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*Editor*

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## THE SURGICAL RIGHTS OF THE PUBLIC.\*

By JOHN C. MUNRO, M.D., Boston.  
Surgeon-in-Chief, Carney Hospital.

I N accepting the courteous invitation to address your Association to-day, I realize deeply the compliment that you bestow not only upon myself, but upon the great number of American surgeons that are your friends and neighbors. A political boundary divides your people and my people, but in our profession there is no dividing line, for the medical and surgical property of one people is, or ought to be, that of the other. The customs and the methods of education of the Canadian differ in minor details from those of my own countrymen, but there are grievances, slight wrongs, and evil tendencies that crop up equally in both our peoples, and it is to call your attention to and to enlist your sympathy in some of these that I venture to express the results of observation extending over a period of twenty years.

While listening some time ago to an interesting address by Prof. Muller of Munich, on the German system of insurance of the laboring classes against sickness and death, I was impressed by the fact that the insurance was established not as a charity, but because the poor have the right to be protected against the various accidents and illness incident to our complex modern life. At that time it occurred to me that against unnecessary suffering, disease and death the public, both rich and poor, has an equal right to be protected by means other than that of insurance. In other words, if modern surgery can lengthen life, can protect against malignancy, can nullify suffering better than can be accomplished by other therapeutic measures, the public has the right to know accurately when and to what extent this is possible.

It is not assumed for an instant that protection and alleviation in the case of many diseases cannot be obtained by means that are not surgical. We have merely to witness the results of vaccination, serum inoculation in diphtheria, and a host of similar remedies. As a matter of fact, it is interesting to note that the public has practically asserted its right to be protected against smallpox, diphtheria, malaria, yellow fever and other well-known diseases.

During the extraordinary surgical advances that have been made in the last decade our profession has been so busily engrossed in grasping the new developments that come crowding one upon another that it has

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\* Read at the meeting of the Canadian Medical Association, Ottawa, 10th June, 1908.

rather lost sight of the poor public and its right to a share in the general progress. We have been inclined to let the people discover for themselves the immense amount of time, money and suffering that can be saved to them, and yet we are in the position of placing before them a host of well-established facts on which we base our advice as regards surgical treatment. More and more have surgery and medicine grown to be scientific and accurate. To a greater and greater extent can surgeons promise definite results. The changes in technique and operative principles that are constantly taking place lead steadily to better results because they tend ever to greater simplicity.

Is it not a good time to stop and view ourselves from the standpoint of the lay public—a public that in the main is intelligent, progressive and full of common sense?

However much we may deplore the fact that surgery is necessary, that it may be an opprobrium—which I doubt very much—we must be willing to admit that, given ideal conditions, enormous temporary and permanent benefit can in numerous instances be vouchsafed by operations, and by operations alone. Surgery has its own field. It readily yields to other and simpler therapeutic measures when satisfied that it itself is without avail. At the same time it is keenly alert to invade the vast field of internal medicine when the latter fails to accomplish the ideal; ready to retire at once if some new discovery demonstrates that disease can be conquered by means other than surgical. What surgeon is there who would not gladly throw down the knife if a serum or any simple remedy were discovered that would definitely cure malignant disease? Some such remedy is bound to come in the course of time; slowly, it may be, but none the less surely. In the meantime innumerable types of disease are safely and happily treated by the mechanics of surgery, and it ill becomes us as surgeons to belittle the aid that we can give, for the mere reason that at some future time surgery may become obsolete.

Every year I am told that we have attained the highest limit in technique. This is far from the truth, because hardly a week passes without a surgeon somewhere in the world demonstrating a discovery or reviving some long-forgotten fact that reduces mortality, shortens convalescence, or aids in the restoration of normal functions.

It should be made clear at the outset that the public must expect of surgeons not absolute efficiency, but a reasonable degree of it. Such a degree can be acquired by any surgeon who has aptitude, a love for constant self-improvement, and a readiness to make sacrifices to his ideals. Of this type there are many in your country as well as mine. The masters of surgery, on the other hand, are few in number. It is to them that we of the rank and file must look for the instruction and inspiration which should constitute a large and by no means unimportant part of their work.

It is only a relatively small proportion of the people that can have the direct benefit of their skill. To their teachings the medical as well as the surgical practitioner must listen, and in the light of the accomplishments of the advanced surgical clinics of the world it is not an exaggeration to assert that diagnosis, especially of abdominal and cerebral diseases, are more accurately made by the surgeon or by his medical confrere who follows his own cases to the operating table than by the internist who limits his observations to laboratory, personal and post-mortem examinations. The failure of the public to realize this fact accounts in great measure for the many sometime curable diseases that are brought to the surgeon after they have reached the incurable stage. The co-operation of the internist and the surgeon in all cases potentially surgical is something that can be demanded inconsistently by the people. Each one is a healthy check on the other; their combined judgment is the safest for the patient.

With the emergency operations and the problems suddenly forced upon the doctor far from surgical centres this paper has nothing to do. Every surgeon admires and respects the men who meet the difficult problems of this kind, alone, ingeniously and fearlessly. The history of medicine is full of heroes of this class, and no one has greater appreciation of their work than the active surgeon in the large city.

I would deal here rather with the question of elective major surgery as attempted in our large and small surgical centres by men without surgical skill or training, by amateurs, and by the nondescript commercial type of doctor that operates for the fee and not for the benefit of the patient.

The internist and the family doctor, assuming that he is a general practitioner, cannot keep pace with the constant advance made along surgical lines. It is physically impossible for him to keep in touch with the best surgical literature and progress. If, therefore, a patient comes for advice concerning a disease that theoretically or practically can be classed as surgical, the patient has a right to the opinion of a practical surgeon for or against intervention. This applies not only to the commoner diseases, like gall-stones, appendicitis, cancer, etc., but to the less common border-line diseases in which both medical and surgical treatment is of value. The internist, prejudiced at the start against surgery or slow to follow the best advances in the world's clinics, may presume to decide a question that is or ought to be purely surgical. Such a decision may be as much beyond his province as it would be were a surgeon to attempt to decide as to the nature of an anaemia without a blood examination. This breach of faith with the public—for it can hardly be called anything else—is in my experience one of the most common factors that leads eventually to incomplete operative success.

The public, slow to grasp the full significance of such conditions, is, nevertheless, gradually awakening to its rights in this respect.

The remedy is simple. No doctor need be so narrow or prejudiced that he cannot seek counsel in doubtful cases. To ask for surgical advice does not imply any necessity for accepting its verdict. That lies with the patient. Let him be given the facts according to the best modern lights, and the decision will rest with him whether to accept an operative risk or not.

Worse than this is the hesitation, narrowness or ignorance—call it what you will—that allows the internist to deal with a surgical lesion until forced to advise surgery, not as a preventive or as a curative measure, but as a last resort. Every experienced surgeon will agree with me that with all his so-called boldness in operating he has never had the courage to assume the responsibilities endangering the lives of his patients that the indifferent or ignorant practitioner assumes at times in advising against surgical intervention or in withholding operative relief. The surgeon with his knife in the presence of appendicitis, gall-stones, cancer of the stomach or intestines, empyema and a host of similar diseases is the embodiment of conservatism when compared with the practitioner who elects to treat such diseases medically.

After a patient has decided upon operative treatment he has the right to demand, first of all, asepsis, proper anæsthesia and intelligent after-care. He should realize, however, that, although absolute asepsis is the ideal to which all surgeons aspire, practical asepsis alone can be guaranteed in the light of our knowledge at the present time. We should teach the public that the highest degree of asepsis is best attained by permanent corps of surgical workers trained under responsible heads; that a properly equipped hospital with such trained assistants entails less risk to the patient than the haphazard equipment of the private house or the irresponsible regime of many of the private hospitals which are open indiscriminately to operators, each with his own methods of operative technique.

I think it can be safely said, indeed, that a morning's work at a private hospital, with its multifarious and changing authorities, is rarely carried through without many lapses in asepsis, for the most part harmless, but occasionally calamitous in result.

Breaks in asepsis are the result of some sin of omission or commission on the part of the operating staff, including the surgeon, his assistants and operation nurses. Too often is the blame for septic calamities ascribed to the sponges, the suture material or the dressings. That any one of these may be at fault is possible, but in the well-conducted operating room proper examinations and control of the material should prevent such accidents save in very rare instances. Too many times have I seen

a sterile catgut blamed for the result of a slovenly, dirty surgeon or assistant. So long as surgery is an art and not a mechanical trade lapses in asepsis are occasionally bound to occur, even in the best clinics, in spite of all reasonable precautions. The important point for the surgeon, and for the public as well, is to recognize and make use of the means best fitted to reduce these chances to a minimum. We must all recognize that there is some risk attending any and every operation; a risk that often is so small that it may be practically disregarded.

Under the immeasurably diverse conditions of heritage, environment and physical and mental defects, it is out of the question to allow for every possible accident, and this fact the patient as well as the surgeon must recognize where an operation is undertaken. Provided the surgeon uses precautions that are reasonable in the light of modern scientific knowledge, he can be assured that he has done all that should be expected of him. The patient, on his side, must be willing to take certain chances provided the result sought by operation is going to lessen the sufferings and dangers that are inherent in the existing lesion or disease.

The public should realize that the dangers, immediate and remote, from anæsthesia are very small. Such dangers do exist, however, and it is the surgeon's duty to minimize them in every possible way. A skilled anæsthetist, preferably a permanent member of the surgical corps, will cause far less damage than the student or the friendly family practitioner who etherizes occasionally, and who is more interested in the operation than in giving the anæsthetic. In my own experience the worst and most dangerous etherizers are the unskilled pupil house officers. To the credit of certain individuals of this class, however, it must be said that after a month's training some of them develop into first-class anæsthetists, generally at about the time they are ready to graduate to a higher grade. These show their ability early and exhibit, as it were, an inborn talent in this line; others never learn to be satisfactory etherizers, no matter what or how long their experience.

Another class that rivals the student in dangerous etherizing is the graduate with long experience in general practice. He rarely gives ether safely or in a way that aids the operator. His experience has been won mainly at the bedside of the lying-in patient, and in anæsthetizing a patient for a major surgical operation he applies methods similar to those which he uses in his obstetrical work.

An unskilled etherizer will make certain of the difficult operations impossible, he will prolong beyond safety an operation that should be short, and he will increase in any case the chances of a post-operative pneumonia. These facts are not generally known by the laity, but that does not warrant neglect on the surgeon's part in this particular.

The public has just as much right to demand a skilled anæsthetist as to demand a skilled surgeon.

Much the same could be said of the unskilled assistant, the ever-changing house surgeon, and the general practitioner who assists in major operations at rare intervals. It is difficult for the latter to realize the essential points in aseptic technique; not being accustomed to the ways of the surgeon, he modestly hesitates to give what assistance he would like to give, and often, being ignorant of the consecutive steps of an operation, he delays and hampers the surgeon to a degree that he little realizes. I believe that every surgeon who has had much experience in this line will confess that in not a few cases he has been obliged to substitute a partial or less difficult operation because he was unwilling to expose his patient to the added risks that would come with the unskilled helper.

As soon as the public appreciates that the after-care of major surgical cases, especially of those in which the abdomen has been opened, is just as important as the operation itself, it will insist that the immediate convalescence be guided by the surgeon himself or his capable assistant. To operate from choice in a serious case far away in the country, placing the responsibility of the after-care upon the family doctor, who at the same time is in charge of patients with all types of disease, is unjust to the doctor and to the patient, and it leaves a loophole for divided responsibility in case of calamity.

No surgeon can safely outline the treatment of any abdominal case if he allows for the innumerable contingencies that he knows to be possible. If every patient passed through the stage of convalescence in a routine way the problem would be easy, but, as a matter of fact, such is far from the truth.

Another demand that the public can and should insist upon with the surgeon that is attached to a public hospital is that any and every major operation, especially if it involves the abdomen, should be performed by the surgeon himself or under his direct supervision. He is appointed to the hospital staff presumably for his surgical fitness. His position presupposes long training in anatomy, pathology and assistance at surgical operations. The public seeks the services of a hospital because of the skill of its staff, and it has the right to demand that the full responsibility of all major operations should be taken directly by the staff. In order to attract students, to become popular, or to shirk labor, the surgeons of many hospitals delegate more or less operative work to immature and irresponsible house pupils; because of this the public suffers. Many times have I seen a young, inexperienced house surgeon struggling with some difficult problem at the operating table, a problem that has arisen suddenly and unexpectedly, and I have wondered if the complacent sur-



geon who has deserted his post would be willing to subject one of his own family to this amateur surgery. Much in the way of minor surgery can be properly delegated to one's assistants, but to place the responsibility that attends major operations upon a young surgeon with the experience of a few months is fundamentally wrong, while occasionally it is criminal.

Granting the fact that a hospital staff is or should be selected because of its capability, both collectively and individually, it behooves those of us who are responsible for the selection of our co-workers to be both catholic and discriminating in our choosings. We must acknowledge that it is through the work and enthusiasm of the individual that surgical progress is maintained, and if we are to exact the respect of the public for our hospitals each individual member of the staff must in some one or more respects live up to the highest surgical standard, while at the same time his general qualifications are those of the broad general surgeon. This significance of the individual was aptly expressed as follows at a dinner recently given to Cardinal Logue: "The potency of the individual is greater and nobler than the influence of class, or organization, or even institution." To no type of man does this apply better than to the surgeon of our large hospital. How frequently do we see the progress and advancement of the entire institution dependent on the activity, breadth and scientific enthusiasm of a few, often against or in spite of the narrow oppositor of the many.

To some extent the criticism as regards the house pupils pertains to the amateur surgeon who operates now and then for the excitement or for the fee, without pretending to be reasonably skilled in technique or reasonably posted in surgical progress. The smaller hospitals that are luxuriantly cropping up throughout the country are in this respect not only capable of doing much harm, but they are actually guilty thereof. The large and promiscuous staffs in control of these hospitals always include a few ambitious men eager to attempt surgery beyond their ability. The term of service of the staff constantly shifting, allows but a limited experience to any one member, and divides the interest and responsibility of the staff as a whole. It would be far better, as I pointed out some years ago, if such a hospital should select two of its younger members to train themselves for the necessary surgical work by acquiring thorough anatomical, pathological and technical foundations, and should compel them to keep in line with modern surgical advance year in and year out. Two well-trained men of this sort should be able to take proper care of the surgery of a large district, and take care of it well, whereas at present much of the work is badly done by innumerable half-trained general practitioners, who, while doing the best that they can, are not giving the public what it has the right to demand.

This would also do away to a great extent with the present system of calling upon the consulting surgeon from the large centres, who only too often operates hurriedly and on insufficient examination and knowledge of the patient, because he relies upon the data furnished by the family physician. In other words, too many major operations are done under these circumstances without satisfactory study of the patient and his disease, and the after-care is delegated to practitioners without the surgical training and experience that the public can justly demand. This system trains the consulting surgeon into hasty and snap diagnoses, and he necessarily gambles now and then on the chances that he can pull out of a difficult situation if he happens to be caught. But what of the patient under these circumstances? He rarely loses his life, to be sure, but I believe that any experienced surgeon will agree with me that at times an operation is not complete or satisfactory, or that a secondary operation is required later, because of the insufficient data, the inadequate assistance, or the imperfect operating-room equipment.

That the small hospital is invaluable to the town in which it is situated no one can deny, but, under the conditions under which most of these hospitals are conducted at the present time, that such an institution should undertake, except in case of necessity, the serious surgical problems, I believe to be ill-judged at least. It is only a question of time before surgeons will demand that no doctor assume the responsibilities of major surgery without required special courses of training and apprenticeship. If surgeons do not demand it the public will.

Furthermore, a patient who supports himself and his family by his daily wage should insist that he be kept in the hospital for as short a time as possible consistent with good surgery. He should not be allowed to lie around the ward waiting for the surgeon, engrossed in outside affairs or indifferent to his responsibilities, to make up his mind to operate. Neither should he be kept for an undue length of time for the purpose of teaching students. In the large clinics a decision for or against operation can be made within forty-eight hours in most cases. The necessity imposed upon the surgeon of earning his living away from his charity clinic is responsible for much of this form of neglect, and the blame, therefore, really rests on the public itself, badly educated in such matters and encouraged by indifferent profession.

Could our hospital trustees but see the wisdom of encouraging the surgeon to earn his living in the same building in which he devotes so much time to the pauper sick, both classes of patients would be benefited. This fact is so obvious to anyone who has carefully considered the subject that it is necessary to enlarge upon it here.

The public has certain rights in the question of surgical fees. The surgeon has equal rights, but he seldom obtains them. To take up the

abuse of medical charity would lead me too far from my subject; that such an abuse exists, especially in the eastern part of the States, is too flagrantly evident to need any confirmation here. To some extent the existence of this abuse is responsible for the overcharges to which surgeons are occasionally driven. All patients except paupers and some wage-earners should be compelled to pay a fee for medical and surgical care commensurate with their earning capacity, just as they are obliged to pay for their provisions, their luxuries or their dissipations. The wealthy should pay liberally for major operations; they should not be robbed. The self-respecting wage-earner, whether on daily wages, a salary or in independent business should not be treated as a pauper. He should be compelled to pay some fee in proportion to his earnings, the number dependent on his income, etc. The public has abused over and over again the medical charity that flourishes to such a degree in our large cities. May it not be because of this abuse that the struggling surgeon is guilty at times of squeezing all that he can from his wealthy client? Our practices need reforming without doubt, but the abuse in this respect is infinitely less than that practised by the public which is competent to pay.

That surgeons divide fees with the family doctor bringing them surgical cases is a well-recognized evil. Fortunately it exists to a much smaller extent in the East than in the West. That it is fundamentally wrong and pernicious goes without saying. It is based on commercialism alone. As soon as the public realizes that it is deliberately sold by its family doctor—in whom it has full confidence—to the surgeon that allows the largest graft, and that it is not sent to the surgeon best equipped for taking charge of the case, the public itself will stop the practice at once and emphatically. It seems inconsistent with American character that a patient should be bartered voluntarily.

To enter upon the relation of animal experimentation as applied to the development of surgery is very tempting. Its bearing on the principles of surgery and on surgical technique is of tremendous import, so far as the great mass of the people is concerned. The latter has learned to trust in the unselfish honesty of the medical profession, and the responsibility is far more serious than the anti-vivisectionists can realize if humane surgical advance is checked by the indiscriminating and narrow bigotry of ignorant partisans. I believe that if a deliberate and thoughtful expression of views of the practical surgeons of the world were taken to-day an overwhelming majority would gratefully acknowledge its obligations to animal experimentation, as instanced in the daily relief of suffering and prevention of disease. It is almost pathetically comical that we should be confronted time and again by the ignorant and probably thoughtless views of two defunct and famous surgeons upon this subject. Both men lived at the very dawn of modern scientific surgery; neither

was young enough to grasp the significance of the new surgical discoveries, while each one had been a too-dominating power in certain narrow lines if surgical advance to be willing to accept the broader teachings of others. One directed his genius to mechanical problems; the other demonstrated advancement by means of human experimentation, all of which had to be worked out at a later period by laborious scientific research. The thoughtless and possibly hasty views of these men have been hurled at the thousands of modern surgeons by the opponents of animal experimentation, but I am confident that if Bigelow and Tait were alive to-day their dominating geniuses and grasp of the truth would enrol them as most enthusiastic and powerful allies in the struggle against the anti-vivisectionists. The layman, as a potential surgical patient, is more keenly interested in this controversy than he realizes. When the surgical thunderbolt strikes him or his family he wants and demands as his right the use of every nicety that will diminish risk and lead to recovery. I know, and you know as practical surgeons, that we daily use the results of laboratory research, and that if we were deprived of all that has been handed down to us as a result of animal experimentation our surgery would lapse back to a degree frightful to contemplate. This is the side that the layman must seriously consider when he is urged to oppose the profession that has always worked and struggled on behalf of suffering mankind, and that will fight for the principle of animal experimentation because it knows it is just, humane and merciful.

