundred individuals in his institution. According to Dr. Richer, the treatment is made up of rest, outdoor life, over-feeding, and medical supervision. This latter was described as the keynote to success in phthisical treatment. Overfeeding was also emphasized.

The last paper was contributed by Dr. Gilbert Gordon, of Toronto, and it referred to the etiology and the early diagnosis of pulmonary tuberculosis. He spoke of the early stages of the disease, and thought that we ought to be able to diagnose it before the appearance of the bacilli in the sputum. Direct inheritance he considers very rare. The inhalation of dried sputum is the most direct cause. Dr. Gordon considers that we are wofully behind in Canada in fighting this plague, and more money should be spent by Governments and philanthropic individuals in fighting this disease. He went carefully into the symptoms of the pre-tubercular stage, and considered that a persistent cough was a very dangerous symptom.

An important discussion took place upon this topic. Dr. Lafferty warned the profession in Ontario against sending advanced cases to the North-West Territories. Dr. Barrick, of Toronto, pointed out that Ontario was leading in regard to the treatment of tuberculosis, and he hoped to see the sanatorium brought with a wide-open door to all conditions of life. Dr. Brett, of Banff, suggested

that the Association should pass a resolution pointing out to the Parliament of Canada the necessity of providing for the establishment of a sanatorium for the benefit of the community. This was subsequently done.

The report of the Nominating Committee was presented by Dr. W. S. Muir, Truro, N.S., who expressed regret at having to accept the resignation of their General Secretary, Dr. F. N. G. Starr. Montreal was selected as the place of meeting in 1902, and a suggestion was left with the members of the Association that they meet in British Columbia the following year.

These officers were elected for the ensuing year: *President:* F. J. Shepherd, Montreal. *Vice-Presidents:* Prince Edward Island, S. R. Jenkins, Charlottetown; Nova Scotia, T. F. Macdonald, Hopewell; New Brunswick, Wm. Christie, St. John; Quebec, J. Alex. Hutchison, Montreal; Ontario, Bruce L. Riordan, Toronto; Manitoba, A. J. Macdonnell, Winnipeg; North-West Territories, H. G. McKid, Calgary; British Columbia, J. M. Lefevre, Vancouver. *General Secretary:* George Elliott, 129 John St., Toronto. *Provincial Secretaries:* Prince Edward Island, H. D. Johnson, Charlottetown; Nova Scotia, J. M. McLean, North Sydney, C.B.; New Brunswick, W. L. Ellis, St. John; Quebec, C. F. Martin, Montreal; Ontario, H. A. Bruce, Toronto; Manitoba, J. T. Lamont, Treherne; North-West Territories, G. A. Kennedy, Macleod; British Columbia, G. Morris, Vernon. *Treasurer:* H. B. Small, Ottawa. *Executive Council:* Jas. Stewart, T. G. Finley, J. M. Elder.

The Winnipeg meeting of the Canadian Medical Association will go down in the annals of the history of that Association as the best meeting ever held under its auspices. On the first day alone, 130 members were registered, and the total number at any time reached 177, a number considerably larger than that at Ottawa last year and second in point of numbers to the meeting at Toronto in 1899. A large number of new members were elected, particularly from Ontario, Manitoba, the North-West Territories and British Columbia. Every province was represented at the Association meeting with the single exception of Prince Edward Island, one delegate coming as far as North Sydney, C.B. The meeting was generally voted a pronounced success; and certainly the profession in Winnipeg and Manitoba, and the citizens of Winnipeg, more than eclipsed, in point of social functions, any previous meeting. The reception by the Board of Governors of the Winnipeg General Hospital, the reception by the ladies of Winnipeg at Wesley College, the special trip down to Lower Fort Garry, where Mr. and Mrs. Chipman extended their hospitality to the members and their wives and invited guests from Winnipeg, the visit to the Ogilvie Mills, the reception at Government House by Lieutenant-Governor and Mrs. McMillan, and the special trip out to Brandon through the great wheat belt of Manitoba, with the entertainment provided by the ladies of Brandon—all will stand as a series of social functions which have never been surpassed, and will probably remain

unsurpassed for some years in the history of the Canadian Medical Association meetings. One of the best and most important discussions took place on the formation of a Medical Defence Union: and it is very gratifying to have to record that such an organization was unanimously supported by the Association. All the leading officers of this Protective Association are located in Ottawa, and Dr. Russell Thomas, of Lennoxville, P.Q., along with W. S. Muir, of Truro, N.S., is deserving of much praise for the great good work he has performed in this connection. Much regret was expressed at the resignation of the General Secretary, Dr. F. N. G. Starr, of Toronto, who has so long and so faithfully, so ably and so energetically discharged the responsible and important duties of this position. At a time when the Association is so prosperous, it is due to the new General Secretary that a united and earnest effort be put forth by all the members of the Association to continue that prosperity.

DR. PRICE-BROWN'S book on diseases of the nose and throat has been placed on the list of books recommended by the New York Post-Graduate School.

THE following graduates in medicine have been appointed on the staff of the General Hospital: From the Toronto Medical School—Drs. D. J. G. Macdougall, F. A. Cleland, H. S. Hutchinson, W. H. Cronyn, and J. H. Trout. From Trinity Medical School —Drs. W. G. Macdonald, K. Martin, D. Anderson, G. S. Ryerson and W. G. Collinson. From the Ontario Women's Medical College —Dr. Helen McMurchy. They commenced their duties July 1st.

A Toronto Student Honored.—Another honor has been conferred on a graduate of the University of Toronto by an American university. Dr. B. A. Cohoe, of Toronto, gold medalist in anatomy at the recent final examinations of Toronto School of Medicine, has been appointed Assistant Professor of Anatomy by the new Cornell medical faculty. Dr. Cohoe was one of Toronto's most brilliant graduates. He entered the university in 1894 as Prince of Wales scholarship man, and during his course took first-class honors each year in the science department. Dr. Cohoe will assume the duties of his new position in September.

Congratulations.—At the final meeting of the conference of the Association of Medical Superintendents of Hospitals, held in New York on the 13th ult., Dr. Charles O'Reilly, of Toronto, was elected Vice-President. Dr. O'Reilly, in returning thanks, said he thoroughly appreciated the honor of receiving the first "international" appointment made by the association in electing him to so high an office. He expressed the sympathy of Canadians regarding the illness of the President. Dr. O'Reilly referred also with satisfaction to the fact that Miss Grace Mackenzie, a "British-born nurse," was in charge of the distinguished patient in Buffalo.

In Memoriam.

"Youth proclaimed him as a hero; Time, a statesman; Love, a man.
Death has crowned him as a martyr, so from goal to goal he ran,
Knowing all the sum of glory that a human life may span."

—*Ella Wheeler Wilcox.*

WILLIAM McKINLEY,

The Martyred President of the United States.

In this hour of awful tragedy and overwhelming grief, in which the whole civilized world mourns as one bereft, a nation speaks to a nation:

"Most truly do I sympathize with you and the whole American nation at the loss of your distinguished and ever-to-be-regretted President. EDWARD REX."

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,
EDITOR,
69 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P.LOND.,
BUSINESS MANAGER,
145 COLLEGE STREET, TORONTO.

Surgery—BRUCE L. RIORDAN, M.D., C.M., McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Lecturer and Demonstrator in Anatomy, Toronto University; Surgeon to the Out-Door Department Toronto General Hospital and Hospital for Sick Children.

Clinical Surgery—ALEX. PRIMROSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

Oral Surgery—E. H. ADAMS, M.D., D.D.S., Toronto.

Surgical Pathology—T. H. MANLEY, M.D., New York, Visiting Surgeon to Harlem Hospital, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

Gynecology and Obstetrics—GEO. T. MCKEOUGH, M.D., M.R.C.S. Eng., Chatham, Ont.; and J. H. LOWE, M.D., Newmarket, Ont.

Medical Jurisprudence and Toxicology—N. A. POWELL, M.D., Toronto, and W. A. YOUNG, M.D., L.R.C.P. Lond., Toronto.

Pharmacology and Therapeutics—A. J. HARRINGTON M.D., M.R.C.S. Eng., Toronto.

Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

Clinical Medicine—ALEXANDER MCPHEDRAN, M.D., Professor of Medicine and Clinical Medicine Toronto University, Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

Mental Diseases—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

Public Health and Hygiene—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and E. H. ADAMS, M.D., Toronto.

Physiology—A. B. EADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

Pediatrics—AUGUSTA STOWE GULLEN, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Outdoor Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.B., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

Ophthalmology and Otology—J. M. MACCALLUM, M.D. Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

Laryngology and Rhinology—J. D. THORBURN, M.D., Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. X. TORONTO, OCTOBER, 1901. NO. 4.

Editorials.

ARE BOVINE AND HUMAN TUBERCULOSES IDENTICAL?

NEEDLESS to say, Koch's assertion made in his London address (July 25th), that human beings are not infected from bovine tuberculosis, created widespread surprise, because "human and bovine tuberculoses have been pronounced to be one and the same affection" (Anders' "Practice of Medicine," 1900). Besides, according to the interpretation put on the researches of Koch, published in 1882, "The pearl disease (perlsucht) of cattle, a cheesy glandular disease of swine and a disease of fowls" (avian tubercle) were pronounced

by scientific writers to be identical with the tuberculous disease of man, the bacillus of tubercle being present in all (*vide* Flint, "A Treatise on the Principles and Practice of Medicine," A.D. 1884, p. 1130). In his latest address, Koch shifts his ground, contending that as sure proofs of the identity of the two forms of the disease, animal and human, were undiscoverable, he had to leave this question undecided even in 1882. He now contends that he has decided this question, and that he has demonstrated that human tuberculosis cannot be transmitted to bovines, pigs, asses, sheep or goats. From the facts adduced he maintains that human tuberculosis differs from bovine and cannot be transmitted to cattle.

But what about the susceptibility of man to bovine tuberculosis? Koch considers himself at liberty to say, that "if such a susceptibility really exists, the infection of human beings is but a very rare occurrence. I should estimate the extent of the infection by the milk and flesh of tuberculous cattle, and the butter made of their milk, as hardly greater than that of hereditary transmission, and I therefore, do not deem it advisable to take any measures against it." He then develops the idea that human sputum is the main source of human tuberculosis, shows the presence of foci of tuberculous infection in the crowded dwellings of the poor and in tenement houses, and indicates the need for hospitals for consumptives and sanatoria for obligatory notification of tuberculosis, for disinfection of the dwellings, bedding, clothes, etc., of tubercular patients, and the education of the public as to the best means of protecting one's self from the infection.

Tubercular infection of children by the milk of tuberculous animals has, up to the present time, been accepted as a well-established fact (*vide* Dr. Cornet, "Die Tuberkulose in den Strafenstallen," Zeitschrift fur hygiene, Bd. X. 1891). Of late, less importance has been attached to the infective quality said to be present in the meat of a tuberculous animal, for the bulk of experimental evidence would seem to show that, unless the parts consumed are the seat of tuberculous deposit, infection does not follow. It is acknowledged that contamination may take place in meat during the course of preparation for the market, as well as during its transportation, but the contamination would be from human sources. So, also, the experiments of Aufrecht, Chauveau, Klebs, Parrot, Trappeiner and others show that tuberculosis may be communicated by incorporating with food the expectoration from tuberculous patients.