There is one more protest that may be made in behalf of the public. We hear much loose talk about the direful nervous shock that follows operation, and the public is well trained to expect a long and tedious convalescence on that score. With certain ill-balanced, badly-trained people this may be the case, especially if the patients are cared for by over-fussy or unscrupulous physicians, but as a general rule in my experience the post-operative effects are grossly exaggerated. Most patients can be trained out of such calamities as easily as they can be trained into them. With all the traumatic neuroses that have cropped up since suits for personal damages have become so frequent, it is incumbent on our profession to avoid augmenting this class of patients by ill-timed and ill-judged encouragement. In my own experience the patients that suffer most from post-operative neuroses are those that were allowed to become septic by culpable delay in submitting to operation. The bad results can be traced to the sepsis and not to the operation. The contrast is so marked in what might be termed control operations in non-septic cases that one who has observed it readily recognizes the difference. When we consider that a generation ago most operations and accidents were serious because of the septic complications it is not difficult to understand why the laity at the present time has such a dread of anything

associated with surgery. It can be stated conservatively that the lay public is about a generation behind in its realization of the advances accomplished in the science and art of surgery. I believe that I am not unduly severe if I accuse our medical brethren of being about five years behind.

Criticism and censure of existing conditions is not a difficult task. Of one, however, who condemns so freely you have the right to demand some suggestions for reform or reconstruction. In a short general address like this I can enter upon this phase only to a superficial extent.

Fundamentally the great and important factor in remedying many of the evils to which I have called attention is a higher uniform standard of general and medical education. This in the States is being pushed forward most ably and energetically by the Council on Medical Education of the American Medical Association, and we all owe our most loyal fealty to its endeavors. In addition to this general groundwork, I believe that so far as the making of surgeons is concerned, who shall be entitled to stand before the public as capable of dealing with the larger problems of surgery, much can be done even at the present time in the way of special training and special licensing. With regard to the latter, it may be best to adopt some form of approval by a recognized examining board somewhat similar to that which obtains in England. Thus, a candidate for the position of surgeons in a responsible hospital or in a rural community would be obliged to prove his fitness for the work, his knowledge of anatomy, pathology and the science and technique of surgery.

A reform in the construction of our hospital staffs I believe to be equally important. Some such system as that in vogue in Germany should be adopted by our hospitals in the larger cities where there is opportunity for teaching. As constituted at present many of our public hospitals are overweighted by cumbersome surgical staffs that could easily be reduced to a third or a sixth of their present number. A chief of staff should be placed in full control of fifty to one hundred beds. If in charge of a larger number his assistants or colleagues should be as capable of assuming full control as the chief himself. The latter should be allowed very great power in the selection of his assistants from among those who have demonstrated their fitness and ability while in subordinate positions. Thus permanent or temporary vacancies would be properly filled, and responsible positions in distant hospitals would be open as prizes to tried capable candidates. This would do away with the present system of graded rank, which, however efficient it may be in the army or in the commercial world, is poorly adapted to the profession of surgery and to the surgical hospitals. Because a surgeon has performed his work regularly and perfunctorily while in a subordinate position, without advancing himself or his art, is no reason that he should be

elevated to the head of a division when a vacancy occurs. As a result of this misapplication of civil service rules one such chief of service can and will block the progress of his division in a way little realized by the general public, or even by the practising physician. Let every man aspiring to become a chief of staff make good; do not hand him a gift with so great responsibilities just because he happens to be older than his colleagues. Have we not all seen certain surgeons, originally appointed by political favor, nearly paralyze the active service of a large hospital when placed in a position of responsibility? Has such a man the right to trade on his assumed ability at the expense of a public which cannot easily comprehend the exact state of affairs?

The same principle which applies to the visiting staff of a hospital applies to the student assistants. As I have indicated elsewhere uniformity and permanency in the operating and ward staff is of the utmost importance in obtaining uniform and satisfactory surgical results. The routine, inexpert work in the wards, the laboratory and the operating room should be done by students, delegated by the schools and accepted without competitive examinations, because such work should be a part of the student's curriculum. For more responsible positions the selection should be by a process of elimination, dependent on the demonstrated ability and aptitude of the student assistants. The highest positions should be allotted for a term of years to selected candidates who are planning to enter upon a surgical career. These should be salaried, and they should be encouraged or compelled to undertake original work. When at last these men are graduated from their assistantships they will be in a position to offer themselves as candidates for junior positions on the staff, or they may emigrate to other cities or town, where they will be entitled to undertake the surgery of their district, building up a surgical nucleus that is capable of developing indefinitely, varying only with the ability of the individual surgeon.

To elaborate this scheme is unnecessary. It is essentially that which exists in Germany. When we consider the splendid surgery that the Americans have shown themselves capable of developing in face of our clumsy and restraining systems, one grows enthusiastic at the possibilities that lie before us, provided we could develop the art along better, safer and more liberal lines.

In dealing with the private hospital problem I can easily be misinterpreted, but I believe that much can be accomplished by which the public will be dealt with more fairly. It seems only right that the well-to-do patient should be treated as carefully and as efficiently as the pauper, but such is far from the fact in some of our large centres. Many of our private hospitals are run as money-making schemes. It is a great temptation to keep a patient in the hospital longer than necessary. It is easy

to encourage the neurasthenic to waste weeks in an institution when we know that he or she would be far better off in the woods or at work. Without responsible residents in these hospitals emergencies endangering the life of the patient arise occasionally that cannot be dealt with properly. The same holds true, as I remarked earlier, with regard to the operating room equipment. If we are to have private hospitals the administration can and should be brought as near to that which exists in our best public hospitals as is possible, and until that is attained we are not dealing quite squarely with our patients from whom we derive our incomes.

To kill the growing tendency towards a division of fees, it is necessary to keep the public informed as to the facts. Whether this should be done through our local or our national societies is not yet clear, but I believe that it is best undertaken by the larger body of men. A curious and annoying type of graft that is not infrequently worked upon the surgeon is that in which the family physician, who presumably knows the financial status of his patient, makes one price for operation to the patient and another (much smaller) price to the surgeon. To expose this it is necessary that the surgeon have his business dealing directly with the patient, thereby losing, of course, all future work that might come to him from the family doctor whom he has exposed. The public has a right to know how much it pays for surgical care and to whom the amount is paid. The moment we begin to juggle with it in this respect we lose the right to pose as a profession the first object of which is not to make money.

In conclusion, I would not have you infer that there is no other side to surgery than that of criticism and fault-finding. No profession is without flaws. Every profession reaches a higher plane with each decade, and it is mainly by the elimination of the petty obstacles that our profession is destined to attain a level that can never be reached by others.

As a matter of fact, the public can feel that, taking American surgery as a whole, both that done by the masters and that done by the rank and file scattered over the length and breadth of this continent, there is no surgery in the world more intelligent, more skillful, and more considerate of the rights and feelings of the patient. The rate of advance is almost phenomenal. We in the States are wont to boast of our commercial progress, which is apparent to everybody. Few beyond those working in hospitals, laboratories and medical libraries realize that the advance in our profession is parallel with that in our commerce. The advance in the one, however, is for the most part financial and scientific as applied to finance, while the advance in the other is scientific, humane, educational and life-saving.

A significant quality that belongs to our profession is the generosity of the surgeons of one locality towards those of another in freely giving

and receiving the good things that spring up in our art. It is a most refreshing sign of broad culture, and it does much to destroy the petty jealousies that are a heritage of past generations.

More and more we do see the internist and the surgeon working side by side; more and more do they appeal to the authority of the laboratory, and, finally, with all the petty bickerings and inconsistencies that are to some extent inevitable in all professions, any one of us when his name is called in the ranks of the American surgeon should be proud to answer "*adsum.*"

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### THE VALUE OF THE REFLEXES IN DIAGNOSIS.\*

By J. S. RISIEN RUSSELL, M.D., London, Eng.

*M*R. President, Ladies and Gentlemen,—It has been my good fortune to receive many kindnesses from our profession, and it has been my privilege to address distinguished audiences. Fully 'as I appreciate the honors I have enjoyed, and grateful as I am of the consideration that has been extended to me in the past, I feel that the honor your Council has done me far exceeds anything that I have hitherto experienced.

I can imagine no greater compliment than to be entrusted with the delivery of the Address in Medicine at so important a meeting as the Canadian Medical Association is holding in Ottawa to-day, and I am confident that those who have been good enough to honor me in the past would be the first to admit that the position in which your Council has now placed me is the most honored I have ever filled.

There are, Sir, some moments that cannot find adequate expression in words. My gratitude is very sincere, but I am too conscious of my inability to find a portal sufficiently wide to convey the full depth of my feelings, to make me risk the attempt that would be sure to end in failure.

No words of mine can ever thank you enough for the great honor which you have done me.

When attempting to decide upon what subject to address you it naturally occurred to me that it must be on something of neurological interest, as it was improbable that any general survey of medicine would be expected from one who had devoted so much time to a special department.

On reviewing the neurological subjects that seemed most suitable, the usual difficulty was experienced in deciding which to select. It was not without many misgivings that the value of the reflexes in diagnosis

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was finally chosen as likely to be the most profitable, for I am very conscious of the large amount of work of the greatest possible excellence that has been done on this side of the Atlantic. Three considerations mainly encouraged me to adhere to my decision. One was that the same objection could be urged in regard to any subject I might choose. Another was that so much work has been done on the reflexes during recent years, and so much that is contradictory has been written about them, that there is a danger that the profession may become sceptical as to their value. The third consideration that influenced me was that so many new methods of diagnosis are now in vogue that there may be too great a tendency to rely on these to the exclusion of the reflexes, which they should only be allowed to supplement, not supplant.

We cannot too carefully safeguard the reflexes, for we can ill afford to do without them, and what is especially satisfactory to the practitioner is that no laboratory or special apparatus is needed when applying the tests necessary to derive information from them.

When selecting the subject I did not lose sight of the fact that there would be many present at this meeting, to whom I could not presume to offer any remarks that would either prove of interest or profit, but it seemed certain that the bulk of those attending the congress would be men busily engaged in the toils of general practice, with but little leisure for reading. Much as you may be interested in the scientific investigations of the age, and the great discoveries that are constantly being made, you naturally wish to know how far the results obtained by these researches may be utilized by you in your endeavors to minimize the sum total of human suffering and to promote the general well-being of the community.

I cannot help feeling that those of you who have perused the literature that has grown up around the subject of the reflexes must be inclined to doubt the value which attaches both to the tendon-jerks and the superficial reflexes in diagnosis, for fresh from reading a paper in which the author insists on this or that phenomenon as a sure sign of organic disease, you take up another in which the writer as confidently asserts that certain alterations of the reflexes have not the value that has been ascribed to them, as he has met with the abnormal sign in functional as well as in organic conditions of the nervous system. You accordingly find it difficult to decide which of the conflicting statements to believe, for the opportunities of putting these matters to the test do not occur sufficiently often in your practice to permit of your coming to any satisfactory conclusion from your own observations.

It is, therefore, natural that you should look to those whose work brings them into daily contact with these problems, and who have endless opportunities of testing the conflicting views expressed by differ-

ent authors, to assist you to decide what is true, and what is not; on what evidence you may place confidence, and what you should mistrust and discard.

It thus seems probable that no better use can be made of an opportunity like the present than to attempt to show that, in spite of much that you may see written to the contrary, the reflexes are of the utmost value in the diagnosis of affections of the nervous system.

Time will not permit me to quote cases in support of what I have to say, but I can assure you that all the facts to which I propose to call your attention are based on practical experience of these matters, and that actual cases which substantiate the statements occur to me as I recount the facts which I deem worthy of your acceptance as likely to prove helpful to you in the problems that confront you from time to time in the routine of your practice.

An attempt will be made to show that the reflexes are of value :

1. In the diagnosis of organic from functional affections of the nervous system.
2. In the diagnosis of one organic disease from another.
3. In localizing the seat of the morbid process.
4. In determining the extent and severity of the mischief.
5. That there are limitations to the value of the reflexes.
6. What part they play in the diagnosis of maladies outside the realms of neurology.

It will, of course, be impossible to deal with all of the reflexes in the time at our disposal, and it will be equally impossible to discuss more than some of the more important aspects of the subjects I have outlined, without pretending that any exhaustive consideration of them in their many bearings is at all possible.

#### I. DIAGNOSIS OF ORGANIC FROM FUNCTIONAL AFFECTIONS.

One is inclined to question either the observation or the judgment of the author who, having elicited the extensor type of plantar reflex after an attack of convulsions, nevertheless concludes that the attack has been hysterical and not epileptic.

That true epilepsy may occur in a person otherwise hysterical, and that an epileptic attack may be followed by an hysterical state, are facts too well recognized to call for more than passing notice; but it is difficult to refrain from a desire to have the opportunity of observing the attack from its inception to its conclusion, before accepting the statement that hysteria was alone responsible for the convulsions which permitted the extensor type of plantar reflex to be elicited in the subject of the fit.

Abolition of the knee-jerks, followed by their exaggeration, coupled with ankle clonus, and supported by the extensor type of plantar reflex, form a combination which we have good reason to agree must be aids to the diagnosis of genuine epilepsy, as contrasted with either hysteria or malingering.

It is equally difficult to accept the opinion of the observer who asserts that the paralysis from which the patient suffered was hysterical, and yet the plantar reflex was of the extensor type, especially when he has no better proof to offer than that the patient got quite well, and that this phenomenon, like all the other abnormal signs, disappeared.

The names of such distinguished authorities are associated with statements of this kind, that the only way which seems possible to reconcile their views with one's own experience is to suppose that certain types of disseminate sclerosis, so common with us in England, must be rare in other countries, so that the vagaries of these varieties of the malady so much insisted on by Dr. Thomas Buzzard, in his writings on the subject, have not as yet been recognized by observers who are mistaking for hysteria cases that are in reality examples of disseminate sclerosis. That this is so in some instances, is evident even from the information given of the clinical history of the patient's illness. The remarkable way in which the clinical picture may clear up in a case of this disease after the most pronounced sign of organic change have been determined, makes it difficult to believe otherwise than that there is a time in the course of the malady when the lesion is of a kind that permits not only of restitution of function, but also of repair of structure, so that the nervous system is not only able to perform its work again in a normal manner, but is also free from any evidence of persisting structural damage.

These considerations open up a most interesting question that I dare not do more than touch on in connection with the diagnosis of neurasthenia. May not a functional condition of the kind occasion nutritional changes in the nervous system sufficiently profound to lead to alterations in the reflexes that are indistinguishable from those produced by organic disease?

Time will not permit me to discuss this matter in the way that its importance demands. Let me but say that from the practical standpoint it matters but little, for the majority of cases of neurasthenia present no such difficulty in diagnosis, and if such a condition of things, as has been suggested be possible, there would be every reason to regard with as much concern the nervous system of such a patient as that of one suffering from some known organic disease, for such a condition cannot but be attended by grave consequences if unchecked by treatment.

## 2. THE DIAGNOSIS OF ONE ORGANIC DISEASE FROM ANOTHER.

Let us take a common example. A patient experiences difficulty in walking, owing to the inco-ordinate condition of his lower limbs. Two of the most common diseases likely to be responsible for this, are tabes dorsalis and disseminate sclerosis.

How quickly it can be determined which of these diseases exists! No knee-jerk, no ankle-jerk, and the plantar reflex not altered to the extensor type in tabes make striking contrasts to the exaggeration of the knee-jerk, exaggeration of the ankle-jerk, amounting, it may be, to clonus, and the plantar reflex of the extensor type in disseminate sclerosis.

Even if, in the latter disease, the knee and ankle-jerks fail us by being absent instead of being exaggerated, the plantar reflex is not likely to play us false. And if it does, is there not still the pupil reflex on which we can fall back for assistance? The pupil which fails to re-act to light while it preserves the possibility of re-acting on accommodation, is a phenomenon sufficiently rare in disseminate sclerosis, and common in tabes, to make it a further point of contrast between these two diseases.

Take another example. The patient has atrophy of the small muscles of the hand. One of the first things we are anxious to know is whether or not the reflexes are altered, for much depends on whether they are, both in regard to diagnosis and prognosis. Exaggerated knee-jerks, ankle-clonus, and the extensor plantar reflex tell their tale, for it is clear from them that the spinal cord is involved by the morbid process that is responsible for the muscular atrophy. Thus, by testing these reflexes, we at once glean information that is of the greatest import. By testing the arm-jerks and the jaw-jerk, the diagnosis may be carried a stage further, for in the presence of an exaggerated jaw-jerk or clonus there is little likelihood that any condition other than amyotrophic lateral sclerosis is to be held accountable for the muscular atrophy. Although the Rontgen rays have done much to facilitate diagnosis under these conditions, it cannot be said that they have in any way robbed the reflexes of the value that attached to them before the rays were put to such use. It may be safely said that the rays have supplemented, not supplanted, the reflexes in this sphere of their usefulness, for while they may reveal an accessory rib, caries or other disease of the cervical vertebræ to account for the muscular atrophy, in the absence of these conditions they cannot tell us whether the atrophy is of central or of peripheral origin, nor can they further give us the good idea the reflexes can as to which of the several affections of the spinal cord is likely to be responsible for the condition.

Two affections that may easily be confounded, and that present considerable difficulty of diagnosis at times, although at other times the clinical pictures are so widely different that there is no possibility of confounding them, are cerebellar tumor and disseminate sclerosis. A proper appreciation of the different behavior of the reflexes in the two conditions will go far towards clearing up the question that is in doubt; indeed, the diagnosis may largely, if not entirely, depend on what, if any, alterations are determined in the reflexes. While various alterations of the tendon-jerks obtain in tumor of the cerebellum which may accord with what is found in disseminate sclerosis, the superficial reflexes prove of distinct service in differential diagnosis, for the plantar reflex commonly assumes the extensor type at an early stage of disseminate sclerosis, while it only does so as a late event in a case of tumor of the cerebellum, and is then to be ascribed to some complication rather than to the morbid condition of the cerebellum itself.

The reservation that has had to be made in regard to the plantar reflex does not apply to the other superficial reflexes on which a diagnosis may be based, for, assuming that the local conditions of the abdominal walls be such as to permit the abdominal reflexes to be obtained, their absence may be regarded of considerable importance in diagnosis, for, while they are unaffected in cases of tumor of the cerebellum, they are absent in a large proportion of cases of disseminate sclerosis. The reflexes may thus serve to determine whether we are in the presence of an affection in which operative intervention may be expected to bring relief, or whether the morbid condition is one in which operation would not only be useless, but actually harmful.

It is impossible to leave this part of our subject without referring to the value that attaches to the extensor plantar reflex in the diagnosis between multiple peripheral neuritis, in which it is absent, and that fatal disease, subacute combined degeneration of the spinal cord, in which it is present, for, while the former condition may be expected to result in recovery under appropriate treatment, the latter runs its course to a fatal termination with unerring certainty in most, if not in all cases.

### 3. LOCALIZING THE SEAT OF THE MORBID PROCESS.

The abolition of the reflexes in affections of the peripheral nerves, the variety of the ways in which they may be affected in diseases of the spinal cord, and their unilateral exaggeration, diminution or special modification in affections of the brain, need no more than passing notice. It is impossible, however, to leave this part of our subject without a word of comment in regard to the part the reflexes play in the early diagnosis of morbid conditions of the brain and spinal cord, for it repeatedly

happens that some departure of the reflexes from the normal standard is the first indication that we have, not only that organic disease exists, but as to what part of the nervous system is affected. Special note must also be taken of the important rôle they play in the localization of focal lesions of the spinal cord, in which connection nothing is more important than the aid to be derived from them in the diagnosis and localization of tumors of the cord.

The abolition of the reflexes which correspond to certain segments of the cord, the escape of all the reflexes above this level, and other exaggeration or other modification below it, must be regarded as the most valuable indications we have in determining the position of a focal lesion.

Similarly, unilateral alteration of the reflexes may be the first indication of which hemisphere of the brain is affected, and, while it may happen that hemiplegia or some other condition makes it superfluous for us to seek assistance from the reflexes, there are cases in which there is so much uncertainty that every source from which information can be gleaned must be welcomed, and then it is that the reflexes may prove invaluable. No better example of this can be found than what obtains in tumors of the frontal lobes of the brain. The difficulties of localization in such cases may prove well-nigh insurmountable, so that unilateral exaggeration of the knee-jerk or the appearance of ankle clonus on one side is welcomed. Of similar significance is the appearance of the extensor of the plantar reflex, or, as my colleague, Dr. Grainger Stewart, has shown, diminution or abolition of the superficial abdominal reflexes on the side opposite to that on which the tumor is situated.

Another class of case in which the reflexes may prove helpful is that in which the question to be decided is whether the disease is in the cerebellum or pons. The determination of this point becomes particularly important when a tumor is responsible for the symptoms, for, while those which occupy the pons are inoperable, no more successful class of intracranial tumor is met with from this standpoint than many of those which involve the cerebellum. They supply us with some of the most brilliant results of modern surgery. While there are many points on which the diagnosis must rest, it is not too much to claim for the reflexes that they play an important part in deciding the question at issue, for the earlier they become affected in the clinical history of the case, the more likely is the tumor to be situated in the pons, while the longer they remain unaltered the greater is the likelihood that the seat is the cerebellum. The knee-jerks cannot be said to be of material assistance in this connection, for, as already noted, they may become altered in uncomplicated cases of tumor of the cerebellum. It is, how-

ever, otherwise as regards ankle-clonus, and alterations of the superficial reflexes, for unilateral diminution or abolition of the abdominal reflexes, or alteration of the plantar reflexes to the extensor type, cannot be regarded otherwise than of importance in diagnosis, if they are determined sufficiently early in the clinical course of the patient's illness to make it improbable that they are the outcome of some complication rather than due to the original malady.

#### 4. THE EXTENT AND SEVERITY OF THE MISCHIEF.

It would appear to be self-evident that, inasmuch as the various reflexes have different segments of the spinal cord on whose integrity they depend, the fewer that are lost the less extensive the lesions, and the wider the extent of their affection, but more widespread the distribution of the morbid process. It must be clearly recognized, however, that this is by no means necessarily the case, for, in reality, this only applies in some instances, for a very limited lesion may give rise to widespread alterations of the reflexes. Take, for example, a case in which the lesion is limited to the cervical region of the cord, and abolishes the scapulo-humeral and other arm reflexes. Many other reflexes will also be altered, though not necessarily abolished, so that among the abnormal phenomena to be looked for are exaggeration of the knee-jerks, ankle clonus, and the extensor type of plantar reflex.

No better example of the value of the reflexes in determining the severity of a lesion can be suggested than is supplied by the knee-jerks in cases of transverse lesions of the spinal cord above the lumbar enlargement, for when, instead of being exaggerated, they are abolished and remain absent, the gravest fears are justified. When the knee-jerks do not return there is every reason to fear a severance of the cord so complete as to preclude the possibility of re-establishment of the paths through the damaged segments of the cord. Ankle clonus, a phenomenon that we view with concern under other conditions, would now be welcomed, as this would indicate possibilities of recovery which would not have been justified had the knee and ankle-jerks remained absent.

#### 5. LIMITATIONS TO THE VALUE OF THE REFLEXES.

There are instances in which the reflexes only partly clear up the diagnostic problem. Take, for example, a case of myelitis with paraplegia as the result. From the reflexes alone the diagnosis may be made as to whether ordinary myelitis or polio-myelitis exists, but further than this they cannot take us. The X-rays may reveal tuberculous disease of the bone, which has not as yet produced spinal

deformity, or the opsonic index may raise the suspicion of a tuberculous origin of the paraplegia in a way that is impossible to the reflexes.

Similarly, syphilitic pachymeningitis may not as yet have occasioned any alteration in the reflexes by which an organic condition can be diagnosed, and yet lumbar puncture may permit the determination of a leucocytosis that allows a positive diagnosis to be made. Or the behavior of the superficial reflexes may justify the diagnosis of an organic hemiplegia, while it requires the ophthalmoscope to say that a tumor is responsible for it, or lumbar puncture to indicate that the thrombosis which underlies it is of syphilitic origin.

Furthermore, it must be remembered that there are some affections of the nervous system in which a diagnosis is to be made without any necessary assistance from the reflexes. Chorea supplies an example, for, although in this affection the special alteration of the knee-jerks, to which Gordon, of Exeter, called attention, may be present, in which the limb remains suspended in mid-air too long in response to a blow on the patella tendon, the diagnosis has to be made without any such assistance from the reflexes in the majority of cases. The extent of the response, and special alterations of the superficial reflexes to which Babinski called attention, are too infrequent to justify any reliance being placed on them.

The fact must not be lost sight of in this connection that the negative may be of little less value than the positive in some cases, and that, accordingly, there are instances when the fact that the reflexes are not affected in a case proves almost as helpful as if they were, for this serves to distinguish the majority from one in which alterations of the reflexes were to be expected.

##### 5. THE PART THEY PLAY IN THE DIAGNOSIS OF GENERAL DISEASES.

The question that next arises is as to whether the reflexes give any assistance in diagnosis in realms outside those of neurology. There can be no doubt that there are many cases in which, in the absence of any known disease of the nervous system, the reflexes are altered in the course of some general disease or special affection of some other organ of the body.

It will be remembered that in an affection like diphtheria absent knee-jerks may give the first clue to the nature of a sore throat that ought to have been long since determined by bacteriological examination of secretion from the fauces. Similarly, absence of the knee-jerks may call attention to the possibility of glycosuria, which routine examination of the urine should have forestalled.



Some attempt has been made to derive direct advantage from alterations of the reflexes as in favor of one as opposed to another disease in which the nervous system plays no part, except that the toxins of the one malady have a more profound effect on the nerve centres, and occasions alterations of the reflexes in consequence, in a manner that does not obtain in the other disease. Thus, the knee-jerks have been found absent in a large proportion of cases of pneumonia due to the diplococcus or the diphtheria organism, while they are not affected in septic pneumonia and found exaggerated in tuberculous cases (Stanley Barnes).

The chief value, however, that attaches to these observations in the present state of our knowledge is that they prevent us from concluding that some organic condition, as, for instance, myelitis or meningitis, has of necessity developed because these alterations in the reflexes are determined. Those interested in the welfare of the patient are thus spared the anxiety that would be caused by the opinion that might have been expressed in ignorance of the fact that the alterations noted are compatible with transitory effects due to toxic conditions without any permanent organic change.

In conclusion, Mr. President, ladies and gentlemen, let me thank you most sincerely for the patient hearing you have given me. No one is more conscious of the shortcomings of this address than I am. I wish it had been possible for me to prove more worthy of the trust that has been placed in me, and the honor which that trust implies. I can only take comfort in the fact that I have spared no pains to make the address a success, so that any failure to do so cannot be ascribed to a lack of appreciation of the great responsibility which I have accepted, and of which I have been only too painfully conscious. One other consideration brings me comfort in my ordeal; that is, that I am in the midst of friends who will deal leniently with my shortcomings. In his letter of invitation your worthy secretary, Dr. Hacking, told me that I would meet many friends who would be ready to welcome me to Canada. I have, indeed, met with friends, and have been overwhelmed with kindness. Let me take this opportunity of thanking you all most cordially for the welcome you have so generously extended to me.

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## OBSTRUCTION DUE TO CANCER OF THE LARGE BOWEL.

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MY chief object in bringing this subject before you is to emphasize the very great importance of early diagnosis in cancer of the large intestine, as the result of excision of the growth at an early stage, before there is glandular involvement, is most satisfactory, and gives a very large percentage of recoveries.

Dollinger, in order to insure seeing cases early, hands a circular to every applicant at the clinic at Budapest. It is headed, "Cancer can be cured if operated on early." It warns of the danger of delay, gives signs of cancer of various organs, and tells of the danger of wasting time on quacks and their remedies.

Hermann's collection from the Prussian hospitals shows that one-half of all cancers affect the alimentary canal, and that one-sixth of these are in the large bowel, and, further, it is generally held that the prognosis of cancer of the colon is better than in any other part of the intestinal tract.

Treves says that the infection of the lymphatic glands in cancer of the colon is very slow. In malignant diseases of the small intestine, gland infection appears earlier. In not a few examples of cancer of the colon he has failed to find any infected glands in cases which have lasted many months. Adhesions of any degree are exceptional. Abscesses may occur, and when in connection with the caecum may be mistaken for appendicitis. If the contents of the colon remain fluid, comparatively narrow strictures may cause no symptoms of obstruction. Such patients die with severe and persisting diarrhoea. In the colon, stricture due to cancer is more common than that due to a cicatrix. In stricture of the sigmoid an acute termination from volvulus is by no means uncommon. Cancer of the large bowel is fond of the flexures. In 101 cases of cancer of the large intestine, occurring in University College Hospital, the seat of disease was the rectum and sigmoid flexure in 94; descending colon, 1; splenic flexure, 2; transverse colon, 1; hepatic flexure, 2; ileo-caecal valve, 1.

Diagnosis. If we have the three symptoms of obstinate constipation, alternating with diarrhoea from no apparent cause, frequent colicky intestinal pains, and nausea or vomiting, it is usually fairly easy to make a diagnosis, even in the absence of a palpable tumor. One very valuable symptom is the frequent recurrence of a painful contraction within the abdomen. This is felt more or less in the same place, and is often followed by a gurgling sound, after which relief is

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\* Read at the Hamilton Meeting of the Ontario Medical Association, 26th July, 1908.

obtained. Dr. Armstrong, of Montreal, speaks of the three losses, weight, strength and color, occurring at or beyond middle life, as very suggestive of malignant disease. In patients with cancer of the large intestine we generally find that they complain that stools do not give them the usual sense of relief—they do not feel as if they had finished. In these cases a certain amount of temperature is often to be observed. This was such a marked feature in one of my cases that a diagnosis of tubercular peritonitis had been made. A distinct feature of tumors of the large intestine is their mobility. A patient, therefore, should be examined on more than one occasion, and in the upright, as well as the recumbent position.

With a daily variation of the temperature beyond normal, frequently recurring colicky pains, and obstinate constipation, an exploratory incision is not only justified, but demanded. If a tumor can be felt the diagnosis is complete. Objective intestinal stiffening, or tetanic recurrent peristalsis of the gut proximal to the growth, or frequent visible and palpable peristalsis, (Nothnagel's Darmsteifung), often followed by a gurgling sound, indicates stricture. Tuttle says constipation is a late, not an early, symptom of cancer. Frequent desire to go to stool, with no effectual result, he considers a striking early symptom of cancer of the colon.

Treves says that tumor can be made out in only 40 per cent. of the cases. Chronic, circumscribed meteorism is of great help in locating the site of the stricture.

The faeces may be normal. Blood is found in only 15 to 25 per cent. of the cases.

Pain is a poor guide to the situation of lesion, but tenderness is better. Stricture of the colon, with painful and visible peristalsis, the spot where the movements appear to lead to, and at which they are arrested, is often the spot at which stricture is located. In stricture of the descending colon, the pain is often referred to the left of the umbilicus.

Unfortunately, the surgeon often does not see the patient until there is already persistent distention of the abdomen, with vomiting, (the vomitus having a faecal odor), and a rapid pulse of poor quality, evidence that there is not only obstruction but toxaemia.

In cases such as the above, one is only justified in giving relief to the immediate condition of toxaemia, and emptying the bowel of its large quantity of septic material, by doing a colostomy. The resisting power of a patient in this condition is usually low, the toxaemia having reduced his strength, and he is not in condition for a radical operation. In addition, the bowel walls are often more or less paralysed and friable. One should never do more than relieve the obstruction by open-

ing the abdomen and draining out the intestinal contents. Colostomy, however, should be only a last resource, as it necessarily makes it difficult to cleanse the abdomen subsequently for a radical operation.

Let us now consider what is the best procedure to be adopted in the presence of acute intestinal obstruction, secondary to malignant disease. This will often be a severe tax upon the surgeon's judgment. There will usually be evidence of toxæmia, as well as of obstruction. Often the site of obstruction cannot be determined, and then an incision below the umbilicus should be made. The intestines should be emptied of their septic contents by the use of a Paul's tube. The operation should be restricted to relief of the obstruction, and drainage of the bowel above it.

To overcome the obstruction, short-circuiting is a very valuable procedure, permitting of the removal of the growth at the same time, if the condition of the patient will allow, if not the abdomen can be closed, and the growth removed at a second operation, after the intestines have been thoroughly emptied, and the toxæmia recovered from. Short-circuiting will be rendered easier by emptying the bowels of their contents, and by lavage of the stomach. If the patient's condition will not justify the time necessary for a short-circuiting operation, the growth may be brought outside the abdomen, and anchored there, inserting a Paul's tube into the intestinal side. The growth can be removed later, and the intestinal canal restored by a lateral anastomosis made by a Mikulicz's Kentrotribe. It is not ideal, but it is rapid and safe. The great advantage of the short-circuiting operation is, first, that the patient is clean from the first, and second, that at the second operation, one goes through a clean abdominal wall. When acute obstruction does not exist, colotomy should not be done, except for an irremovable growth of the pelvic colon. For such a growth above the sigmoid, an ileosigmoidostomy should be done. An end-to-end anastomosis may be done in parts completely surrounded by peritoneum, while in parts not so surrounded, a lateral anastomosis is safer.

*Cancer of the rectum.* The great importance of examining every case complaining of piles cannot be too strongly urged. If we have piles with recurring, colicky abdominal pain, in elderly people, it should make us suspicious of a growth, and if nothing is found in the rectum, would justify an exploratory laparotomy being done. Only last week a patient came to my office suffering from an inoperable cancer of the rectum, having been treated for piles for nine months, without a suspicion that he was suffering from cancer; indeed his rectum had never been examined.

Cancer of the rectum is much more common than of the sigmoid, and should be diagnosed much earlier than the latter condition, as it can nearly always be palpated by the finger.

In considering the best operative procedure for cancer of the rectum, we will speak first of *high carcinoma of the rectum*, meaning thereby carcinoma situated three inches or more above the anus. The mortality in these cases has hitherto been high, and recurrence frequent. Freedom from recurrence can only follow complete removal of the diseased area, together with the lymphatic glands in the neighborhood. In order to do this, one must have access to the level of the fifth lumbar vertebra. In some cases the sacral route has given sufficient access to enable a satisfactory operation to be done, and undoubtedly has to be credited with many successes, (as e.g. see case No. IX.) I think, however, that in high carcinoma of the rectum and pelvic colon, that the combined abdominal and perineal operation gives promise of the best results, for not only can the growth, together with the lymphatic glands be removed, but one can do an immediate end-to-end anastomosis.

In dealing with malignancy here, as elsewhere, it is essential that the parts involved should be freely removed, as well as the lymphatics which drain the area involved, the glands in which these vessels end, and all the tissue in which they lie. In the case of the upper rectum and sigmoid flexure this will entail the removal of all the glands that lie along the arteries as far up as the inferior mesenteric artery at its origin from the aorta. A lymphatic gland is always to be found at the point of origin of this vessel. It lies along the artery before the origin of the left colic branch, and is the highest of the chain, which, beginning at the intestine, extends upwards along the sigmoid superior haemorrhoidal arteries to the inferior mesenteric trunk. This gland, then, will require removal, and in so doing the inferior mesenteric artery may have to be ligated, either immediately beyond its origin, or after the left colic branch has been given off. Ligation of the artery does not seem to interfere with the nourishment of the bowel.

Moynihan, in writing on this subject recently, emphasizes two points of chief importance:

1. *The mobilization and displacement of the intestine.* This is effected by an incision through the peritoneum at the outer side of the meso-sigmoid. The sigmoid, together with its mesentery, is then stripped up from the iliac fossa toward the aorta, the peritoneum on the inner side being simply lifted up from the posterior wall. This results in the flexure and upper part of the rectum being attached only by peritoneum on the mesenteric aspect. This mobilization is carried further, and the descending colon, as well as the splenic flexure freed,

which allows the sigmoid or colon to be brought down into easy apposition with the divided rectum, and an end-to-end suture made, the vascular supply being secured by the vessels in the peritoneal fold, which now supports the mobilized gut.

2. *The condition of the vascular supply.* Tying of the inferior mesenteric artery does not deprive the sigmoid or descending colon of their blood supply, as the middle and left colic arteries anastomose freely about two inches from the intestine, in a vessel running parallel with the bowel, and from which straight branches pass to the intestine.

Most of the details described by Moynihan were laid down by C. H. Mayo, but Moynihan, emphasizes particularly free mobilization, allowing easy end-to-end anastomosis, together with removal of the entire glandular group. Of this latter he makes a very strong point. In cancer of the rectum, whether high or low, an abdominal operation seems desirable, as by this route alone can the whole lymphatic territory be extirpated.

Case I. Mrs. W., age 30, cancer of caecum; first seen in consultation with Dr. W. P. Caven, Feb. 24th, '04. Gives a history of having had a typical attack of appendicitis in Montreal, about 8 months ago, which kept her a week under a physician's care. Since then she has had two or three less severe attacks of a colicky character, the pain and tenderness always being referred to the region of appendix. Several medical men have seen her, during and after these attacks, and a diagnosis of appendicitis has been made. At the present time a mass is to be felt in the right iliac region. This can only be moved slightly, being fixed posteriorly, and is about the size of an egg. It was thought, considering the history, that this might be an inflammatory mass, due to appendicitis.

The operation was performed at patient's home, Feb. 25th, '04. I was assisted by Dr. John Caven.

An incision was made through the sheath of the right rectus muscle near its outer border, and on opening the abdomen a mass was felt involving the caecum, and extending from the junction of ileum and caecum upwards into the ascending colon. There were two or three enlarged glands along the inner side of the bowel behind the peritoneum. It was quite clear that the condition was carcinoma, and we decided to proceed at once to a resection, although only having with us instruments for an appendicectomy. The ileum was tied with tape about two inches from the caecum, and the ascending colon similarly tied about three inches above the growth. The ileum was divided about one and a half inches from the caecum, and the ascending colon about an inch and a half above the upper limit of the growth, and the intervening bowel, including caecum and appendix, removed. Three or four enlarged

lymphatic glands were also removed. An end-to-end anastomosis between ileum and colon was done, a sufficient amount of the end of the colon being closed by suturing to reduce its calibre to the size of the ileum. A continuous suture of cat-gut was used to bring the ends of the bowel together, this suture being interrupted by tying two or three times. The peritoneal coats were brought together by a continuous suture of silk, and behind, where the colon was uncovered by peritoneum, the muscular wall of the gut was approximated to the serous coat of the ileum. The abdomen was closed without drainage. The patient suffered a good deal from shock at first, and was delirious for four or five days, but after the first week, she rapidly improved, and her further convalescence was uneventful, and she was able to be up in three weeks. It is now four years and three months since the operation, and she appears to be in perfect health. Shortly after the operation she began to put on flesh, and now weighs 30 lbs. more than prior to operation. She is most active and energetic, and does a great deal of work, and there is no evidence of recurrence. I think we may consider her cured.

Case II. Mr. T., age 65, cancer of the hepatic flexure of the colon, patient of Dr. John Caven. He was much emaciated when I saw him first, and had a cachectic appearance. His stomach had troubled him for the past year. He had had a good deal of vomiting, but had never vomited blood. The distress of which he complained seemed to be a little to the right of the middle line, and extended up to the ribs. Stomach contents negative. A mass could be felt a little to the right of the middle line, evidently in the colon.