Prior, therefore, to the deliverance of Koch's London address, it had been demonstrated that food, for instance, milk, may be rendered infective by the introduction of human tubercular sputum; but it must be acknowledged that this was not considered to be the usual source through which tuberculosis could be communicated to man from milk. On the contrary, it was authoritatively stated, all over the scientific world, that the source of tubercular infection was of animal origin, direct from the milk of an infected cow to the child which fed on it, especially when the animal had tubercular disease of the udder. Accepting and strongly endorsing the doctrine that bovine and human tuberculosis are identical, current medical science has taken a position from which it cannot recede without humiliation. To save the human race from "the white plague," many herds of valuable animals have been slaughtered, rigid systems of cattle inspection and regulations for the cattle and meat trades have been enforced on both sides of the Atlantic, particularly in the United States. It has been repeatedly asserted by prominent hygienists in Europe and America that to remove imminent sources of infection to man all tuberculous bovines should be destroyed and the milk of tuberculous cows declared unsalable.

Should Koch's doctrine prove true, all the expensive inspection of cattle and regulation of the meat trade, which have been founded on erroneous views in bacteriology, might be discontinued, as far as the prevention of human tuberculosis is concerned. The fight will be arduous. Before granting a final acceptance to Koch's doctrine, the experimental method will have to be applied. Candidates for inoculation with bovine tuberculosis will probably not be numerous, and the question may long remain unsolved.

A well-known physician of Paris, Dr. Garnault, has written to the *Matin*, announcing that although he is convinced that Professor Koch is wrong in his theory in regard to the non-infection of human beings with animal tuberculosis, he has addressed to Professor Koch a letter in which he offered to undergo the inoculation of bovine tuberculosis. He is forty-one years of age, in perfect health, and has neither wife nor child.

Dr. Monson, of Colorado, has also volunteered to subject himself to the infection of animal tuberculosis.

This is the surest way of testing the soundness of Koch's doctrine. Argument cannot forward the matter, and statistics will not accomplish what experiment alone can do.

There is a commercial side to the question of the infectivity of

tuberculous meat to man, as well as a hygienic one. The American cattle trade has taken high rank in Europe. largely owing to a rigid inspection of export cattle, from the time each animal is purchased in America until it reaches the market in Europe.

Carefully certificated cattle have been sent to Europe and a good price ($92 to $100 per head) has been paid for them. If inspection and the weeding out of degenerate, tuberculous cattle are unnecessary, because, according to Koch, animal tuberculosis is not infective to man, then cheap, low-grade cattle may be exported as well as high-priced, choice ones. Were such a suicidal policy adopted by American cattle exporters, the superiority of American meat in European markets would soon be disputed and denied. Whatever scientific value may attach to Koch's latest view on the non-infectivity of bovine tuberculosis to man, the wisest policy for American cattle exporters is to keep up their standards of cattle inspection. J. J. C.

THE WINNIPEG MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

INTO the list of the "has been" has gone the thirty-fourth annual meeting of the Canadian Medical Association. Unfortunately some of those who planned to be present were prevented by unforeseen circumstances, the writer among the number; our weather predictions were also unfulfilled; but the disturbance of the elements must have added to the scenic effect and given the smart Alec of the crowd a chance to air himself by inquiring, "When shall we . . . meet again, in hail, in lightning or in rain?"

We have button-holed several of the Toronto physicians who were present, and heard from them a graphic and satisfactory account of the meeting, which we have asked them to "put on paper" for THE JOURNAL, but, immediately upon hearing this request, an attack of modesty seized them and they rapidly sank into silence, so the same old office quill has again to do the scribbling, scratching out this time not what we saw, but "what we have heard, with confidence we tell."

Considering the distance Winnipeg is removed from many of the larger cities and towns of Canada, the attendance was very good; 176 registered, with twenty or thirty guests. The Toronto meeting in 1899 was the largest on record with 242 registered. Out of that number, however, ninety-nine were residents of this

city. The thirty-fourth annual meeting was a representative one, members being present from every province except Prince Edward Island, three or four Nova Scotians and three from New Brunswick. The President's opening address and the papers read were exceptionally good; but during the reading of Dr. B. E. McKenzie's paper the great hail-storm arrived and "crippled" the proceedings for fully twenty minutes, upsetting also, in a measure, the arrangements for the reception at the Hospital. The entertainments were numerous and very enjoyable. Every evening dinner parties were given by the hospitable residents of the city; a reception at the Wesley College buildings at which Dr. Drummond gave a couple of his inimitable recitat[illegible]s, reception and garden party at Lower Fort Garry by courtesy of the Commissioner of the Hudson Bay Co. and Mrs. Chipman—going there a distance of twenty miles, by special train from Winnipeg; a champagne luncheon, given by Mr. F. W. Thompson, of the Ogilvie Milling Company (manufacturers of the well-known breakfast foods), and a very interesting tour of inspection of the building, explanatory of the process of converting the wheat from the golden harvest fields of Manitoba into flour; a reception from 5 to 7 o'clock at Government House, graciously tendered by the Lieutenant-Governor and Mrs. MacMillan. The privileges of the Manitoba Club were also accorded the visitors.

Dr. Cullen, of Baltimore, to whom Dr. Chown referred as "a Canadian gone astray," brought himself, his paper and limelight views to the meeting, and his charming bride to grace the social entertainments. Dr. Roddick and his scheme of Dominion registration were there and both met with a unanimous welcome. Dr. Bruce Riordan "blew in" from his famous trip to California along with Dr. Hutchinson, of Montreal, Surgeon-in-Chief to the G.T.R., and Mr. Fitzhugh, of railroad fame; genial Dr. Charles O'Reilly, Superintendent of Toronto General Hospital, and Vice-President of the International Association of Medical Superintendents of Hospitals. Many notable physicians, surgeons and specialists from other cities were present. The Toronto contingent also numbered Drs. J. F. W. Ross, Herbert Bruce, W. H. Pepler, Clarence Starr, F. N. G. Starr, J. S. Hart, Geo. Elliott and others.

Dr. F. N. G. Starr, the painstaking retiring General Secretary, who for eight years has occupied this rather unenviable position, being ever and always ready with facts and figures, and who has been so loyal to the society's best interests, has surely earned a rest

from his assiduous labors. He tendered his resignation immediately upon the opening of the meeting. To his successor, Dr. Geo. Elliott, we tender our congratulations upon being elected to a position (entirely unsought for upon his part) he also is so well qualified to fill. Dr. Elliott's full report of the Winnipeg meeting may be found in this issue of THE JOURNAL.

We all look forward next season to meeting and greeting the new President, Dr. Shepherd, at Montreal. W. A. Y.

OXALURIA.

THE condition known as oxaluria, which is characterized by a persistent excess of oxalate of lime in the urine, is noted among certain dyspeptics, and is now regarded as being due to a disturbed metabolism, particularly of the fats and carbohydrates. Transient oxaluria may follow the ingestion of certain fruits and vegetables. Oxalic acid, as binoxalate and quadroxalate of potassium, is present in sorrel, spinach, and tomatoes; as oxalate of sodium in parsley-piert (alchemilla arvensis); as oxalate of lime, in strawberries, garden rhubarb and asparagus. Consequently in gravel or kidney disease the use of such vegetables or fruits is forbidden on account of the passage into the urine of their oxalic acid as oxalate of lime, an insoluble salt, which may serve as the nucleus of a mulberry calculus, or failing that, will prove irritating to the urinary organs.

Attacks of gastro-duodenal irritation, followed by mucous diarrhea, have been traced by Dr. Baroux (Armentieres, France) to the use at the same meal of tomato-soup or spinach, followed by some food, such as oysters or game, which has been seasoned with lemon juice. Dr. Baroux contends that the oxalic acid present as a salt in the tomato-soup or the spinach is liberated as a free acid by the citric acid of the lemon, and proves irritating to the gastro-duodenal mucous membrane. He cites several cases in support of his opinion.

Watson ("Practice of Medicine") says that persons whose "urine is charged with crystals of oxalate of lime are, for the most part, exceedingly sensitive and irritable, hypochondriacally apprehensive of impending evil, full of gloomy fears concerning their bodily and mental powers, dyspeptic, weak, and usually emaciated." This description, however, must be intended to apply to extreme cases, for in both adults and children slight cases present no symptoms whatever. When the oxalic diathesis is strongly marked Dr.

Prout says that "the skin is apt to assume an unnatural appearance, yellow in the sanguine, to dark olive or livid in the melancholic temperament." This condition of the skin is much more likely to appear in persons subject to oxaluria, if they partake freely of fruits or vegetables which contain oxalic acid. Dr. R. F. Williams (Sajous' "Annual and Analytical Cyclopædia of Practical Medicine") argues that the functional nervous irregularity noticed in patients with oxaluria may or may not be so great as to produce general nervous symptoms, and that if these are present they are not necessarily caused by the oxalates. 2. That the conditions causing the appearance of oxalates in the urine may produce symptoms closely simulating the constitutional symptoms of Bright's disease. 3. The excretion of oxalates by the kidney for a short time may occasion no local disturbance of that organ; but if continued may, by irritation, cause the appearance of albuminuria and casts with lessened urine, corresponding to the urinary symptoms of Bright's disease, and, if unchecked, may lead to permanent disturbance of kidney tissue. He also thinks that in all suspicious cases in which the nephritic symptoms are accompanied by the appearance of oxalates in quantity, diagnosis should be held in abeyance and the oxaluria be overcome by appropriate remedies to exclude this as a possible cause of the symptoms, before making a positive diagnosis and pronouncing a necessarily hope-dispelling prognosis.

A practitioner may be puzzled by the persistent appearance of a small percentage of albumen in the urine of a patient, who does not exhibit any symptoms of Bright's disease; but he may overlook the persistent presence of crystals of oxalate of lime in the patient's urine, or he may be unaware of their presence.

In examining a specimen of urine from a patient who suffers from oxaluria, one remarks that unlike urine of a phosphatic character, it is generally bright and clear, and unlike that containing urates it is remarkably free from sediment.

The octohedral crystals of oxalate of lime, from their transparency and their having nearly the same refractive power, and nearly the same specific gravity with the urine in which they exist, do not frequently disclose themselves to the naked eye nor sink down in manifest deposit. They are made plainly visible by a high power of the microscope, most commonly as minute, regular, highly refractive octohedra, and more rarely as hour-glass, dumb-bell-shaped crystals.

According to Dr. Prout, the formation of oxalate of lime within the body depends either upon the non-assimilation of oxalic acid taken with the food or the mal-assimilation of saccharine aliments. Hence, in addition to the fruits and vegetables already mentioned, sugar and other saccharine substances, as well as all kinds of fermented liquors, should be excluded from the diet of patients who suffer from oxaluria. They should also avoid the use of hard water, which contains a great deal of lime. Such persons should, as a rule, use a diet of meat and the stronger farinaceous foods, and, if a stimulant is required, whiskey and water should be taken instead of beer or wine. De Domenicis says: "In oxaluria, associated with functional disturbances of the stomach, an exclusive meat diet causes this condition to disappear completely. It is probably due to some toxin."