Operation Dec. 19th, 1907. An incision was made through the right rectus muscle, beginning about an inch below the ribs and extending down about three inches. As soon as the abdomen was opened the omentum presented, in which was seen a large gland the size of a walnut. A large cancerous mass was found in the hepatic flexure of the colon, involving about five inches of the bowel, and extending backwards and upwards to the right kidney, to which it was attached. It also extended backwards and inwards into the second portion of the duodenum. As he was very weak, it was decided to do a right inguinal colostomy. He lived about four months after the operation.

Case III. Mr. McL., cancer of splenic flexure of colon, patient of Dr. C. J. Hastings, with whom I saw him first on Oct. 21st, 1907. He was suffering from acute intestinal obstruction, with considerable distention of the abdomen, and frequently recurring colicky pains. Vomiting pretty constant, but not faecal. Constipation absolute for three days. He gave a history of increasing difficulty in getting his bowels to move, with weakness and loss of weight for some months. I diagnosed mechanical obstruction from cancer of the colon, probably some part of the descending colon. He would not consent to immediate

operation, which was urged, and it was 36 hours later before he could be persuaded to go to the General Hospital and be operated upon.

Operation Oct. 23rd, 1907. Made a median incision above the umbilicus, and found the transverse colon and ascending enormously distended. On tracing the transverse colon over to the splenic flexure, I found stricture due to a growth in the wall. The growth was only half an inch in width, but had so constricted the gut that only a very small probe could be passed through. The colon proximal to the growth was opened and emptied, and then an immediate resection decided upon, the ends of the bowel being brought together with a Murphy's button, to save time, as the patient's condition was too bad to permit of suturing. He was in a very feeble condition at the time of operation, and although he recovered from the shock, he subsequently developed pneumonia, and died on the fifth day. I think it would have been better in this case to have done a colostomy, and drained the bowel for a couple of weeks, and then resected.

Case IV. Mr. C., age 64, cancer of hepatic flexure of colon, patient of Dr. Forbes Godfrey, seen in consultation with Drs. Godfrey and R. J. Dwyer, Nov. 16th, 1907. He gave a history of being ill for past nine months. Has colicky attacks of pain in abdomen. Troubled a great deal with gas. Cannot lie on his back. When he turns on his side gas moves about and gives him relief.

The abdomen is uniformly distended, and there appears to be particularly a good deal of distention of the colon. No tumor can be felt. Has lost considerable weight lately, and feels himself getting weaker. A diagnosis of malignant disease, probably of caecum or ascending colon was made.

Operation Nov. 21st, 1907, at General Hospital. On opening the abdomen a large cancerous mass was found in the hepatic flexure of the colon, attached to the right kidney. The omentum was studded with many nodules. Removal of the growth was out of the question, so the caecum was brought out through an opening in the right iliac region, and attached there. He stood the operation badly, pulse became weak and almost imperceptible, and 40 ounces of normal salt solution was given intravenously on the table. His condition improved somewhat after this, and he left the table with a pulse of 120. Six hours later his pulse was 80, and of fair quality, and he was conscious and seemed to be doing well. Three hours after this he suddenly became unconscious, and died in a few minutes.

Case V. Mr. W., age 69, cancer of caecum and ascending colon, patient of Dr. Charlton's, Weston. Symptoms for six or eight months of recurring attacks of colicky pain in abdomen, with some distention, and increasing trouble in getting bowels to move.



On examination of the abdomen, one could see a peristaltic wave in a large coil of intestine, extending from the region of the caecum upwards to the left, and over to the region of the spleen. This caused colicky pain, and if a little gas got through some relief was obtained.

There had been loss of weight and strength for past few months, and he had a typical cachectic appearance. Diagnosis: Growth in large bowel, probably splenic flexure. Operation was decided upon, and day arranged, at patient's home in the country, but unfortunately, the day before operation, acute obstruction set in, with faecal vomiting, and great prostration.

Operation, Jan. 23rd, 1908. On opening the abdomen we found that the obstruction was due to a large cancerous growth in the caecum and ascending colon. The large thickened bowel, felt and seen before operation, turned out to be the ileum. It was quite as large and thick as the large bowel when hypertrophied from obstruction, evidently due to attempts to overcome obstruction at the ileo-caecal valve, where growth seemed to have begun. The transverse colon was exceedingly small and attenuated, as small as I have ever seen the small intestine. I did a short-circuiting operation, attaching the ileum to the transverse colon by a lateral anastomosis, a considerable quantity of intestinal contents being removed at the same time. He was in very bad condition for the operation, with feeble pulse and subnormal temperature—evidently suffering from toxæmia—and although he rallied after the operation, died on the following day.

Case VI. Mrs. J., age 60, cancer of descending colon, patient of Dr. Taylor, Goderich. Illness began June, 1907. Had been greatly troubled with constipation for some years previous to this, but in June last her constipation almost amounted to obstruction. She had vomiting and straining, and had to resort to the strongest purgatives before a movement of the bowels could be procured. For the two months previous to operation these "cramps," as she called them, occurred weekly, but increased in frequency until she had them two or three times a week. In addition she suffered greatly from flatulence. For six weeks before operation her food consisted entirely of strained gruel and milk. On Dec. 1st, 1907, she felt very hungry, and ate some bacon and fried potatoes, and following this was taken with acute obstruction. The abdomen became distended, she had frequently recurring attacks of colicky pain and vomiting, which became faecal the evening before operation. When I saw her, her pulse was rapid and weak, and she was considerably prostrated, having been driven in that morning ten miles from the country. On examination, one could not feel any tumor, as the abdomen was very greatly distended.

Operation Dec. 3rd, 1907. The abdomen was opened, the umbilicus, and a growth was felt in the descending colon, near the splenic flexure. This growth was about one and a half inches in longitudinal extent, and surrounded the bowel completely, causing a very tight constriction. The colon above this was very greatly distended. I decided to do a colostomy, and the first incision was closed, and a second made on the left side through left linea semilunaris, and a loop of colon which included the growth was drawn out, and a few points of suture attached it to the peritoneum. A purse-string suture was placed around a portion of the bowel above the growth, and instructions left for this to be opened and a tube put in next day. Unfortunately, I had not a Paul's tube with me, or I should have immediately opened the bowel. Dr. Taylor very efficiently carried out instructions next day, and the bowel was thoroughly emptied. This drain was left in for three weeks, at which time I returned to Goderich, and did a resection, removing an inch of bowel on each side of the growth. An end-to-end anastomosis was done, and the bowel dropped back into the peritoneal cavity. Owing to the colostomy opening, one could not feel sure of asepsis, and a small drainage tube was placed down to the suture line, and brought out through the abdominal wound. At the end of six or seven days there was a slight discharge with a faecal odor, which lasted for about two weeks, gradually diminishing in quantity, and finally disappearing. The patient made a perfectly satisfactory recovery. I had a letter from Dr. Taylor on May 19th, in which he says: "I saw Mrs. J. yesterday, and she tells me she never felt better than at the present time. Her appetite is good, she can eat all kinds of nourishing food, is quite able to attend to her household duties, has no pain whatever, and has gained twenty-five pounds in weight since the operation."

Case VII. Miss M., age 50, cancer of lower end of sigmoid and upper part of rectum, patient of Dr. R. J. Dwyer. This case is interesting because her condition was diagnosed as a fibroid tumor of the uterus. She had no symptoms of obstruction, but was very weak and ill, with metrorrhagia. A tumor could be felt on left side of uterus, the size of an orange, apparently adherent to upper part of rectum.

Operation Feb. 9th, 1905, at St. Michael's Hospital. On opening the abdomen we found a mass involving the lower two or three inches of the sigmoid, and the upper inch of the rectum, and extending a little below the promontory of the sacrum. This mass was adherent to the fundus of the uterus. It was easily separated, and I decided to do a resection. The patient was placed in the Trendelenburg position, and clamps applied to the sigmoid above the growth, and also to the rectum below it. Six inches of bowel were removed, which included about an inch and a half of the upper end of rectum. The ends of the bowel

were approximated with a Murphy's button, and the abdomen closed. She was greatly shocked after the operation, and died on the fifth day.

Case VIII. Mrs. M., age 60, cancer of sigmoid flexure. First seen Dec. 30th, 1907. She came to me, stating that she had a growth connected with the uterus, which she had been advised to have removed, and asking me to undertake it.

On examination a mass could be felt extending from the left side of the uterus out towards the pelvic wall. It was slightly movable, but seemed to extend from the uterus to the rectum high up, to which it seemed to be attached. It was about the size of one's fist. She gave a history of increasing constipation for the last two years. This was now so bad that she had to take very large doses of medicine in order to get her bowels to move. She was quite anaemic, and her pulse was weak, and she said she had been losing strength for some months.

Operation Jan. 2nd, 1908. On opening the abdomen I found a mass in the sigmoid flexure, about three inches in length, and completely surrounding the gut. It extended to within three inches of the upper end of the rectum, and was lying over against the uterus, to which it was adherent. There was no dilatation of the intestine above the growth, although the stricture was so tight that only one's little finger could be passed through it. An immediate resection was done, followed by an end-to-end anastomosis. She made a perfectly satisfactory recovery, indeed she did not seem to be more disturbed by the operation than if it had been a simple appendicectomy. The bowels moved of their own accord on the third day, and slightly each day after this, until the end of the first week, when she was given a dose of castor oil. There was no distress and no distention after the operation, and she left the Hospital in four weeks in splendid condition, and since then has had natural movements without purgatives. I enquired about her a few days ago, and find that she is steadily gaining in weight and strength.

Case IX. Miss H., age 56, cancer of the rectum, patient of Dr. John Caven.

Operation June 13th, 1905. The growth had completely occluded the passage, and extended to within two and a half inches of the anus. Kraske's operation was done, and after removing the coccyx and lower two pieces of the sacrum, the growth was found to be two and a half inches in vertical extent. It was removed, taking away an inch of the bowel above and below it, and an end-to-end anastomosis was done by suturing. Of course, in this case the peritoneum was opened, and after anastomosis was done, it was sutured carefully around the rectum above the anastomosis. A small drain of iodoform gauze was placed down to the suture line from the sacral wound. The large

wound behind the bowel filled in in a comparatively short time, the whole wound being closed in about five weeks. She had a normal movement of the bowels six days after the operation, and almost daily after this with small doses of cascara during convalescence. It is now three years since the operation, and there is no evidence of recurrence. She has had perfect control of the sphincter since the beginning. This was a most satisfactory case in every way, and I think we may now consider that she is cured of the disease.

Case X. Mr. H., age 55, cancer sigmoid flexure, patient of Dr. Heggie. Had been working at his usual occupation until 5 days before I saw him. He gave a history of having had increasing constipation for 6 months. Had been given purgatives without result for past week. Was now much distended, with colicky pains, and visible peristalsis. I diagnosed obstruction from cancer of the large bowel, and advised his immediate removal to the hospital for operation. This he would not consent to. Five days later I was operating at St. Michael's Hospital, when I got a message saying that this patient was being moved there for immediate operation. When he reached the hospital he was practically moribund, the abdomen enormously distended, pulse rapid and weak, with a very anxious facial expression. The temperature was subnormal. Although the friends were told the case was now hopeless, an operation was urged. On opening the abdomen we found the intestinal contents free in the peritoneal cavity, due to several perforations of the caecum, which was enormously distended, quite the size of a large head. There was a small annular growth in the sigmoid, not more than a quarter of an inch in longitudinal extent, but tightly constricting the bowel. The peritoneal cavity was washed out, and the perforations closed, but he died a few hours later. This patient would undoubtedly have made a good recovery with probable freedom from recurrence, if an operation had been done earlier.

Case XI. Mrs. T., age 61, cancer of the transverse colon, patient of Dr. Beith, Bowmanville. She gave a history of suffering from haemorrhages from the rectum for 13 years. These commenced with the sensation of menstruation, and recurred at intervals of four or five weeks, in fact, they seemed to take the place of the menstrual period. These would continue for two or three days, and altogether she would lose from half a pint to a pint of blood. She was seen by several physicians, and carefully examined for intestinal cancer. She had no cachexia. For the last two years her abdomen had been noticeably getting larger. The movements during this period were flattened and small. She had marked and troublesome constipation. When I saw her she had been very ill for three days, with abdominal pain, and marked tenderness and rigidity, also vomiting, the latter, however, not

being faecal. She was very much prostrated, with a subnormal temperature, and weak, rapid pulse. She was evidently now suffering from peritonitis.

Operation Dec. 21st, 1902, at patient's home in the country. I found the caecum enormously distended, with a perforation the size of one's finger. There was considerable faecal matter already in the peritoneal cavity, also pus. On examining the large intestine, I found a growth involving the whole circumference of the gut. It was two inches in longitudinal extent. This, of course, was the cause of the distention of the caecum and ascending colon. As she was almost moribund, we could only bring the caecum out through the wound. She died in 24 hours.

#### DISCUSSION.

H. R. Cosgrain, M.D., of Windsor, Ont. Operations for resection of the colon have always been followed by a high rate of mortality. This has been the experience of all surgeons. The greatest success has been attained in the caecal region and next to that with the sigmoid, while radical operations on the transverse colon and on the hepatic or splenic flexures have been very disastrous. The ability to isolate the caecum and to protect the abdominal cavity from infection, is no doubt the reason why success is more often met with in this region. Also the intestinal contents which accumulate in the ileum are less violent than those which accumulate in the colon. The greatest danger is the exposure of the abdominal cavity to infection from the cut bowel. Also, other causes of the high rate of mortality are to be found in the poor general condition of the patients themselves—in the diseased conditions of the gut above the seat of obstruction—in the changes which take place in the intestinal contents from long retention and from the admixture with the toxins from the congested mucous membrane and from the attempt to make end-to-end anastomosis in bowels differing so vastly in size.

These unfortunate patients present themselves for operation when the partial obstruction has become chronic. They have become exhausted by pain and suffering and the bowels are in an acute state of congestion and inflammation. The operation must be performed at once in spite of the unfavorable condition of the patient. Many patients die, who might have been saved, if they had been operated upon at an earlier period. When the bowel is resected, the greatest difficulty is experienced in preventing infection. The intestine above the seat of stenosis is full of long retained faeces, which are very violent in quality. It requires a long time to empty the gut—during which the intestines are more or less exposed. If an end-to-end anastomosis of the cut

ends of the colon is attempted the surgeon is nonplused at the difference in calibre and the quality of the two ends. The proximal end is dilated to four or five inches and its walls are corrugated and parchment like—while the distal end is contracted to one-half its normal size and is soft and velvety and pliable. The main essentials in operating for chronic cancer are :

(1) Protection of the abdominal cavity from infection by deferring the evacuation of the intestinal contents until the abdominal wound has been completely closed and tightly sealed. This can be done only by bringing the tumor out of the abdomen and fastening it there, until the gut is opened.

(2) The avoidance of all serious secondary operations which would increase the risk of the patient's life.

I propose the following operations in order to accomplish these results :

Open the abdomen if possible directly on the tumor. If that is impossible make an exploratory incision in the median line. The coil, in which the stricture or tumor is found—must be drawn out of the abdomen—all adhesions loosened—enlarged mesenteric glands should be removed and the mesentery repaired. If the exploratory incision is made in the median line and the tumor is found to exist at either angle of the colon, close the median incision and make a new one over the tumor or stricture just large enough to permit of its easy exit. In every case the tumor should be drawn out of the abdomen at that point which would most nearly permit the resected intestine to occupy its normal position. At this stage, the two limbs of the intestine leading to and from the tumor at a suitable distance from the disease are joined together by Lembert sutures and an anastomosis made by the McGraw elastic ligature. Now to close the wound and suture it to the protruding intestine, tie a firm silk ligature around the efferent limb just below the tumor, cut off the gut below it; let no faecal matter come in contact with the wound. Close the gut with a circular suture, insert it into itself and push it in until it entirely disappears in the abdominal cavity. In this way the efferent limb is disposed of. Now seize the afferent portion and wrap it in gauze; see that your incision is completely closed by placing layers of gauze over it which has been soaked in collodion. Now thrust a large trocar in the intestines so as to empty it of its faeces. When the gut has been thoroughly emptied, cut off the diseased portion, insert a large sized glass tube into the bowel and tie it firmly in place by an encircling ligature, and attach it to a rubber tube for the disposal of the faeces. Now at the end of four or five days, the faeces will find their way through the new channel of anastomosis and pass into the lower bowel. As soon as this is deter-

mined by the passage of faeces by the rectum, remove the tube—turn the gut into itself and suture firmly—then close the integument over it. In this way we have guarded the abdomen from all contamination, for the work in the diseased bowel has been done entirely on the outside of the abdomen—the diseased portion has been excised—the anastomosis has been made and completed, in what is possibly one operation, for the final disposal of the proximal end by inversion and suture can hardly be called an operation.

The advantage of early diagnosis and early operation cannot be too strongly emphasized. The great mortality in these cases is as Moynihan puts it, "is the mortality of delay."

Dr. Armstrong, of Montreal, congratulated Dr. Bruce on his paper which was bristling with interest. One point in diagnosis was the symptom complex mentioned by Nothnagel, viz., haemorrhoids appearing in elderly people in association with recurrent painful peristalsis.

The abdomeno-perineal route was the operation of choice. Restoration of the canal should be attempted in all suitable cases. When this is impossible and the gut can be brought down sufficiently without jeopardizing the blood supply, a useful sphincter may be made from the posterior portion of the Gluteus maximus muscle. Dr. Armstrong reported an instance in which he had adopted this plan 10 years ago. The man is now well, weighs 195 pounds, and has perfect control of gas and faeces, unless when an occasional diarrhoea occurs.

If this is impossible a good anterior colostomy wound renders a man able to enter society, travel and attend to business, without being at all objectionable in any way, and quite independent of nurse and valet.

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## EXSTROPHY OF THE BLADDER: THE PETERS OPERATION.\*

F. N. G. STARR, M.B. (Toronto).

Associate Professor of Clinical Surgery, University of Toronto; Associate Surgeon, Hospital for Sick Children; Senior Assistant Surgeon, Toronto General Hospital.

**M**<sup>R.</sup> *Chairman and Gentlemen*,—No Toronto man would think for one moment of approaching the subject of Exstrophy of the Bladder without first paying some tribute to the genius and skill of the late Doctor George A. Peters. He it was who devised and carried to a successful issue an extraperitoneal method of transplanting the ureters into the rectum, thus furnishing the sufferer with a receptacle in which he is able to retain his urine for several hours without inconvenience. I take pleasure in placing the credit where it belongs, notwithstanding the paper of H. Simpson Newland, of Adelaide, South Australia, claiming

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\*Read at the meeting of the Ontario Medical Association, Hamilton, 27th May, 1908.

priority. One has but to read the two accounts to be made aware of who's who. I have followed his method in two recent cases, but before relating them will give you a brief resume of the present condition of the cases done by Peters himself.

(1) B.S.G., Male, operated upon at the Hospital for Sick Children, on July 15th, 1899, at the age of 5 years. Died about 6 months ago from an acute Bright's disease, having suffered for two years previously with ascending, infective pyelitis.

(2) G.R.H., Male, operation at the General Hospital, on October 7th, 1901, at the age of 13 years. He is now a rugged young man of 20 years, and is able to do a hard day's work. At the present time he can retain his urine for from three to five hours during the day, and for the whole night, unless he is very tired and falls into a profound sleep, when the sphincter relaxes sufficiently to permit of some leakage.

(3) Ada N., Female, operation at Hospital for Sick Children, on October 26th, 1901, at the age of 1 year. This case was complicated with a slight procidentia recti, which was cured by Van Bruen's method before the transplantation was attempted. She is now a child of eight years, and at the present time is well, goes to school, and is a bright cheerful child. She retains the urine for from three to five hours during the day, though at night there is some leakage.

(4) R.B., Male, operation at the Hospital for Sick Children, January 24th, 1902, at the age of  $4\frac{1}{2}$  years. He died of an ascending infection on the 5th day.