The nitro-hydrochloric acid, which is a powerful oxidizing agent, has been used in the treatment of oxaluria, and it is probable that its generally recognized utility in this condition is due to its power of oxidation. The stronger acid is recommended by Anders in 2-drop doses; but owing to its corrosive action on the teeth a patient should be warned to take it through a glass tube. This acid taken alone, or in a mixture with bitter tonics such as tincture of orange and tincture of nux vomica, answers admirably as "a pick-me-up" (Brunton). In persons of the gouty habit, in whose urine oxalates and urates not unfrequently appear together or in alternation, colchicum assisted by sulphate of magnesia will remove the toxins and dispel, for a time at least, the funereal gloom of oxaluria. J. J. C.

PRESIDENT McKINLEY'S DEATH.

It would be futile to condemn the murderous attack made on Mr. McKinley, President of the United States, at the Pan-American Exhibition, in Buffalo, on the 6th ult. A political assassination does, occasionally, present redeeming features. The assault made by Czolgosz is bereft of any exculpatory significance, and seems to have been actuated by a cruel determination on the part of the murderer to kill the beloved ruler of a free people simply because he was a ruler; to exhibit the dastardly selfishness and inane inconsequence of anarchy, which glories in defying divine and human laws.

Turning aside from the unlovely aspect of a human being

devoted to diabolism, the true men of every land might feel a deep sense of satisfaction in the surgical procedure, which so promptly ensued in the Emergency Hospital of the Pan-American Exhibition. The distinguished victim of anarchistic inhumanity was, almost immediately after the attempt, made the beneficiary of an art which aims at undoing the worst that murderous violence can do. Wounded severely by a malicious creature in the form of a man one who probably had not enough intelligence to understand the mechanism of the weapon he used, President McKinley had the highest resources of surgical skill placed at his service to restore the lacerated tissues into a semblance of their natural continuity, and to prevent, as far as could be, the direful consequences of traumatism and bacterial invasion.

Floreat Medicina! May she ever be, as she is and has been, the truest friend and sweetest solace of outraged, injured, suffering humanity!

Although well planned and skilfully performed, the operation done to save the President's life, unfortunately, proved unavailing. President McKinley expired on the morning of the 14th ult., his death, as revealed at the autopsy, being due to traumatic gangrene. Owing to advancing age and weakness, the wounded tissues of the body failed to respond with the reparative effort required of them —an effort which might have proved too great even for the powers of a younger and stronger man. J. J. C.

EDITORIAL NOTES.

The Census of Canada for 1901.—The decennial census of Canada reveals a population of 5,340,000, a rather meagre showing for so large a territory. It had been expected that the population would reach the 6,000,000 figure, but the wish must have been father to the thought. There has been, it is true, considerable migration from the older provinces to the northern and western parts of the Dominion, causing losses and gains, and something like an exodus to the United States. The Canadian population of the United States is quoted at figures ranging from 1,000,000 to 1,500,000. Emigration to the United States is, therefore, a potent factor in reducing the population of this country, and, unfortunately for Canada, the flower of our people, the young and vigorous, the very life-blood of this country, abandon it for the United States.

There is another explanation offered for our small population, which, if true, places a stigma on a portion of our population, because such gain in population as there is to record is notably greater in the French-Canadian Province of Quebec. This will appear from the following figures:

	Marriages.	Births.	Deaths.
Ontario, 1899	16,514	44,705	28,607
Quebec, 1898	10,788	60,345	31,871

Thus in Ontario in the year 1899 there were:

Births	44,705
Deaths	28,607
Gain	16,098

In Quebec in 1898 there were:

Births	60,345
Deaths	31,871
Gain	28,474
Ontario gain	16,098
Leaving a balance in favor of Quebec of	12,376

It is quite evident, therefore, that, despite the attractions of the United States, Quebec, with a smaller population and a lower marriage rate, can show a greater increase than Ontario. The French-Canadians are not the only people to increase in this sparsely-settled country; but if all Canadian wives were as fruitful as those of the French-Canadian race, the Canadian census of 1901 would not require the deprecatory comment with which it has been received.

Diphtheroid Sore Throat.—In a paper read before the Congress of Learned Societies convened at Nancy, France (April 11th, 1901), Dr. Aimar Raoult described a form of ulcerated tonsil with formation of membrane, which had also been described as "diphtheroid angina with fusiform bacilli" by Vincent (Ann. de l'Institut Pasteur, 15 Aout, 1889). Clinically, he observes that the patients complain of pain on swallowing, inability to work and some fever at night. A greyish-colored false membrane appears generally on one tonsil. If the false membrane is removed, the underlying mucous membrane bleeds and an ulcer forms. Small ulcers also appear on the other tonsil. Both tonsils are swollen and the patient's breath is offensive. The submaxillary glands are enlarged and tender. A varicose condition of the pharynx is observed

in some of the cases. Raoult thinks that these inflammatory phenomena are due to an unhealthy condition of the oral cavity, pyogingivitis being frequently observed in these cases. Bacteriologically, the false membranes are found to contain numerous fusiform bacilli and many spirilla of large dimensions. The treatment consisted in making local applications of tr. iodine to the ulcerated surface and prescribing gargles of chlorate of potassium, etc. The ulceration healed rapidly after the patients had spent a few days in the pure air of the country.