(5) G.R., Male, came under observation first, on March 9th, 1903, suffering from a left inguinal hernia, as well as exstrophy of the bladder. One month later his hernia was operated upon at the Hospital for Sick Children, and he was discharged for the time being. In the following June, he came under observation again with a right inguinal hernia and procidentia recti. On November 24th, 1903, the hernia and procidentia were operated upon by the Peters method.

(6) It was not until January, 1905, that Peters operated to transplant the ureters into the rectum in G. R. Two days after the operation there was an escape of urine over the bladder surface, which continued from day to day, until on the 4th of February he made an examination under an anaesthetic and found that the rosette of the left ureter in the rectum had become fixed to the rectal wall. The right one, however, had disappeared, and upon searching for it on the bladder surface the rosette was discovered and by means of a pair of forceps passed through the rectum and through the original opening in its wall; this rosette was again brought into the rectum and sutured there. From that on there was no escape of urine, and ten days later the openings in the rectal wall appeared to be closed and the child went on to a complete recovery.



When he left the Hospital, he was able to retain the urine in the rectum for from 2 to 3 hours.

(7) C.S., Male, aged 11, the son of a physician in New York State, came to me in May of last year with exstrophy of the bladder, having been operated upon in New York City unsuccessfully on three occasions. He was admitted to the Hospital for Sick Children and on May 11th, '07, he was given a general anaesthetic, and I did the Peters operation, according to the original description. The rosettes surrounding the ureters were transplanted into the rectum, but not stitched in situ, and the catheters removed, leaving a large drainage tube in the rectum to carry off the urine. The rectum was irrigated with boracic solution every 4 hours, and the wound in the bladder wall packed with gauze. On the 12th he complained of a great deal of pain in the back. There was no leaking from the wound. On the 14th, the rectal tube was removed. On the 15th, the rectum would retain the urine for from 2 to 3 hours. On the 16th a case of scarlet fever occurred in an adjoining ward and my patient was removed from the Hospital.

From the time of the operation to the time of his removal from the Hospital, his temperature had ranged from 98 1-5 to 99 4-5. On the day following his removal, the temperature rose to 102 and ranged for several days from 100 to 102, and some leakage of urine occurred. Pus also began to flow from the bladder surface, indicating trouble in one of the rosettes.

On the 22nd he returned to the Hospital and on the 23rd I made an examination, but found both rosettes in situ on the rectal wall, and discovered that the leak came from the right side. The leak continued, and as I could not make out a ureteral orifice on the surface of the bladder, I examined the patient under an anaesthetic, having administered a grain of methylene blue half an hour before the examination. Unfortunately this was not excreted until after the anaesthesia was over. However, the rectum was filled full of sterilized milk and there was no leak through to the bladder surface. An examination of the rectum showed the left rosette intact and urine coming from it, but the rosette of the right ureter had disappeared, although the end of the ureter could still be seen in the rectal wall, projecting perhaps  $\frac{1}{8}$  to  $\frac{1}{4}$  of an inch, the rosette having sloughed off and having allowed enough ureter to be drawn backward to permit of a certain amount of urine escaping in front. The bladder wound was packed tightly with gauze to try to prevent this leak.

The following day, however, the pads were stained with methylene blue, showing that there was still a considerable leak.

On the 9th of June, the patient was discharged in good spirits but much emaciated. A letter received from his father a few days ago states

that he is in excellent health, and can retain the urine in the rectum for several hours, the leak evidently having ceased from the anterior wall.

Baby O., female, aged  $1\frac{1}{2}$  years, was brought to me the end of January, 1908, suffering from exstrophy of the bladder associated with a large procidentia recti. (Fig. 1). On the 4th of February, in the Hospital for Sick Children, I operated for the cure of the procidentia recti by infolding the rectum with six fine silk sutures, leaving the ends long and then tying these to the parietal peritoneum in the left iliac region; the upper two sutures being used to close the opening into the peritoneum.

From the time the child recovered from the anaesthetic, her disposition seemed to be entirely changed; from being fretful and cross most of the time she became angelic. There was no sign of recurrence of the procidentia, and her general condition had improved so much that on the 27th of February, I decided to transplant the ureters into the rectum, after the method of Peters, and this was done. I took care to leave a very large rosette at the end of each ureter, and when these were dissected out they retained a normal pink color, and one could see minute vessels ramifying along the course of the ureter itself. I then transplanted these into the rectal wall, making sure that there was no tension on them, packed the wound in the bladder surface with gauze and returned the baby to her ward. She came out of the anaesthetic in a short time, was comfortable and happy, and took her nourishment well all that day and the next until about 5 p.m., when she suddenly became ill, and, upon examination by the nurse, the child was found to be pulseless and the temperature sub-normal. Stimulants were administered, but she died in about three-quarters of an hour. As an autopsy was not allowed it was impossible to discover the cause of death, but I was suspicious of pulmonary embolism. I think probably if one had been satisfied to return the baby to her home with the procidentia cured, and had given her 3 or 6 months to recuperate, that the ultimate result of the operation of transplantation would have been different. It seems to me that it was perhaps an error of judgment, but one of those errors that one unfortunately does not realize until it is too late. The operation was not a difficult one in this child and was done quickly, but she did not behave well under the anaesthetic at this second operation.

I think it would be safer to wait until a child is two or three years of age before undertaking the operation. The probability is that then our results will be more than uniformly good, and the mortality lower.

Harry M. Sherman, of San Francisco, reported a successful case by the Peters method.

Jelinek, in a recent communication to me, tells me that he has collected reports of 140 of these cases done by the Peters method, but that

there has been a high mortality, and adds, that with the addition of Peters' own cases recently sent him the mortality is greatly improved.

The technique of the Peters operation, described by himself, is as follows -

"The patient was anaesthetised, and the parts were disinfected as thoroughly as possible. The sphincter was well stretched, and the rectum, having been previously cleared by a purge and an enema, was washed out with an antiseptic solution of non-poisonous strength. A fair sized sponge to which a tape was attached was then passed into the rectum as high up as possible. This not only prevented any passage of faecal matter, but assisted materially in raising the anterior wall of the rectum towards the bladder. Turning now to the bladder, a Jacques soft rubber catheter, about No. 5, English, was passed for about 2 inches into each ureter. The part containing the eye was cut off so that the urine entered the opening upon the end of the catheter freely. A silk suture was then caught through the extreme end of the ureteral papilla once or twice, and was also passed by a needle through the substance of the catheter so as to effectually prevent its slipping out, as it was the intention to retain these catheters in position at least forty-eight hours. Care was observed not to obstruct the lumen by passing the thread across it, or by tying too tightly. The distal end of the ureter with a goodly rosette of bladder muscle and mucous membrane was then dissected free, the catheter affording an excellent guide to its position. The idea was that whatever virtue there might be in the peculiar termination of the ureter upon the inner surface of the bladder should be retained when the transplantation was completed. As soon as the entire thickness of the bladder wall, (which is here uncovered by peritoneum) has been snipped through with scissors or scalpel, blunt dissection may be employed, and it will be found not to be difficult to free the lower end of the ureter along the wall of the pelvis without injury to the peritoneum.

"Both ureters having been isolated, the whole of the bladder tissue was remorselessly ablated, from the perimeter, where it merged into the skin, to the prostate where the vesiculae seminales debouched. (During this dissection great care must be taken not to expose or injure the peritoneum; and if its hazardous proximity be suspected, a portion of the bladder muscle may be left, though every vestige of its mucous membrane must be removed. In my case the peritoneum gave no trouble whatever, and was never in the least jeopardised.)

"The final step of the operation was the implantation of the ureters into the lateral walls of the rectum, and this was accomplished in the following manner.

"With his finger in the rectum the operator carefully determines the exact point at which the implantation is to be made. The requisite

qualifications are,—(1) It must be above the internal sphincter. (2) It must be in the lateral and not in the anterior wall, so as to avoid kinking. (This actually occurred in the first instance in the author's case, necessitating a subsequent adjustment of the implantation.) (3) It must be high enough up to permit the ureter to project slightly, (say  $\frac{1}{4}$  to  $\frac{1}{2}$  inch) into the lumen of the bowel, without stretching. If the ureter thus projects it forms a papilla, which when pressed upon from within the bowel becomes converted into a valve, similar to that at the entrance to the bile duct and the salivary ducts. This point having been decided upon, the operator or his assistant passes a slender forceps through the anus, presses them against it from the rectal aspect, and lifts it carefully into the anterior wound. The wall of the bowel is now incised upon the projecting forceps, which are then forced gently through. By stretching and cutting the wound is enlarged with great exactness, so that the ureter with its contained catheter will accurately fill it and yet not be injuriously pressed upon. The forceps are now opened, made to grasp the distal end of the catheter and withdrawn into the bowel and out of the anus, the operator at the same time carefully directing the ureter through the slit, and satisfying himself that its termination forms a papilla at least one-fourth inch long upon the rectal mucous surface. In guiding the mouth of the ureter through the slit in the rectal wall forceps may be passed back again beside the catheter, and made to grasp the edge of the rosette of bladder tissue around the ureteral papilla. This process is repeated upon the other side. The sponge plug is now withdrawn, care being taken not to disturb the catheters while doing so."

There seems to be no necessity whatever for stitching the ureters in position, and in my case the attempt was not made. The catheters are left in position at least two or three days, or until they come away of themselves, which occurred in my case in about sixty hours.

The Dressing. I do not think it judicious to attempt any plastic operation for immediate closure of the abdominal wound. The whole area to be healed will be found surprisingly small, and a moderately firm packing with iodoform gauze will afford efficient drainage, and at the same time furnish a support and splint to the delicate ureters in their new position. When the implantation has healed securely, and granulation has been established, a plastic closure may be done if it be deemed advisable. I allowed my case to heal entirely by granulation, and the scar is quite small and firm.

In Peters' last operation, that of G.R., and with the memory of the case of R.B. in his mind, he did not use the catheters as guides even, but grasped the mucous membrane above the openings of the ureters and then made a transverse incision three-fourths of an inch below through

the entire posterior bladder wall, dissecting up behind the ureter, first on one side and then on the other. The bladder wall between the ureters was then divided, leaving a large, well-nourished rosette attached to each ureter. Into each rosette a chronic catgut suture was inserted and then the rosettes were brought into the rectum in the usual way and the ends of the catgut suture carried through the mucous lining of the bowel only, and tied. No catheter was used to drain away the urine, but a large-sized drainage tube was left in the rectum.

The absence of the anterior wall of the bladder is such a terrible condition, both to the child and to the parents, that it seems to me that any operation that will make for a betterment of a lack of development that we cannot overcome, is an operation in the right direction, and I would close by saying,—All honour to the man whose mechanical ingenuity led him to devise this extra-peritoneal method, and who had the surgical skill to lead us along a safe path for its successful accomplishment.

1. British Medical Journal, June 22nd, 1901.
2. 3. 4. Canadian Journal of Medicine and Surgery, April, 1902.
5. Not before reported.
6. British Medical Journal, June 22nd, 1901.
7. 8. Personal cases.
9. British Medical Journal, June 22nd, 1901.  
Canadian Journal of Medicine and Surgery, April, 1902.
10. Journal of American Medical Association, September 23rd, 1905.

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### THE VIENNA THROAT CONGRESS.

D. J. GIBB WISHART, M.D.,

Associate Professor of Laryngology and Rhinology, University of Toronto.

**T**HE first International Laryngo-Rhinological Congress met in Vienna in Easter week and was attended by nearly five hundred of the leading Continental specialists. Among these were some thirty from the British Isles, including Sir Felix Semon, Doctors St. Clair Thompson, Herbert Tilley, Richard Lake, Waggett, and others from London, Williams of Bristol, Patterson of Cardiff, Hunt of Liverpool, Kelly of Glasgow, and Turner of Edinburgh, many of whom are known to Canadians who attended the Toronto meeting of the British Medical Association in 1906. American Laryngology was practically unrepresented owing to the popularity of the Montreal meeting of the American Laryngological Association, those specialists from America who were present being chiefly engaged in study in Vienna, and great disappointment was expressed to me by Professor Chiari, the President, at the

absence of Newcomb, Stucky, MacKenzie, and others who had signified their intention of being present. Canada was represented by Doctors Muckleston and White of Montreal, and myself. South America sent three representatives and Japan two.

Most of the English speaking delegates made their headquarters at the Hotel Metropole, and Canadian experiences were a frequent topic of conversation. The good feelings engendered by our Toronto meeting will not soon die out.

As your readers are aware, Manuel Garcia, a teacher of singing, was the discoverer of the Laryngoscope, but its introduction into medical teaching was due to the work of Czermak and Türck of Vienna, and this Congress was held to celebrate the fiftieth anniversary of their great innovation.

The sessions of the Congress were held in the meeting hall of the Vienna Medical Society on the Franzgasse, an admirably adapted room seated for about four hundred, with numerous ante-rooms which served as bureaus for the officials of the Congress. The opening proceedings were, however held in the assembly hall of the Rathaus or City Hall, and were dignified by the presence of the Governor of Lower Austria, who welcomed the members in the name of the Protector, the Heir Presumptive to the Austrian throne, His Imperial Highness the Archduke Ferdinand. An address of welcome was delivered by the President Hofrath, Professor O. Chiari, who spoke most eloquently in German, French, and English, and was followed by Professor von Shroetter, who delivered an eulogy on Czermak and Türck in a voice and manner which reached and delighted every one. Shroetter was in excellent spirits, and no one could have imagined that within twelve hours thereafter, immediately following the dismissal of his guests at evening dinner, he should have passed away, without a moment's notice, from what was probably an attack of angina pectoris. The Congress adjourned for one hour the following morning out of respect to this great leader, whose pupils many of its members had been, and on the day following attended the solemn ceremony of his funeral.

To me the Congress was a unique experience from the opportunity it gave to meet and listen to such authorities in my specialty as Frankel, Killian, Schmiegelow, Onodi, Heryng, Sendiak, Hajek, Moure, Grad-enigo, Ferreri, Massei, Gluck and many others, and the subjects discussed during the sessions of the Congress, which lasted five days, were of the first importance, but it is not possible in this short article to enter into a lengthy discussion thereof.

The display of instruments from various manufacturers of Spain, France, Germany and Austria, was also most interesting and instructive. This together with the "Exhibit" of the Congress were placed in adjoin-

ing rooms in the University, which like the Rathaus is situated on that wonderful street, the Franzensring. This exhibit consisted of objects relating to Laryngo-Rhinology, Oesophagoscopy, and Bronchoscopy, and included instruments for examination, treatment, etc., manuscripts, anatomical and pathological preparations, and illustrations used by Türk and Czermak. Here a crowd was always in evidence, debating the value of this or that modification of an instrument, and looking carefully into the merits of everything new, or poring over those wonderful anatomical preparations of Zuckerkandle, the originals of the plates found in most of our text books. Here were to be seen many other things of the utmost interest, Professor Chiari's collection of historical instruments, where the gradual development of the specialty might be studied from the very instruments used by Türk, Tobald, Stoerk, and MacKenzie, which alone contained one hundred and seventy-four exhibits; Hajek's dry and wet preparations, selected from his teaching clinic; and an extensive exhibit from Professor Onodi's clinic in Budapest and many others. A complete catalogue of over fifty pages in length was obtainable by every member, and the rooms were so large, well-lighted, and quiet, that every specimen might be studied to advantage.

The third attraction was the entertainment, which was provided on a royal scale. Besides giving the guests the entree to the Royal Opera, and two other theatres, for three evenings, of the week, the entire Congress were invited on the evening preceding the opening session to a "Bier und Rauch Concert" of the most informal kind, simply to afford an opportunity for the members to shake hands with one another. As the ladies abroad are not afraid of joining their husbands and sons in a glass of beer in a smoke filled room, and as a hundred musicians, all of whom possessed medical degrees, discoursed Strauss waltzes in the most ravishing way, the evening passed most successfully. The next evening was spent by nearly all the members at the theatre, and Traviata was produced in the world famed Royal Opera House in a way never to be forgotten.

On Wednesday evening the entire Congress and its ladies were entertained by the city in the Rathaus. We assembled at seven o'clock and were conducted on the grand tour of what are probably as fine municipal buildings as any city can boast. This occupied about an hour because, when brought into the rooms devoted to the collection of old armour, and filled to the ceiling with perfectly arranged rows of complete suits of armour, casques, shields, battle axes, and what not, one could not but exclaim with astonishment and linger to feast the eye and the imagination. We were finally brought into a large reception chamber, at the entrance doors of which every lady received a handsome bouquet, and every gentleman a leather cigar case, filled with the needful weed, and

stamped with the Imperial arms. Here we listened to an address of welcome from the Mayor, after which we were ushered into the magnificent banquetting hall, where we sat down, eight hundred in all, to a sumptuous repast, which occupied our closest attention for hours. It is seldom that one can see so large an assembly collected at such a function, unless it be in a building used as a skating rink, an armoury, or perchance a gymnasium; but here were all the vaulted ceilings, mural decorations, brilliant illumination, and what not, calculated to lend magnificence. There was no crowding, the viands were served hot from the kitchens of the Rathauskeller (basement restaurant), and the speeches were audible to everyone.

The Banquet of the Congress took place on Thursday evening, but this I did not attend, and cannot describe. On Friday evening after the Opera, we were again entertained at a reception given by the Graf and Grafinn de Kielmansegg, the Governor of Lower Austria and his lady, in their palace, a stately old Renaissance building, where there assembled a brilliant gathering of scientific men, titled personages, diplomatists, and eminent state dignitaries. In addition to these general festivities the ladies were provided for each morning and afternoon, and under the personal charge of Mesdames Chiari and Grossman, were conducted to the chief of the many interesting sights of Vienna. Hospitality was freely extended and enjoyed to the full. The members carried away as mementoes, in addition to pleasant memories, engravings of Czermak and Türck, and a commemorative bronze tablet.

A committee was appointed to arrange for a permanent organization and regular meetings.

47 Grosvenor St., August 20th, 1908.

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#### MEDICAL TREATMENT OF APPENDICITIS.

G. R. Cruikshank of Windsor, Ontario, believes that a few cases of appendicitis can be treated successfully by operation only; others are best treated by this means, but the most are amenable to nonoperative treatment. He recommends deprivation of all food, and purgatives, rest, morphine, ice-bags or hot applications, and Fowler's position. Enormous numbers of healthy appendices are removed. The operation should never be done in the acute stage. The mortality in cases of appendicitis improperly operated on is frightful.—*Medical Record*, August 22, 1908.



## CURRENT MEDICAL LITERATURE

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MEDICINE.

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

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STATUS LYMPHATICUS IN RELATION TO GENERAL  
ANÆSTHESIA.

In the *British Medical Journal*, Jan. 25th, there is an article on this subject by McCardie, of Birmingham. Most of the work on this condition was done by Paltauf and Kundrat, and to their writings there is little added that is original. The condition found at autopsy is thus described by the latter: The results at autopsy are tolerably uniform and very remarkable; they are characterized by the presence of a thymus of greater or lesser size, by an enlarged spleen with a varying degree of prominence in its follicles, by tumescence and enlargement of lymphatic glands, by prominence and multiplication of follicles at the base of the tongue and the pharynx, by enlargement of the tonsils and of the solitary follicles and Peyer's patches in the intestine, by a dilated heart and extremely flaccid heart muscle. In addition there is sometimes found a small heart, contraction of the aorta, and dark fluid blood in the heart cavities. Some less constant features are great pallor of the skin, enlargement of the tongue, enlargement of the thyroid gland, infantilism, œdema of the lungs and brain, fatty changes in the liver, and alterations in the bone marrow.