Total Extirpation of the Prostate for Enlargement of that Organ.—A valuable paper has appeared in the *British Medical Journal* (July 20th, 1901), by Dr. P. J. Freyer, of London, Eng., describing his operation for total extirpation of the prostate in cases of enlargement of that organ. After a suprapubic cystotomy the prostate is enucleated in its capsule from the surrounding sheath and then stripped off the urethra, which with its enveloping tissues is left intact. The fibrous bands, which pass between the sheath of the organ and the true capsule, are torn through, but the prostatic plexus of veins and large branches of arteries are left behind, only the smaller vessels passing to and from the prostatic substance through the capsule being severed. It seems to be a much more logical proceeding than the various prostatectomies, which have been described, the hemorrhage being trifling in Freyer's operation in comparison with the profuse bleeding that sometimes occurs in a prostatectomy, when the prominent parts of the bladder are cut, or torn off by forceps, the large veins and arteries being thus opened up. Four cases are reported, all of which recovered with good expulsive power. The specimens all proved to be adenomata. Should Freyer's operative success be confirmed by that of others, this operation may be considered a great advance in the surgical art.

Tubercular Meningitis in the Adult.—Cases of tubercular meningitis are occasionally noted in adults, and the diagnosis of this disease would be more frequent if a bacteriological examination of the spinal fluid were made in suspected cases. Dr. Souques reported to the Academy of Medicine, Paris, July 2nd, the case of a man twenty-nine years of age, who had suffered from two separate attacks of right hemiplegia. This patient had nursed his wife, who died of pulmonary consumption, and had suffered from a left, chronic rhinitis. An examination of his spinal fluid obtained by lumbar puncture revealed a tubercular meningitis. Guinea-pigs

inoculated with this spinal fluid developed tuberculosis. The patient died, but the pathological condition could not be verified as an autopsy was not obtained. Dr. Bourcy observed a case of tubercular meningitis commencing with sudden delirium, assuming very much the appearance of delirium tremens. An examination of the spinal fluid enabled him to make an accurate diagnosis. Other cases of tubercular meningitis in the adult were mentioned by Dr. Faisans.

Room for Discoveries in Medicine.—Although medical science advances so rapidly that Dorland has introduced into the second edition of his illustrated medical dictionary (A.D. 1901) 100 new, important terms, which have appeared in medical literature during the past few months, still there is ample room for discovery in medicine. In his presidential address to the Society of French-speaking alienists and neurologists who met at Limoges France, August 1st, 1901, Dr. Gilbert-Ballet instances certain discoveries which would be welcomed. Thus: "Are there not in the cerebral cortex entire territories, the functions of which we are quite ignorant of? And are we fully informed as to the connections and offices of the central ganglia and of all the parts of the pons varolii? Do we know by what intimate mechanism a centripetal current is changed in the neurons into a centrifugal one, and is not that phenomenon the most elementary, and consequently, the most general of the nervous system?"

Acetic Acid as an Antidote to Carbolic Acid.—We notice in the *Indian Lancet*, of Calcutta, an article by Hospital Assistant Dhurni Dur, Dispensary Dig, Bharatpur State, Rajputana, in which the writer mentions the beneficial effects of an application of diluted acetic acid to burns caused by carbolic acid. He says: "Afterwards I painted four layers of strong carbolic acid on the back of my hand and applied a piece of cotton wool soaked in dilute acetic acid to see the result. In three minutes the burning pain disappeared, while in forty-five minutes the white mark also disappeared, leaving only a little redness behind." He thinks it might be of use when carbolic acid is drunk in mistake. Equally beneficial results in burns from carbolic acid have been obtained by Dr. Seneca Powell, of New York, from the local application of strong alcohol.

Dr. Manley, President of the New York County Medico-Pharmaceutical League.—We have received a copy of the *Journal*

of the New York County Medico-Pharmaceutical League, which is the first New York journal owned by a medical society and the only medico-pharmaceutical periodical in existence. We notice with pleasure that our esteemed collaborator, Dr. Thos. H. Manley, is President of the League. His name is also mentioned as a most eligible candidate for Chairman at the next election of the Academy of Medicine (New York). Dr. Manley has won glory and merits it. Should he attain a high position we feel persuaded that he will use the influence incidental to his office with wisdom and discretion.

DR. HARLEY SMITH, Spadina Avenue, has been appointed Italian Consul for the city of Toronto.

AMONG the city physicians who are riding to hounds this season are Drs. D. K. Smith and W. A. Young.

DR. GEO. ELLIOTT has resigned the position of Assistant Secretary to the Ontario Medical Association.

DRS. D. C. Meyers and G. A. Peters are two of the city medicos who have taken up polo as a Fall recreation.

DRS. Gilbert Gordon and J. S. Hart, of this city, returned two weeks ago from Winnipeg and the West.

DR. S. H. WESTMAN, of Spadina Avenue, was married on September 17th to Miss E. May Pugsley, of Toronto.

H. B. ANDERSON, M.D., L.R.C.P. (LOND.), M.R.C.S. (ENG.), begs to announce that he has removed to 34 Carlton Street, Toronto.

DR. A. T. STANTON, late house surgeon of the Toronto General Hospital, has been appointed surgeon on the C.P.R. steamer *Empress of China*, plying between Vancouver and Hong Kong.

DR. S. M. HAY, of Toronto, and Dr. A. H. Perfect, of West Toronto Junction, spent the last two weeks in June at Johns Hopkins Hospital, Baltimore. They were the guests of Dr. T. Cullen while there and greatly enjoyed their visit.

DR. SHEARD, Toronto's able Medical Health Officer, when recently commenting upon the question of vaccine lymph, said: "We now use dry vaccine on ivory points, obtained from Dr. Stewart's farm at Palmerston. Last year we had over 8,000 vaccinations, and from 96 per cent. to 98 per cent. of these were successful."