The writer has examined the records of 30 cases of deaths during or after anæsthesia, which suffered from this condition. Two cases of death under local anæsthesia are recorded; in both the typical condition was found. The average age in 35 cases recorded was 16; 24 were under 20; they were evenly divided among the sexes. Of 22 cases during anæsthesia in the last ten years, 5 showed post-mortem the symptom complex. A number of these are described in detail. Usually there was difficulty with the anæsthetic; the amount of chloroform required was small; there were generally present adenoids and enlarged tonsils, while the heart sounds were flappy; there was a tendency to greyness of complexion under the anæsthetic and shallow breathing.

In most of the cases there was no previous history noted. The tendency to stridor and dysprœa which frequently attends this condition and is suggestive of it should be watched for and when present should suggest further examination. The diagnosis should be easy, at least where several of the conditions described are present. The writer lays stress on the

enlargement of the tongue and of the lingual and pharyngeal follicles. Among conditions frequently associated are Graves' disease, epilepsy, rickets, and infantilism, with congenital defects. Death is sudden. In some the facial pallor appeared first and it was found that the circulation had stopped. In others the respiration became superficial and intermittent, while the pulse became impalpable. In still others there was cyanosis and dyspnoea.

The way in which death is brought about in the non-anæsthetic cases of sudden death has been the subject of some conjecture. One theory is that the enlarged thymus presses on the pneumogastric and recurrent nerves in the anterior mediastinum; it seems to interfere with inspiration and may be the cause of the stridor.

In anæsthesia changes in state are rapidly brought about and with little anæsthetic. The pupils are often larger than usual and tend to dilate quickly. The patient does not react to stimulation of ether, the pulse is of low tension and frequently is slow. Ether should be chosen if feasible; heart tonics should be given for some time before; the administration should be very deliberate and all struggling should be avoided.

Death is due to heart failure. An injection of adrenalin into the heart might be effective if given early, or direct or indirect heart massage. If we have to deal with "blue syncope" artificial respiration should be used. If it is the terrible white syncope, death is imminent. There should be no hesitation in performing direct heart massage through the diaphragm.

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## SURGERY.

Under the charge of H. A. BEATTY, M.B., M.R.C.S., Eng., Surgeon Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital; and Chief Surgeon Ontario Division, Canadian Pacific Railway.

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### THE TREATMENT OF GONORRHŒA.

When called to treat a case of gonorrhœa the organ should first be examined. This will enable the physician to determine existing complications and stage of the disease. Be particular to emphasize the necessity of closely following all directions. The patient should be impressed with the fact that gonorrhœa is never mild, and that many times it requires not only days but weeks to bring about a cure.

He should be instructed in the manner of taking an injection and cautioned as to the danger of being careless with his toilet. Many do not know that the disease can easily be carried to the eyes by the hands or infected linen, or that infected cotton and similar material might easily

be picked up by some child and contract gonorrhœal ophthalmia as a result. An injection should always be taken immediately after urinating, and, if possible, the urethra should be cleansed with a saline solution, for you must have a surface free from pus before your treatment will prove its worth. The remedy should then follow and be retained for a period of five minutes. Never use anything to plug up the meatus. Allow it to drip on absorbent cotton into a pouch which is drawn up around the penis.

A suspensory bandage should be worn during the entire course of the disease, and the patient should be warned as to the danger of violent exercise or work while undergoing treatment. Such advice if followed will prevent complications. The diet should be regulated. Alcohol and meats should be excluded, a light diet being best. Water is one of the best diuretics, and should be drunk freely.

In ordinary cases the following prescription is useful, in connection with injections, from the fact that it prevents the extension of the disease, is a mild diuretic, and at the same time is destructive to the gonococcus:—

Methylene-blue .....dr. 1 (60.0)  
Nutmeg .....dr. 1 (60.0)

M. ft. capsules No. 30.

Directions: One capsule four times daily.

In complicated cases, where we have an extension of the disease, namely, cystitis, etc., Urotropine, in 5-gr. doses several times daily, has proved quite useful.

In those cases where the urine is highly acid, a scalding sensation will be experienced during micturition. This may be corrected by giving some mild alkali, such as common bicarbonate of sodium in teaspoonful doses before meals. Should the urine prove irritating or there be a too frequent desire to urinate, give

Salol .....drs. 2 (120.0)  
Oil santal, pure .....drs. 2 (120.0)  
Oleoresin cubebs .....drs. 2 (120.0)

M. ft. capsules No. 30.

Directions: One capsule four times daily.

Flushing the urethral tract with hot permanganate of potassium solution, in varying strengths, daily, using at least one quart in a "Valentine irrigator," has many warm advocates. This treatment is of course administered at the office, while the patient may be given the following prescription:—

Alphozone solution, 1 : 1,500, as an injection several times daily.

This drug is non-irritating, possesses strong germicidal properties, and is non-toxic.

Late stage: In chronic urethritis, or gleet, massage of the seminal vesicles or prostate may be quite necessary. All strictures should be dilated. Pass the sounds even though the patient does not give a history of stricture. The office treatment should immediately follow, viz., deep instillations of argent. nitrate—1:250 or 1:500—with an Ultzmann-Keyes syringe. This gives most excellent results, the patient using in connection with it the following injection:—

Argyrol, 10 per cent. solution, as an injection four times daily, retaining for a period of at least five minutes.

This treatment should insure a cure in the course of four or five weeks, but remember, the patient should never be dismissed so long as shreds appear in the urine.

Prophylaxis is of the highest importance from more than one point of view. Much can be done to prevent the occurrence of gonorrhœa if one but observes the hygienic laws alone. (He who does right need never fear the consequences.) After coitus the organ should be carefully washed with an antiseptic solution, while the surgeon should always be careful to see that all instruments, linen, etc., are fully sterilized when he is operating upon a patient.—*The Therapist*, 15th May, 1908.

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#### HETEROPLASTIC TUMORS IN TRANSPLANTATION.

Professors von Leyden and Carl Lewin of Berlin, Germany, say that experiment shows that the transfer of tumors in animals is not through infection, but by transplantation of tissues, that is, artificial production of metastases. In 1904, it was shown by Ehrlich and Apolant that a cancer had, after sixty-eight transplantations, become a spindle-celled sarcoma. This may have been due to a malignant degeneration of the stroma cells. The Berlin Institute for Cancer Research showed this same change in rats, mice having been the animals of experiment previously. Sarcoma began to develop between the sixth and twelfth generations of transplantations. The original adenocarcinoma disappeared completely and continued in later transplantations as a true sarcoma. Some tumors are of the mixed type. The type cells varies in different transplantations. It must be accepted that the tumor cells may change in form. Cancroid tumors also developed, growing side by side with mixed and sarcomatous forms. The same stimuli that caused the appearance of the sarcoma compelled the growth of epidermal cells. The nature of the irritating influence is not yet known, but originates from the proliferating cells of the primary new growth.—*Medical Record*, August 22, 1908.

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## EDITORIAL.

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### ONE WONDERS WHY.

There are some things about the status of the medical profession in Canada that looks rather strange, indeed, smacks of mediævalism, or worse.

Ontario is one domain for medicine. Then if a doctor qualified to practise in Ontario goes to Alberta, or British Columbia, or to Nova Scotia, etc., he finds he has more examinations staring him in the face. This is grossly unfair and unjust.

We boast about Canada being a nation, and about its being the banner across-the-seas' portion of the British Empire, and about our freedom, and our British fair play, etc., etc., but yet in medical matters, we are a chain of nine separated provinces, without sympathy in matters medical, and indeed, jealous of each other.

The old idea of building a high fence around each one's own little section, so that the others cannot come, can hardly look in, is all wrong. Medicine and surgery all over Canada are one and the same. The various councils might very well regulate the standard of degrees or qualifications they would accept, and they might with good conscience shut out doctors from other countries, but why a doctor who has complied with all the requirements of Ontario should not be allowed to practise in Saskatchewan, or vice versa, is rather puzzling.

The councils should get together. The whole miserable business is one of easy solution. First of all, get rid of selfishness that each province should be fenced off like a little patch for a certain number. Then get rid of jealousy that the removal of these foolish restrictions would in some way give some mysterious advantage that would send the other provinces away ahead.

We may be wrong, and will be glad to be shown our error if we are, but we are firmly of the opinion that all the provinces should adopt a five years' course. This is not one day too long. Then the qualifying councils of the various provinces should see that the universities kept up their standards to such a level as to warrant the degrees from these being registered as qualifications for practice. The councils could even

appoint supervisors to see that this was carried out and lived up to. British Columbia, Alberta, Saskatchewan, New Brunswick, and Prince Edward Island, where there are no medical colleges as yet, could agree upon a standard which would be accepted, and throw the responsibility on the other provinces in the matter of registration.

The Province of Quebec is now moving for statutory enactments to make the five years' course obligatory. This will come. Ontario has this now. It does seem very strange that the Universities of McGill and Laval can grant degrees that are accepted by the Council in Quebec, and the Universities of Toronto, Queen's and the Western cannot do the same in Ontario. In Manitoba the University standard is accepted by the Council.

This whole system of parochialism, or little back-garden policy, must be got rid of somehow. We would suggest that the solution of the problem should begin in Ontario. In the first place we claim that any one who has obtained his degree from the University of Toronto, Queen's, or the Western, provided these enforce a five years' course, should be allowed to register. The council should, we think, have the right to satisfy itself that the standard is kept up to a proper level. This would be one step onward.

Then another step onward would be that the licentiates, or those who are registered in any other province where similar time and standard regulations exist, should have the right to register in Ontario, provided this right is granted in return. The solution would be somewhat thus :

1. The Medical Councils for each province to adopt a full five year course of study. They need not be invariably the same, but in five years the ground will be covered equally in all the provinces at some session or other of the academic course.

2. The councils should agree to accept the degrees of all the Canadian Universities which can show a five years' course of such character as to meet the requirements.

3. When one is able to show such qualifications in one province as enables him to register in that province, this fact should enable him to register forthwith in another province if he wishes to do so. This would place the responsibility for the standard on the various provincial medical councils; but not the holding of examinations.

This plan works in Britain. Then in the Maritime Provinces, in Quebec, and in Manitoba the university degrees have a real value, not a mere academic one. Why not in Ontario? Can any one tell us? Why so many examinations? Surely no one for a moment will maintain that the people in Manitoba, Quebec or the Maritime Provinces cannot get as skilled medical attendance as those living in Ontario.

This broader view of things medical is bound to come, and those who are vested with the authority of managing these things better be taking their bearings. It will not do to simply drift, the course of events should be directed, regulated, guided. The Ontario Council would still exist. It would keep out foreigners, supervise the universities, and examine where it thought necessary such as came from universities not demanding a five years' course.

Along some such lines of interprovincial registration will come the ultimate solution of the question of Dominion registration. Such steps would make the application of the Roddick Act easy.

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### THE MEDICAL COUNCIL AND THE MEDICAL EXAMINATIONS.

For some time there has been a good deal of talk about the results of the council examinations. We learn from the recent meeting of the Medical Council that about 60 or 65 per cent. of the students failed on their Intermediate Examinations.

On making enquiry we learn that the students from the Medical College in London, those from Queen's in Kingston, and the students from McGill in Montreal did better than those from Toronto. We would like to know why? A careful perusal of the lists go to show that the students trained in Toronto do well at the Primary Examination before the Medical Council. In other words these students are well prepared on their scientific subjects. They know their physiology, chemistry, anatomy, histology, etc.

When they come to the Intermediate Examination they fail. They do not appear to be capable of holding their own on medicine, surgery, obstetrics and diseases of children. This is very serious and should be looked into. One might think that the examiners were at fault were the students from London, Kingston, and Montreal turned down in an equal percentage. But this is not the case. One can hardly imagine that the council examiners slaughter those from Toronto intentionally.

Another feature of this subject, which we gather by enquiry is that the Toronto students do much better on their Final Examinations than on their Intermediate Examinations. Can it be that the year spent studying by themselves, or in other hospitals, and under other conditions than pertain in the medical college in Toronto, fits them better for the Final Examinations than their college training fitted them for the Intermediate? This is a question that should be answered.

We would be very sorry to think that the training of the medical students is less carefully done in Toronto than in the other medical

colleges. On the other hand we would condemn in the strongest terms at our command any attempt on the part of the examinations to be unfair.

Many of the students of Toronto have complained that they have too much scientific work given them. This overtakes their time and energies to such an extent that they fall down on the Intermediate examination. If this complaint is well founded, no time should be lost in correcting the mistake. Not very long ago several of the leading medical journals in Great Britain condemned the growing tendency to place too much scientific work on the curriculum. We venture to state that no physician, surgeon, or obstetrician ever yet relieved a pain or prolonged a life for a single moment through his knowledge of embryology. It may tell him how a cleft palate occurs, but it does not tell him how to operate for its cure. There must be reason in all things. We would sooner see a young doctor know how to write a good prescription for acute bronchitis than be able to tell all about the development of the branchial arches.

However the result has come about, it remains true that the students from Toronto did not do as well as they should have at the Intermediate examinations. We believe that these students are as bright as those of any other college, we believe that they are as well taught as anywhere else, and we believe that the examiners are strictly impartial, but we believe also that the difficulty is to be found in the fact that the students of the University of Toronto have too much ground to cover in the time at their disposal. The remedy, therefore, is easy and at hand. Less science is the master word.

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### THE CANADIAN MEDICAL ASSOCIATION.

The Forty-first annual meeting of the Canadian Medical Association has passed into history, and we pause to look back on what it did to ascertain if any of its influences are still with us, and likely to bear fruit in the future.

Under the new constitution the Finance Committee is a very important factor in the working of the Association. It is composed of Drs. J. T. Fotheringham, chairman, F. N. G. Starr, Geo. E. Armstrong, James Bell, and R. W. Powell.

The report of the special committee on a journal for the Association was presented by Dr. Andrew McPhail. From the report the following words set forth its essential feature: "In our judgment the undertaking is feasible, provided that all members pay a fee of five dollars, of which



three dollars will be assigned from each member for the purposes of a journal. We estimate that with 1,500 subscribers the undertaking would be a success. We recommend that the matter be now referred to the Finance Committee."

The Executive Committee consists of Drs. R. W. Powell, A. T. Shillington, W. J. Bradley, R. A. Reeve, C. J. C. Hastings, J. T. Fotheringham, J. H. Elliott, W. Hackney, James Bell, Geo. E. Armstrong, F. A. L. Lockhart, J. C. Mitchell, E. P. Lachapelle, G. Carleton Jones, A. B. Atherton, the President, the Treasurer, and the Secretary. To this may be added certain members from affiliated associations.

A committee to take into consideration the question of a pure milk supply was appointed. We would most respectfully invite attention to the location of the members of the committee. Something may be done by correspondence, but we fear nothing will be done by the holding of meetings, unless a hurried meeting of such members as may be present at next year's meeting in Winnipeg. Well here is the committee, and its geographical distribution: Drs. C. J. Hastings, Toronto; W. H. Eagar, Halifax; T. D. Walker, St. John; S. R. Jenkins, Charlottetown; R. Eden Walker, New Westminster; A. D. Blackader, Montreal; A. McPhedran, Toronto; W. B. Thistle, Toronto; J. T. Fotheringham, Toronto; Popham, Winnipeg; W. J. Bradley, Ottawa; J. L. Clout, Ottawa; A. B. Atherton, Frederickton. We would most respectfully suggest that if good work is to be done the several committees should be selected with some reference to location. By this arrangement frequent meetings would be possible and real progress might result.

It strikes us that the Finance Committee has a heavy task laid upon its shoulders. The report of the Journal Committee recommended that the question of an Association Journal be referred to it. To make the scheme feasible, this committee will require to arrange for about \$10,000 cash to launch the journal with, or to secure at least 1,500 subscribers who are willing to pay \$5 a year—three for the journal and two for the association. This will have to be done by correspondence, as there is no money to pay a suitable person to travel the country to solicit the names of the required 1,500.

This country covers a vast area, and is thinly peopled, especially so far as the medical profession is concerned. Then there is the dual language difficulty. Somewhere about 1,800 of the profession of Canada speak the French language. This leaves about 4,000 to draw the required 1,500 from. Of this number many are now too old to be interested in the journal project, and many are indifferent and would not become supporters.

## TORONTO'S SANITARY BY-LAWS.

We wish to return our thanks for the good judgment expressed by the ratepayers of Toronto in carrying by such substantial majorities the by-laws for a trunk-sewer and a water filtration plant. These are now absolutely necessary for the growth of the city.

Toronto is destined to be a great city. The population may be put down at about 300,000. To this there is a yearly addition now of about 15,000. In the near future the surrounding aggregations of people will join their interests with those of the city proper. This will swell the population rapidly. There was no time to be lost. Never in the history of this city will the time come when these two great undertakings can be given to the city at a more reasonable cost than now. The necessary lands can be secured now cheaper than at some day in the far off future.

The laying down of a trunk sewer and the construction of a modern filtration plant will bring back the money spent upon these projects many times over in the enhanced value of property, the improved healthfulness of the city, and the presence of a sweet Bay. Toronto as a resort for visitors will become much more attractive, and thereby gain immensely.

But it must be remembered that all the indications point clearly to the fact that Toronto is destined to become an industrial and manufacturing centre. This makes it doubly necessary that the strictest sanitary conditions should now be laid down. If this be not done, the influences of a vast number of workshops might render the city very unhealthy. Every city should try to gauge its future and lay down its foundations to suit the coming superstructure. In this respect, Toronto has acted most wisely and well. To controller, Dr. W. S. Harrison, we extend our sincere congratulations. Dr. Amyot and Dr. Sheard did yeoman service as did many others. They now have their full measure of satisfaction. The people, too, must surely feel thankful.

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#### SCHOOL HYGIENE.

We talk a great deal in this country about securing immigrants, and this may be all well and good; but until very recently we have not said much about taking care of those who live in our own country.

Children die, not by the hundreds, but by the thousands from preventable causes. This should not be. Then tuberculosis is carrying off its thousands every year and nationally or provincially very little or nothing has been done.

Britain is now waking up out of her long sleep on this matter, thanks to such men as Sir T. Lauder Brunton. In the United States a national association on school hygiene has been formed with President Roosevelt as honorary president. This looks like doing something. This organization has undertaken the publication of a journal devoted to the interests of school hygiene.

We take the position now which we have been taking for years that the Ontario Government should act in this matter. Instructions could be given to teachers in matters of the health and hygiene of the pupils and schools. Suitable literature should be published and placed in the hands of the teachers. Every other day or so a bulletin comes by post on the raising of grain, fruit cultivation, the management of bees, etc., etc., but so far we have not seen a bulletin on the building, equipment, or sanitary management of the schools.

We are spending enough money to more than justify us in spending a little more to secure the added advantages. The Government of Sir James Whitney has been exceedingly liberal in educational affairs, and we commend this important, all important, subject to his careful consideration. We feel that if it once gets there it will be attended to and something done that will yield good fruit.

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#### THE SERUM TREATMENT OF EPIDEMIC MENINGITIS.

That the science of medicine is making headway nothing could prove better than the progress achieved in the treatment of one of the most dreadful of diseases, cerebro-spinal meningitis. No small share of the credit in this march onwards is due to Dr. Simon Flexner, of the Rockefeller Institute.

The disease treated by the serum is the one caused by the diplococcus intracellularis, or the true cerebro-spinal meningitis. The serum is obtained from the horse by the inoculation of that animal with the diplococcus intracellularis.

In a recent article upon this subject, which appeared in the *Journal of the American Medical Association* for 25th July. Drs. Flexner and Jobling report 393 cases. Of these 295 recovered and 98 died. This is a remarkable record. The complications were much reduced in number and severity. Deafness appeared in some instances, but this in these instances occurred before the serum was employed.

Cases under one year and over twenty yield the poorest results. While those from 5 to 10 do best. The period of the disease is also matter of much moment. Those treated from the first to the third day gave a death rate of 14 per cent. When the treatment was commenced

from the fourth to the seventh day, the mortality was 22 per cent. When the serum was given after the seventh day of the disease the death rate was 30 per cent.