The Physician's Library.

BOOK REVIEWS.

A Treatise on Orthopedic Surgery. By ROYAL WHITMAN, M.D., Instructor in Orthopedic Surgery and Chief of the Orthopedic Department of the Vanderbilt Clinic in the College of Physicians and Surgeons of Columbia University; Adjunct Professor of Orthopedic Surgery in the New York Polyclinic: Assistant Surgeon and Chief of Clinic at the Hospital for Ruptured and Crippled; Orthopedic Surgeon to the Hospital of St. John's Guild; Member of the Royal College of Surgeons of England; Member and sometime President of the American Orthopedic Association; Corresponding Member of the British Orthopedic Society; Member of the New York Surgical Society, etc. Illustrated with 447 engravings. Philadelphia and New York: Lea Brothers & Co. 1901.

A careful examination of this volume will give the reader an excellent view of the scope of modern orthopedic surgery. In the variety of subjects dealt with it is perhaps more complete than any other work on orthopedics. The author has not encroached upon other fields, but, devoting himself to a discussion of those diseases and deformities which his experience as a specialist have shown him come within the boundaries of orthopedic surgery, he incidentally reveals how wide these boundaries have become and what marvellous advances have been made within the comparatively short time which has elapsed since this field was transferred from the surgical machinist to the trained surgeon.

As might be expected, a large part of the book is devoted to tubercular disease of bones and joints. The various phases of this vastly important subject are well presented, and it may be said that the author successfully avoids extremes, and that on the whole his practice represents the best modern experience in this branch of orthopedic surgery. An unfortunate oversight in this part of the book is that the *general* treatment of patients suffering from tuberculosis of bones and joints is scarcely referred to. At the present day, when fresh air, sunshine, good food, and other measures for general invigoration and increase of resisting power have assumed such deserved prominence in the treatment of tuberculous conditions, one would expect that these matters would receive emphasis instead of being almost wholly neglected.

In connection with lateral curvature of the spine, the illustration appearing on page 179 is far from convincing. The patient should have been photographed in the Adams' position.

Those who appreciate brevity will be pleased to find a number of chapters in which the chief points of subjects of relatively minor importance are pleasingly presented in condensed form. Chapters 2, 6, 10 and 13 may be especially mentioned in this connection.

In chapter 19 will be found a very satisfactory, though brief, discussion of congenital and acquired torticollis.

It is quite evident that the author's experience tallies with that of many others in regard to the usefulness of massage. for its value in a variety of conditions is frequently referred to.

We are glad to find the author taking strong ground in regard to the necessity of more or less constant supervision of patients suffering from disabilities and deformities resulting from paralysis and diseases of the nervous system. Because such cases cannot be "cured" in the sense of perfect restoration to the normal condition they are too often considered beyond help and are entirely neglected. Speaking of such cases, Dr. Whitman says (p.458): "Careful supervision of the patient, even though the weakness is not great, will be necessary during the period of growth. The contrast between the development and symmetry, the muscular power and practical utility of a limb that has received this care and supervision, and one that has been neglected, is sufficiently striking to impress one with the necessity for this tedious and apparently never-ending treatment."

Knowing the particular interest taken by the author in the weak foot (flat-foot), one naturally turns to the chapter on this subject expecting it to be one of the most satisfactory in the book. This expectation is somewhat disappointed. Practically all authors, in writing of the foot, leave the reader in painful uncertainty as to the exact sense in which they use such terms as adduction, abduction, pronation, supination, varus, valgus, inversion, eversion, etc.; but in the volume under review some of these terms are employed in such a way as to be more than ordinarily distracting. The attempt to make the terms used to describe distinct elements of deformity synonymous, because these elements usually exist in combination, cannot fail to create confusion. It is evident that even the author has some misgivings as to the clearness of his definition of some of these terms, for after various explanations of their significance he introduces on page 516 the following explanatory foot-note: "As abduction and supination, and adduction and pronation are always combined, one term is used to signify the movement inward or outward; thus, supination means adduction, adduction implies pronation. A fixed attitude of adduction and supination is called varus, a fixed attitude of abduction and pronation is called valgus. Varus and valgus signify, therefore, deformity. Thus the term valgus, although it may be properly applied to designate the deformity of weak foot, is usually

reserved for the more extreme distortion of talipes." Even this foot-note is hardly remarkable for perspicuity, however.

Further, the author would have done himself greater justice in this chapter by exercising more care at times in describing the mechanics of the human machine. For example, on page 495 we find the following: "The second function of the foot is as a lever to raise and propel the body. The calf muscles supply the power and the heads of the metatarsal bones serve as the fulcrum on which the weight is to be lifted."

It is not true that the heads of the metatarsal bones serve as a fulcrum. They form one extremity of the lever, the fulcrum being the ground. The fulcrum is no part of the lever; it is something outside of it. This same error occurs in different form on pages 502 and 521.

It must be admitted, however, that even if some looseness and confusion and a few contradictions have crept into the author's discussion of the weak foot, his directions as to its treatment are beyond question the most complete and satisfactory to be found in any text-book. It may be truthfully said that "Whitman's Orthopedic Surgery" is a valuable addition to the library of the specialist as well as that of the general practitioner. Of 447 illustrations the vast majority are original. The publishers have executed their work admirably. H. P. H. G.

Matière Médicale Zoologique. Histoire des Drogues d'Origine Animale. Par H. BEAUREGARD, Professeur a l'École Supérieure de Pharmacie de Paris, Ancien Assistant de la Chaire d'Anatomie Comparée, au Muséum d'Histoire Naturelle Membre de la Societé de Biologie. Revisé par M. COUTIERE, Professeur Agrégé chargé de Cours a l'École de Pharmacie. Avec préface de M. D'ARSONVAL, Professeur au College de France, Membre de l'Institut. Paris: Ancienne Librairie G. Carre et C. Naud. C. Naud, Éditeur, 3 Rue Racine. 1901.