The mode of termination of the disease is interesting. Of 270 cases where the records were full and complete, 211 recovered by lysis, and 69 by crisis. This would show that about 30 per cent. terminate abruptly, when placed under the serum treatment.

The diplococci undergo marked changes under this treatment. They rapidly decrease in numbers, are confined to the tissues and not free in the spinal fluid, they undergo fragmentation, and stain diffusely. It would appear to be well established that this treatment restricts the numbers of the diplococci and increases the phagocytic action of the blood.

Relapses are not frequent during the course of treatment, and rarely fatal if the serum be resorted to at once. This treatment would seem to have a great future before it.

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#### THE TUBERCULOSIS PROBLEM.

As the result of the studies given to this disease much light has been thrown upon some features of the subject.

In 1882, Dr. Koch announced the discovery of the bacillus. In 1901, he declared that the human and bovine types were different, and that man had little or nothing to fear from the bovine form.

This has been keenly called in question in many quarters, and now it may be laid down as proven beyond the chance of dispute that man may be, and often is infected from the bovine source.

But it appeared that the inhalation route would not likely be a frequent route in such cases. This directed attention to the digestive canal. It now appears as the outcome of many observations that man is frequently infected through the intestinal mucous membrane.

In the case of children the bacilli are held in the intestinal lymph glands, and abdominal tuberculosis is of frequent occurrence. In the adult, on the contrary, the bacilli pass through these lymph glands and by way of the circulation reach the lungs.

Where, therefore, we are dealing wisely with those afflicted with tuberculosis, especially the pulmonary form, we must not overlook the affected cattle. It turns out that the milk and meat from tuberculous animals are real sources of danger.

It has also been shown that bovines can be infected by the human bacillus. Other experiments have been made. Among these may be mentioned those where general tuberculosis was given to anthropoid

apes by feeding them upon bovine tuberculous matter. This should surely convince the most sceptical. In the prevention of tuberculosis attention must, therefore, be given to cattle as well as man.

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### MODERN MEDICINE.

This is the title of Dr. James Kingston Fowlers' address on medicine before the British Medical Association. He handled his subject in an able manner.

He referred to the marked advances that medicine has been making. He contended rightly that internal medicine is not standing still while surgery has been advancing.

In a few well-chosen words he referred to the great work of Pasteur and Lister, and what it means to mankind.

He then spoke of the work on vaccine therapy by Sir A. E. Wright. With regard to immunity, he pointed out the three stages of advance: First, that infectious diseases are due to some form of organism; second, that these organisms can be cultivated outside the body and their virulence greatly reduced; and, third, that these mild or attenuated organisms may be injected into the body giving rise to immunity without causing death. He took strong ground that the bacteria are killed or their vitality lowered by means of soluble constituents in the blood, and not by the activity of the phagocytes.

He then referred to the use of vaccines in various diseases and the place that we may accord to the opsonic theory. While speaking of the future in such diseases as pneumonia, infective endocarditis, typhoid fever, etc., he went on to call attention to the useful part that tuberculin played in the treatment of all forms of tuberculosis. It must be used with such care as to vaccinate and not poison. Combined with proper sanitary management, tuberculin has a distinct use in the therapeutics of tuberculosis.

The subject of auto-inoculation was discussed. It was pointed out how the person may inoculate himself from deposits of tubercle bacilli or other germs in his body. The opsonic index of persons ill with tuberculosis is constantly changing. Injudicious exercise may cause marked auto-inoculation and rise of temperature. The pyrexia in pulmonary tuberculosis is a fair indication of the activity of the disease. In the application of vaccine therapy to pulmonary tuberculosis, the opsonic index must be closely watched, or harm rather than improvement result. The sanatorium treatment and vaccine inoculation should go together.

While viewing with pride the many advances in bacteriology and the recent microscopic and chemical tests in aiding the making of diag-

nosis, he contended strongly that the old methods of inspection, palpation, auscultation, percussion, etc., must not be neglected. The physician of the future must not be wholly a scientist. The only place to properly learn how to diagnose cases was the bedside. To this we give our hearty accord. The physician who trusts too much to his microscope and his chemical reactions may be a positive danger to his patients.

The address was closed with an appeal to uphold the dignity of the medical profession by honorable conduct. The hope was expressed that the physician of the future would hold even a higher position in the public estimation than his confrère of to-day. "His memorial shall not depart and his name shall live from generation to generation."

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#### DR. LOUIS DANIEL BEAUPERTHUY.

Louis-Daniel Beauperthuy was born in 1808, at Basse Terre on the Island of Guadeloupe, in the West Indies.

He studied medicine in Paris, where he obtained his degree in 1837, from the Paris Faculty. Soon after this he was appointed travelling naturalist for the Paris museum.

As early as 1838 he had formulated opinions that all infectious diseases had a parasitic origin. In the years 1840-45, he journeyed through the wilds of Venezuela with his microscope investigating disease.

In the year 1854 there was a severe epidemic of yellow fever at Cumana, and it was then that he connected the striped-legged mosquito with the spread of the disease. In his own words we read:

"Yellow fever cannot be considered as a contagious disease. The course of this disease develops under climatic conditions, which allow it to spread at once or successively; these conditions are those which favor the development of mosquitoes."

Then he mentions that yellow fever was due to the same causes as malaria. He pointed out that it was varieties of the mosquito which spread the infection. He then goes on to show that persons living near to localities where malaria is plentiful, escape if the mosquitoes do not reach them. He mentions one place three miles distant from a very malarial district, and yet the inhabitants escaped. This could not be the case if malaria was wind-borne. He pointed out that the mosquitoes did not reach the place.

He makes some comments on the method by which the mosquito introduces the poison. He was of the opinion that the insect got the virus on its proboscis in the marshes and inserted it under the skin.

In this view he was wrong, though a quite likely error to have made under the circumstances.

He was a close observer of leprosy also, and had charge of the leper house at Deniarara for a number of years. He was strongly of the opinion that lepers should be protected from the bites of the mosquito. He thought this spread the disease.

Dr. Goodhue, of Hawaii, now advances the mosquito theory as the cause of the spread of leprosy. But Dr. Beauperthuy further urged that no treatment for leprosy would be attended by good results if the mosquitoes were allowed to feed on these patients and then rebite them. Further he strongly advocated forced feeding of lepers. This has been shown to be correct.

Thus it has been shown that this man working alone in the wilds of Venezuela and through the West Indies, with his microscope, was treading on the very threshold of several great discoveries. He saw clearly that yellow fever and malaria were spread by the mosquito, and he suspected that leprosy was spread by the same agency. This was on careful clinical observation. He did not discover the parasite and thought that the mosquito carried some parasite from the marshes. He was a true pioneer.

For these notes we are indebted to an article by Dr. Aristides Agramonte in the *Boston Medical and Surgical Journal* for 18th June.

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#### THE DEFECTIVE AND INSANE IMMIGRANT.

Such is the title of an article in the *Bulletin of the Ontario Hospitals for the Insane*. The article should be carefully and widely read, as it contains statements of the utmost importance.

For the year 1907, there were 1,858,797 Canadian-born people in Ontario; and out of this number there were 4,380 insane in the asylums. The foreign population, including those from Britain, Germany, Italy, Russia, United States and other countries, numbered 320,080. From this small portion of our population, about one-seventh, there were no less than 5,707 insane.

Had the insane been in proportion to the elements of our population, the number of the insane Canadian-born would have been 8,505, and the number of the foreign-born insane would have been only 1,681. It was, however, 5,707.

This state of affairs demands consideration and action. If we are not careful we will create a white-man's slavery by burdening our people with the keep of an army of degenerates. We would be infinitely better off without these people, and allow our population to grow normally

from our own national increase, or from the incoming of carefully selected people. Degenerates among people are worse than bad weeds to a farmer.

The article concludes with the following words: "Rudyard Kipling told us that Canada's greatest need was to be supplied by pumping in the population. Even those who are believers in his remedy for ills, real or supposed, would, we feel certain, add to his alliterative phrase the suggestion that the supply should not be allowed to tap streams reeking with insanity, crime and degeneracy."

With this we concur. Not once, but many times, we have urged that it would be much better if we paid more attention to the health of our own people, and saved them from untimely deaths in infancy, or by preventable diseases, such as tuberculosis later on in life. One degenerate person may become the parent of many, even a hundred, degenerate descendants.

There appears to be only one way of controlling the situation; and that is by a vigorously severe inspection of immigrants. There should be at least four tests applied. First, that of demanding a certificate of good character and moral standing from some one of authority where the immigrant hales from; second, that of a physical and mental fitness to enter the country, and take his place as a citizen; third, that of insisting that the person have a fair degree of education; and, fourth, that of demanding that the person have in his possession a certain sum of money. Lacking any of these conditions, entry into the country should be refused.

It is estimated that the foreign-born insane in the Ontario Asylums, and the inmates of our jails and prisons cost the Province \$314,315 during the year 1907.

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## PERSONAL AND NEWS ITEMS.

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### ONTARIO.

Dr. J. N. E. Brown, Superintendent of the Toronto General Hospital, has been taking a holiday in Britain.

Dr. G. Sterling Ryerson spent his summer holidays at his home in Sturgeon Point.

Dr. Charles O'Reilly, of Toronto, left for Dublin early in August and will be away for about two months.

Dr. W. H. B. Aikins has returned home and has gone into office and consultation practice.



Dr. Clarence Starr and Prof. I. H. Cameron have been in England and expect to be home about 1st September.

Dr. G. A. Bingham, of Toronto, had an extensive trip through the Pacific Coast.

Dr. J. T. Fotheringham announces that after first of September, he will devote his time to consultation practice and the diseases of children.

Dr. J. K. Elliott, 611 Spadina Ave., Toronto, will be at Port Calling until 17th September.

Dr. J. A. Anderson, formerly of Trenton, has commenced practice in Lisle, Ontario.

Drs. R. M. and W. B. Cumberland have purchased the practice of Dr. Loughheed, Glenboro, Man.

Dr. Hugh McCallum, 280 Queen's Avenue, London, will confine himself to office and consultation practice after 1st September.

The *Canadian Nurse* for August is as bright and attractive as ever. This journal should be very useful to nurses who wish to keep themselves abreast of the best methods.

Dr. R. A. Pyne, Minister of Education, has spent a month in Britain and on the continent looking into the subject of technical education, and especially the methods of teaching the deaf and dumb.

Dr. E. R. Gray has removed from 263 Wellesley street, to 98 Carlton street, Toronto. Her sister, Dr. Jennie Gray will have offices with her and confine her work to diseases of women.

Dr. Adam H. Miller, while visiting his father's home, near Cobourg, was driving a young horse and was thrown out of the rig. His injuries were very severe, but he is making a good recovery. He is a recent graduate of Toronto.

The Fair of all Nations will be held in Toronto, on October 29, 30, and 31, and will, no doubt, be a great success. The Toronto General Hospital nurses have the "Dispensary," Grace Hospital is likely to represent "Japan," St. Michael's takes "Ireland," the Western Hospital has "France," the Children's Hospital takes charge of the "Baby Booth," etc.

The National Sanitarium Association has recently issued a circular letter setting out a number of important changes and features in its work. One of these is that of Muskoka. A few wards have been set aside for members of the medical profession who may be afflicted with tuberculosis. The fees to these will be \$8 per week instead of \$12 to others.

Prof. Dr. Landouzy, Dean of the Faculty of Medicine, of Paris, will pay a visit to Toronto, shortly after his arrival in New York on the 17th September. Among the probable visitors to Toronto are, Prof. Dr. Triboulet of Paris, Prof. Calmette, Director of the Pasteur Institute

at Lille, Prof. Arloing of Lyons, Prof. Courmont of Lyons, Prof. Tissier of Paris, Prof. Crespin of Algiers, Mlle. Chaptal, Philanthropist, of Paris, M. Lenne of Paris, Viot Bey of Cairo, Dr. de Fournier of Paris, Dr Leon Bernard of Paris, M. Augustin Rey of Paris, and others.

The Meredith family, who have presented the corporation of London with sufficient funds to transform the old City Hospital building into a maternity ward, with the one condition that the hospital trust shall forthwith maintain a free dispensary for the treatment of all outlying sick persons resident in the city and to provide proper and efficient treatment for same by competent physicians and surgeons. The gift came before a special meeting of the Hospital Trust and was accepted with the heartiest thanks of that body. The amount named in the deed of gift, is \$7,600 and may be used as the trustees may deem fit. The practically new wing will be known as the "Isabella Magdeline Meredith Memorial."

### QUEBEC.

An Alumni Association has been formed in connection with the Medical Faculty of McGill University, with W. F. Shepherd as honorary president, and Dr. R. Ruttan as president.

At the recent meeting of the Governors of the College of Physicians and Surgeons of Quebec, the sum of \$1,000 was voted for the purpose of prosecuting irregular and unqualified practitioners.

Dr. Francis Shepherd has been made Dean of the Medical Faculty of the McGill University in place of Dr. F. G. Roddick, who resigned some time ago.

A very successful gathering was held in Quebec on July 20, 21, and 22 of the physicians and surgeons speaking the French language—many interesting papers were read.

The Board of Governors of the College of Physicians and Surgeons of Quebec assembled at Montreal, 3rd July, conferred upon Dr. E. P. Lachapelle its fullest testimony of esteem in the form of an illuminated address. The ceremony took place in Laval University.

A motion was adopted by the Governors of the College of Physicians and Surgeons to the effect that the University of McGill and Laval appoint for each subject and examiner and that the governors appoint one.

The Governors of the College decided to ask for legislation to establish a board of discipline, one for provincial examinations, for better powers to suppress illegal practice, and that curriculum be extended to five years. The profession will be asked to act in this movement.

At a meeting of the governors of the Royal Victoria Hospital, the following appointments were made to the house staff for the year ending June 30th, 1909:—Admitting Officer, Dr. Scrimger; House Physicians, Drs. Logie, Landry, Murphy, Soley; House surgeons, Drs. Patterson, Quinn, Sinclair, Benvie, Chipman; House Gynæcologist, Dr. Burgess; House Ophthalmologist, Dr. Morin; House Otologist, Dr. Wright; House Anæsthetist, Dr. McGibbon; Externe in Medicine, Dr. Kaufmann; Externe in Pathology, Dr. Holman; Locum Tenens, Dr. Barry.

#### MARITIME PROVINCES.

Dr. Florence O'Donnell is home on a visit among her friends at Halifax after her five years in Western China.

An effort is being made to have the Provincial Medical Board for Nova Scotia considerably modified, so as to make it more satisfactory.

The meeting of the Maritime Medical Association was very successful. A number of able papers were read. Next year it meets at Charlottetown, and the meeting of Medical Society of Nova Scotia at Sydney, under the presidency of Dr. A. S. Kendall, M.P.P.

#### WESTERN PROVINCES.

The Alberta Medical Association held its annual meeting at Banff, August 11 and 12.

The Hospital Board of Calgary has awarded the contracts for the hospital building amounting to \$100,000.

Dr. F. Lachance, of Winnipeg, has been appointed gynaecologist to St. Boniface Hospital, and has gone abroad for post graduate work.

Dr. Thomas Wilson, of Leamington, Ont., has started practice in Lethbridge.

Dr. Brown, of Saranac Lake, N.Y., has been commissioned to select a site for the Manitoba Sanitarium for tuberculosis.

The Saskatchewan Medical Association held its annual meeting on 20th and 21st July. Papers were read by Dr. Bingham, of Toronto, Dr. Bryce of Ottawa, and Dr. Blackadder, of Montreal.

The Winnipeg City Council has appointed Dr. J. R. Jones, Judge Mathers, and R. G. Crowe as a commission to investigate and report on the hospital question.

A nurse in Saskatchewan sued Dr. Eaton for her fees, claiming that the doctor had sent her to the case. After hearing the evidence, the judge dismissed the action.

The milk supply is becoming one of much interest. Winnipeg, Calgary, and several other places have taken definite action to secure a pure milk supply, and establish a system of inspection.

G. R. Nurse, from Nova Scotia, has commenced practice in Saskatoon, and will devote his entire time to diseases of the eye, ear, nose and throat.

The medical men of the Carrot River Valley have formed an Association for the purpose of regulating the fees of the district. Confinements, office work, and anaesthetics are the cash. The maximum fee will be charged in items that run three months or more.

An Order in Council has been passed declaring that the Medical Council for the Northwest Territories has ceased to exist. The money on hand will be divided between the Medical councils for Alberta and Saskatchewan. The Medical Council for Saskatchewan has appointed Dr. G. A. Charlton Registrar, and commenced operations in the control of medical affairs for that province.

### *BRITISH COLUMBIA.*

The British Columbia Medical Association met on 20th and 21st July, in Vancouver. The meeting was a very successful one.

The Sisters Hospital at Rossland is undergoing a thorough reconstruction and will be quite modern when the changes are completed.

The General Hospital at Vancouver is adding a new wing and enlarging the nurses' home.

A Home of Incurables is being erected at Westminster. It is on the cottage plan.

The druggists of British Columbia, are taking action to suppress the sale of drugs liable to form the drug habit.

The city of Vancouver has appointed a meat Inspector, who will also look into the source of the vegetable supply.

Dr. Dyer has been appointed assistant medical health officer of Vancouver.

Dr. Cecil A. Boyd, of the 150-Mile House, has been appointed a medical health officer for British Columbia.

Dr. Brydone-Jack has returned to Vancouver, where he will reside in future.

Dr. Richardson, late of the Jubilee Hospital, Victoria, and for some time in Dawson City, has settled in Victoria.

Dr. Stevenson of Vancouver has returned from Oregon where he went for his health, very much improved.

Dr. Brydone-Jack, Jr., and Miss Walker were married in Montreal a short time ago.

Dr. C. W. Kingston, of Grand Forks, B.C., was married recently to Miss Martha Vankleek, daughter of Dr. Vankleek, of Armstrong, B.C.

*FROM ABROAD.*

Sir Thomas N. Fitzgerald, one of Australia's most distinguished surgeons, died a short time ago in his 70 year.

Sir John T. Banks, K.C.B., M.D., honorary physician to the King in Dublin, died 16th July, at the great age of 97. He held many hospital positions and taught many students.

Henry Ashby, senior physician to the Manchester Hospital for Sick Children, died July 6th, at the age of 63. For many years he was a noted authority on children's diseases.

Britain is moving in the direction of having hygiene taught in the schools. On 1st August a series of regulations went into operation that will secure the proper training of teachers, and thence of the pupils.

Sir Thomas Lauder Brunton and Professor William Watson Cheque have been made baronets. These honors were well merited in each case. William Henry Power has been made a knight.

Mr. Henry Phipp, one of the United States steel kings, has recently given Johns Hopkins \$750,000 for the establishment of a Psychiatric Clinic.

The annual collection in aid of the hospitals in Sydney Australia, amounted to over \$30,000. This is splendid and Sydney may well feel proud.

Bertram Louis Abrahams, M.B., B.Sc., F.R.C.P., assistant physician to Westminster Hospital, died recently. He was a hard worker and excellent teacher.

The number of persons inoculated with the new plague prophylactic at Bangalore totals 30,000. The inoculation campaign has been an unqualified success.

The Punjab Government has decided to very materially improve the medical college at Lahore. Additional class rooms and laboratories will be provided and the Teaching staff increased in numbers.

Some researches have been carried on in Nubia by Drs. Smith and Jones. The bodies are in many instances several thousand years embalmed. In one case there are the adhesions around the appendix that would prove inflammation of that part.

Some of the decorations going into the new building being erected in the Strand for the British Medical Association were under discussion in the House of Commons. Mr. Gladstone, Secretary of State, said he had no right to interfere.

There is a movement on foot to procure a testimonial for Dr. Clouston, who acted so long as the head of the Morning Side Asylum. It has been suggested that his portrait be secured and hung in the hall of the New Craig House.