This book is admirably fitted to give clear ideas on the zoology of the materia medica: but in looking it over one is forcibly reminded of the truth of the old adage, "Times change, and we change with them." To illustrate: The leech, now so little used, was, during the first half of the nineteenth century, very extensively employed in medical practice. A physician and a leech were synonymous words, and the art of medicine was known as leechcraft.

Dr. Beauregard tells us that in France, during 1820, 183,000 leeches were purchased for use by the central pharmacy of the hospitals; in 1834, 1,030,000, and in 1837, 1,037,000. In 1874 the number purchased fell to 49,000, and at the present time only a few hundreds are purchased.

Of course Dr. Sangrado is now very seldom seen, and, if vivisection is ordered, wet cups are equally effective, and much more cleanly than leeches Then, owing to the fact that leeches can be made to disgorge and afterwards do duty on another patient, it is

thought that they may occasionally have helped to propagate contagious diseases, especially when one remembers the important parts played by mosquitoes and bed-bugs in propagating malarial fevers, and by rats in extending the contagion of plague.

A considerable change in surgical practice is the use of sponges made of absorbent cotton, enclosed in gauze, and rendered aseptic by boiling, in place of the time-honored surgical sponges. Even the sponge-tent is no longer looked on with favor.

It makes one smile to think, that formerly burnt sponge was used in order to obtain the therapeutic effects of iodine in diseases such as goitre and scrofula. Sponges were heated in closed vessels until they assumed a brown tint, the heating being done carefully so as not to volatilize the contained iodine.

The article on the sperm whale is well written and beautifully illustrated.

The same remark applies to the article on cantharides, the illustrations by Prieur and Dubois, Puteaux, being faithful reproductions of the natural insect.

The article on the beaver will be interesting to Canadians—Beaver in English, in Latin Fiber, in German Biber, in old French Bièvre; hence the name of the stream which runs through the southern part of Paris, the banks of which were formerly inhabited by beavers. Therapeutically, however, castoreum has ceased to be of any interest, and it has been omitted in the last two editions of the British Pharmacopeia (1885 and 1898). Students who wish to have accurate ideas of the anatomical structure of organs, or parts of the animal structure mentioned in works on materia medica, viz., spermaceti, ol. morrhuæ, moschus, etc., would do well to procure this book. It ought to be translated into English. J. J. C.

Operative Surgery. By JOSEPH D. BRYANT, Professor of the Principles and Practice of Surgery, Operative and Clinical, University and Bellevue Hospital Medical College, etc., etc. Vol. II. Operations on Mouth, Nose, and Esophagus; the Viscera connected with the Peritoneum, the Thorax and Neck, Scrotum and Penis, and miscellaneous operations. With 827 illustrations, of which 40 are colored. New York: D. Appleton & Co. Canadian agents: The George N. Morang Co., Limited, Toronto.

Chapter XIII. of Volume II. is devoted to operations on the mouth, pharynx, nose and esophagus and should prove invaluable not only to the specialist, but also to the general surgeon who dabbles in work of this kind.

The next chapter, devoted to operations on viscera connected with the peritoneum, is comprehensive, carefully written, and up-to-date. It covers abdominal surgery in all its branches, and will prove instructive reading to anyone engaged in this line of work.

Operations on the anus and rectum are dealt with in chapter XV. In this chapter we are pleased to notice a full description

of Peters' method of dealing with procidentia recti. This is undoubtedly one of the best, if not the best, method yet described, for it practically makes recurrence anatomically impossible. Operations on the thorax include excision of the breast, thoracentesis, thoracotomy, aspiration, thoracoplasty, operations for necrosis, wounds and hernia of the diaphragm, lung surgery, etc.

The next chapter deals with operations on the neck. Chapters XVII and XVIII. deal with operations on the bladder and on the scrotum and penis respectively, while under the heading, "Miscellaneous Operations,' we find described psoas abscess, suture of the patella, rupture of the tendon of the quadriceps extensor, suture of the olecranon, the union of fractured bones, movable bodies in joints, frontal sinus, etc., and operations on the cervical sympathetic

After a perusal of the book one cannot but congratulate the author on his work. The book-making, too, is like all of the D. Appleton & Co., excellent. F. N. G. S.

The American Illustrated Medical Dictionary. A new and complete dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, with their pronunciation, derivation and definition, including much collateral information of an encyclopedic character. By W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital; author of the American Pocket Medical Dictionary; Fellow of American Academy of Medicine. Together with new and elaborate titles of arteries, muscles, nerves, veins, etc.; of bacilli, bacteria, diplococci, micrococci, streptococci, ptomains, and leukomains, weights and measures: eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc. Second edition revised. Philadelphia and London: W. B. Saunders & Co. Canadian agents: J. A. Carveth & Co., Toronto, Ont. Price $4.50 net. 1901.

We are indebted to the publishers for a copy of this very handsome and decidedly useful book. The author has evidently decided from experience that a students' medical dictionary is not just what the practitioner wants, and that a lexicon of encyclopedic proportions is rather too large for office use. The fact that a second edition has been promptly called for shows that Dorland's Medical Dictionary is approved of by the profession. Important new terms that have appeared in recent medical literature have been included in the present work. The illustrations showing the distribution of the nerves are very graphic. The typography is excellent. The book is bound in limp covers, and will be found to be a very handy and instructive desk companion. J. J. C.