There is a good deal of trouble in medical education in Edinburgh. The woman's medical school has been closed, and the extra-mural college is in a bad way for want of money. The university court has decided that it cannot make provision for women.

Professor Oscar Liebreich died in Berlin on 2nd July. He introduced into use chloral hydrate, croton chloral hydrate, lanolin, protagon, and a number of other preparations. He was an ardent investigator and wrote much on pharmacology.

A statue was unveiled at Montrouge, on 6th July, to the memory of Michael Servetus, who was burned at Geneva in 1553. He was one of the early discoverers on the circulation of the blood. His reward was the stake at the orders of John Calvin.

In Berlin there are 13,193 bars, restaurants or other public houses. In these public houses, 110,000,000 gallons of beer, 25,000,000 gallons of brandy, and 20,000,000 gallons of wine are consumed annually. The value of these beverages is \$50,000,000.

So far the British Government has expended about £60,000 on the Royal Commission on Tuberculosis. The final report will be ready soon. In the past 30 years the death rate from consumption has fallen in London from 25 to 10 per 10,000 of the population.

Mr. Francis M. Caird has been appointed to the chair of clinical surgery, rendered vacant by the death of Mr. Annandale. Mr. Caird is a graduate of the University of Edinburgh of 1877, and an F.R.C.S. of Edinburgh, 1880.

The tuberculosis problem in Ireland is calling forth much discussion just now. Ireland stands forth in the world as having the highest death rate from this disease. It is thought that Mr. Birrell's bill will call for compulsory notification.

Robert Liston, the great surgeon, was born at Ecclesmachan, about 12 miles from Edinburgh. He died in London in 1847. It is proposed to place a memorial window and brass plate in the church at Ecclesmachan, where his father was minister.

The vaccination act of 1907 in Britain came into force on 1st January of this year. It makes it easier for the conscientious objector to secure his release from having his children vaccinated. The effect of the act shows that the number of persons unvaccinated is greatly on the increase.

Recently there has been a good deal of comment in the medical journals of Britain over the judgment of Justice Bigham, wherein he sentences an insane man to be hanged. He held that if the man knew he was doing wrong it did not matter that he did not know how wrong, or that he was the victim of delusions.

Mr. Thomas Bryant, the well-known surgeon, recently attained his 80th year, and at the request of the Council of the Royal College of Surgeons, Mr. Morris, president, and Messrs. Cheque and Gould, vice-presidents, sent him a letter of congratulation. Mr. Bryant was once president of the Colleges of Surgeons.

After the Society of Medical Practitioners of France concluded its recent meeting, 344 of its members paid a visit to Britain and were well received and entertained. *This entente cordiale medicale* will do much good. The world is fast becoming too small to keep up the old national divisions.

The Departmental Commission on Public Health for Paris has approved the Bill for the suppression of fraud in connection with drugs and similiar products. By this act there will be annual inspection of all laboratories and dispensaries kept by medical men, veterinary surgeons, druggists, chemists, grocers, herbalists, etc.

The Imperial Court of Leipsic has given a very important verdict in a case. A father brought his boy to a celebrated orthopedic surgeon of Heildelburg. The surgeon operated on the boy without obtaining the father's consent. Suit was entered and damages to the extent of £250 awarded.

Sir Thomas Stevenson, the senior scientific analyst to the British Home office, died on 27th July, at the age of a little over 70 years. He edited Taylor's Medical Jurisprudence, and took part in many celebrated poisoning cases. He was the chief scientific crown witness in the Maybrick case.

The birth rate of a number of countries per 1,000 of the population is as follows: France 21, Ireland 23, Russia and Bulgaria 41, Servia and Roumania 39, Hungary 37, Austria 35, Germany 34, Italy, Spain, Portugal, Japan, South America and Mexico about 32 to 35, England and Scandinavia 26 and 28 respectively.

The plague in India is showing signs of coming under control. The number of deaths in 1907 was 1,204,194, but if the immediate past 12 months be taken, the number would be only 252,781. This shows a marked falling off. One of the main efforts put forth is the destruction of rats.

In Vienna the Medical Council has attempted to suppress contract practice, and has decided on some occasions that doctors taking clubs or unions at a fixed price were acting unethetically. In some cases the courts have upset the ruling of the medical council. Thus the conditions are in confusion between the medical council and the legal courts.

A very active dispute has arisen over the monument to be erected in memory of Virchow in Berlin. The design had been agreed upon,

when the *Buliner Klinische Wochenschrift* raised a protest against the form of the statue. It had to be referred to the Emperor, as it was to be placed in a public square. Emperor William ruled against the form of the monument, and so the work of the committee comes to naught.

It appears that medical education in London is not on a satisfactory basis. For some time there has been a correspondence going upon this subject, and it appears that the medical schools are distinctly in need of funds. In some instances the students are taught mainly at the expense of the lecturers. In some of the medical colleges outside of London are even in a worse condition than those in London.

The University of Edinburgh has solved the difficulty regarding the education of women who sought a medical education. Minto had been closed, and to meet the situation, the lecturers on Medicine requested the University Court for permission to organize themselves into staff to teach the women students. This was granted and the lectures will be delivered in Surgeons' Hall.

Professor W. Osler, at the Annual Meeting for the Prevention of Consumption in Britain, said "that a most remarkable warfare against infectious diseases was going on all over the world. Typhoid, small-pox, and septic infection had been practically vanquished; the great battle against plague had still to be continued, and the fight against the dread foe, cancer, has so far gone against them; but there were three battles, at least, in victory was assured—malaria, which had been one of the greatest scourges of the world; yellow fever, another great scourge; and, lastly, tuberculosis. There was no doubt that the winning of that battle was practically in sight." To succeed the public must be enthused, there must be notification of cases of consumption, and there must be better facilities for dealing with early cases.

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## OBITUARY.

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### FRANCIS C. MEWBURN, M.D.

Dr. Francis C. Mewburn, probably one of the oldest doctors in Ontario, died 15th July, at his residence, 36 St. Patrick street, Toronto, at the age of 91, after a lingering illness of some months.

Dr. Mewburn was born at Whitby, Yorkshire, England, and came to Canada when but 16. He graduated in medicine at Jefferson College, Philadelphia, and afterwards at Buffalo. His first medical work was at the old King Street West Hospital, where the Arlington now stands. He practised in Niagara Falls, N.Y., for some time before coming to Canada.



He leaves four children, Dr. Hamilton Mewburn, of Lethbridge; Mr. Lloyd Mewburn, of Calgary, a wholesale merchant; Mrs. Bohn and Mrs. Gordon. One of his daughters married Mr. Joseph Gordon, of Philadelphia, and the other Dr. J. Bohn, of New York.

Dr. Mewburn had not been in active practice for many years, but was very well known among the older generation in Toronto, as he formerly took a very active interest in public affairs. He was the fourth of his family in direct descent to enter the medical profession, and his son and grandson are continuing the family record. Three of his children predeceased him, one of whom was Pte. Mewburn, of No. 9 Co., Queen's Own Rifles, who was killed in action at Ridgeway in the Fenian Raid of 1866.

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#### P. PALMER BURROWS, M.D.

Dr. P. Palmer Burrows died suddenly at his residence, Sussex Street, Lindsay, 31st July. He had been out making his usual calls that morning and attended a meeting of Water Commissioners in the afternoon. On reaching home he complained of pain in the region of the heart, and before medical aid arrived he expired.

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## BOOK REVIEWS.

### GOLDEN RULES OF DIETETICS.

Medical Guide and Monograph Series. The General Principles and Empiric Knowledge of Human Nutrition; Analytic Tables of Foodstuffs; Diet lists and rules for infant feeding and for feeding in various diseases. By A. T. Bendsict, A.M., M.D., Buffalo, Member of American Academy of medicine, of American Gastroentrollogical Association, etc., Author of Practical Dietetics. C. V. Mosby, Medical Book and Publishing Company, St. Louis, and P. Blakiston's Sons and Company, 1908. Price \$3.

There are so many books on the subject of dietetics that it is a little difficult to make distinctions and mete out praise or apportion criticism. One thing becomes clear as this book is read, namely, that whatever other books may be, this one is well up to date, and contains the best that can be said on this very important subject. What we eat, how we prepare, and how we eat it are very important topics to those who wish to enjoy good health and reach a green old age. This book lays down very wise rules on what our food should consist of and how it should be prepared. The diet suited for the many diseased conditions which the practitioner is ever encountering is carefully discussed. We

can recommend this book as one that is well calculated to give its readers both information and pleasure. The rules laid down may be safely followed. The book is got up in an attractive form.

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### GENITO-URINARY SURGERY.

Transactions of the American Association of Genito-Urinary Surgeons. The 21st Annual Meeting held in Washington, May, 1907, together with the Joint Session with the American Gynaecological Society. Vol. 11. Published for the Society by the Grafton Press 70 Fifth Avenue, New York.

This volume is well printed and illustrated and contains many papers on a variety of diseases calculated to interest the genito-urinary surgeon and the gynaecologist. The volume will prove very interesting and most helpful to all who may be devoting some time and thought to the subjects coming within these special fields of work.

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### BREEDING GROUNDS OF CULICIDAE.

Studies from Institute for Medical Research, Federated Malay States. By C. W. Daniels, M.B., M.R.C.S., and G. F. Leicester, M.B., C.M., Singapore; Kelly and Walsh and at Shanghai, Hong Kong and Yokohama. Price one shilling.

Tropical medicine has attracted much attention for many years. The truth is coming forth to the incessant demands of science. Filaria, malaria, and yellow fever are important mile posts in the march onwards of the healing art. Where mosquitoes breed, the diseases they cause, and how to destroy them are topics of national importance. What was once a terror will soon have passed into history.

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### SCIENCE OF MEDICINE AND SURGERY.

Contributions to the Science of Medicine and Surgery by the Faculty in Celebration of the Twenty-fifth Anniversary, 1882-1907 of the Founding of the New York Post-Graduate Medical School and Hospital, 1908.

This is a superb volume of 485 pages, and contains some fifty articles. There is an excellent frontispiece of the late Dr. D. B. St. John Roosa, and a carefully written sketch of his life. The papers are on various topics, but are all of high standard. These articles are valuable contributions to our present knowledge of many subjects that interest the physician and surgeon.

## OPHTHALMIC AND CUTANEOUS DIAGNOSIS OF TUBERCULOSIS.

The Cutaneous and Conjunctival Tuberculin reactions according to V. Pirquet and Wolf-Eisner, together with a discussion of the Clinical Methods for the Early Diagnosis of Pulmonary Tuberculosis by Dr. Alfred Wolff-Eisner, a preface by Professor H. Senator, and an Introductory note to the English Reader by C. Theodore Williams, M.V.O., M.D., F.R.C.S., Consulting Physician to King Edward VII. Sanatorium and the Brompton Hospital; Vice-President of the International Bureau for the Prevention of Consumption; Vice-Chairman of the National Association for the Prevention of Consumption. Translated from the German by Bernard L. Robert. With 2 coloured litho tables, 11 curve tables, 15 reproductions, and numerous curve figures in the text. London: John Bale, Sons, Danielsson, 83-91 Great Litchfield Street, W., 1908. Price, 7s. 6d. net.

It is always a great pleasure to review a really original book, well written, and setting forth the results of original research. All this we have in this volume of 207 pages. It gives, first, the cutaneous reactions of Pirquet, and, secondly, the conjunctival reactions of Calmette. To these subjects Dr. Alfred Wolff-Eisner has given close attention and details the outcome of his studies in this book. The technic of every phase of the employment of tuberculin to secure the cutaneous and ophthalmic reactions is gone into fully. This work should be in the hands of every one who may be called upon to do much with patients who are infected with tuberculosis. The paper, type, binding and illustrations are all excellent.

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PULMONARY TUBERCULOSIS.

Pulmonary Tuberculosis and all complications. By Sherman G. Bonney, M.D., Professor of Medicine, Denver, and Gross College of Medicine, Denver. Octavo of 778 pages, with 189 original illustrations, including 20 in colors and 60 X-ray photographs. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$7.00 net; Half Morocco, \$8.50 net. Canadian Agents, J. A. Carveth & Co., Limited, Toronto.

Nearly 800 pages on one phase of one disease, and yet the author modestly states "it is quite impossible to present an exhaustive treatise upon all phases of pulmonary tuberculosis, and in submitting this volume for the criticism of reviewers, I have no apology to make for its limitations and imperfections." But we find a relief when we think that at the present moment there is under way a work of several volumes on syphilis. This all goes to remind us that the investigations in medicine and pathology have brought so many facts to light that the whole story of any important disease cannot be told in a few pages.

When one commences to examine into the contents of this volume, it becomes apparent that there is an entire absence of repetition. The reader is carefully led through all the difficulties covering the subjects

of etiology and pathologic anatomy. Then comes an exhaustive discussion on the course, varieties, and termination of the disease. This is followed by a most elaborate handling of the physical signs. These sections lead naturally to diagnosis and prognosis, which is treated of in a most thorough manner. The complications of the disease form a very important portion of the work. The author closes his labors with a full account of prophylaxis, general treatment, and specific treatment.

The book is got up in a most attractive form. The paper, binding, typography and illustrations do credit to the publishers. Book making of this sort has now become a fine art, on the part of the publishers, as well as science on the part of the author. The illustrations are fine.

We cannot but speak in terms of high praise of the industry of the author in giving to the medical profession such an elaborate work on this important subject. We wish for the book an extensive sale.

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#### MEDICAL GYNAECOLOGY.

By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of women, New York Post-Graduate Medical School and Hospital. Octavo of 675 pages, with 135 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$5.00 net; Half Morocco, \$6.50 net. Canadian Agents, J. A. Carveth & Co., Limited, Toronto.

In 675 pages of a large book an author should be able to say a good deal upon any special branch of medicine. The present work is limited even within its special field to the medical treatment of gynaecological conditions. In other words we have here a work on medical gynaecology. For this very reason the book is doubly welcome, as the belief has become too widespread that in gynaecological cases the surgeon must be called in. This book does much to correct this error, and points out very clearly that much can be accomplished by proper medical treatment.

The author claims that in no field of medicine is conservative treatment more urgently called for than in the management of women's diseases. Operative treatment should be a last resort. When the whole make-up of a woman is fully considered there is no one who can efficiently enter into her needs as her medical adviser.

Two things are specially considered in this book: The general health of the patient, and judicious local treatment. We have been delighted with the book and feel free to state that we have not in a long time had the pleasure of reviewing a work that will prove more useful than this one. We heartily congratulate both author and publisher.

## JACKSON'S HANDBOOK OF SKIN DISEASES.

The Ready-Reference Handbook of Diseases of the Skin. By George Thomas Jackson, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. Sixth edition. 12mo., 737 pages, with 99 engravings and 4 plates, in colors, and monochrome. Cloth, \$3.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

This work of Dr. Jackson's is a very practical and excellent manual. It is now in its 6th edition, and since the former edition the author has been made full Professor of Dermatology, in the College of Physicians and Surgeons, New York. This is a very high tribute to the man and his work. The anatomy, physiology, general diagnosis, and therapeutics are given so well and clearly in this book that the student is fully equal to any difficulty in dermatology, provided he will only master its pages. While the frequent revisions do not add much to the size of the book, they do very decidedly to the merits of its contents. This is a superior manual on skin diseases.

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## THE PRINCIPLES OF PATHOLOGY.

Volume I, General Pathology. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University, Montreal. Octavo, 948 pages, with 322 engravings and 16 plates. Cloth, \$6.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

It is now many years since the large works on pathology of Ziegler, Thoma, Hamilton and some others made their first appearance. During that time a number of excellent works have appeared in the English language, but none of an extensive or system-like character. This work of Prof. Adami's at once takes a place with the largest works on pathology which have appeared in many years.

In the first place we congratulate the author on the successful completion of the first volume, which contains 950 pages. The expectations which were indulged in are fully realized by an examination of this volume. For some time it has been known that Prof. Adami was engaged upon this great task, and many were the fears that his manuscripts had been lost in the disastrous fire to the McGill medical buildings.

In addition to being a lucid teacher of pathology, Dr. Adami's style proves that he possesses an excellent command of language, which enhances greatly the value of his written method of reaching those beyond the range of his voice. The work is well illustrated, well bound, and, with the best of paper and the clearest of typography, the book is such an one as makes study a pleasure.

This volume deals with general pathology. Such subjects as the study of the cell in all its bearings upon pathology, the causes of disease,

the morbid and reactive processes, and the tissue changes, form the bulk of the volume. On these subjects and their many subdivisions his discussions throw much light.

With this work at his command the practitioner has a valuable companion in his studies of disease. Here the latest and the best are to be found. The student too may with implicit confidence pin his faith to its pages. With this book well in hand he has a sure guide through the many dangerous pitfalls of pathology. We know of nothing that sums up our views better than to say that this book is the best.

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### THE MUSCLES OF THE EYE.

By Lucien Howe, M.A., M.D., Professor of Ophthalmology, University of Buffalo, M.R.C.S., England, member of the Ophthalmologische Gesellschaft, of the Société Française D'Ophthalmologie, and of the Ophthalmological Society of the United Kingdom. In two volumes, Vol. II., Pathology and Treatment. Illustrated. G. P. Putnam's Sons, New York and London, The Knickerbocker Press, 1908.

This volume deals with the very important subjects of ocular muscle imbalance, strabismus, paralyses, atypical movements, and operations on the muscles. The work is thoroughly scientific on the one hand and eminently practical on the other. The methods of diagnosis are gone into very fully and careful rules laid down. The surgical sections are excellent and detail in a clear manner, the best methods of operating. The effects of an abnormal condition of the muscles of the eye on other organs and on the general health, receives due attention. At the end of the book are to be found several photos of distinguished ophthalmologists. These two volumes will make interesting reading to any general practitioner, but are indispensable to those who specialize on disease of the eye. For this work as a whole we have only words of high commendation.

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### NEW EDITION OF GRAY'S ANATOMY.

Gray's Anatomy has maintained such a lead in its own field since its original publication fifty years ago that it has won the distinction of being the most important work in all medical literature. Hundreds of thousands of copies have started students at the beginning of their course in medicine, have been kept always at hand, and have been carried to their offices after graduation for guidance in the basic facts of medicine and surgery. Such an announcement as a new edition of "Gray" is therefore of primary importance to everyone concerned with medicine, whatever be his stage or station in medical life.

This new edition, soon to appear, is the result of a thorough revision begun two years ago. In this work Professors J. Chalmers Da Costa and Edward Anthony Spitzka, who occupy, respectively, the chairs of Surgery and of Anatomy in the Jefferson Medical College of Philadelphia, have been associated. Dr. Spitzka unites the qualifications of an anatomist of the first rank with those of an artist as well, a rare combination of powers, hence his delineations convey directly to the reader's eye his own exact knowledge of structure. He has rewritten what has heretofore been the most complex and difficult portion of anatomy, the Nerve System, illustrating it with seventy of his own drawings, so that that subject of recently revolutionized development is at once brought to date and simplified. Every other page has been scanned to reflect the latest knowledge.

"Gray" has always been distinguished by the possession of a quality defying analysis and imitation, namely, its teaching power. In this it reflects the towering genius of its author. Henry Gray died young, but left behind him this imperishable evidence of his consummate knowledge of human structure and of the best methods of imparting it to others. Nature rarely creates a Shakespeare, a Napoleon or a Crichton. Until she creates another Gray his work will stand.

No small part of the observed fact that Gray saves a student half his time and effort and doubles the permanence of his knowledge is due to its illustrations. Quantity of pictures can easily be overdone. Teaching quality is difficult to achieve and impossible to imitate. The great series of "Gray" engravings has always been unique in this essential point of teaching quality. They enable the eye and mind to co-operate, thus focussing the whole of the reader's power on the subject before him. These graphic demonstrations simultaneously convey the terminology of anatomy by reason of the fact that the names of the parts are engraved directly upon them, whereby the nomenclature and also the position, extent and relations of each part are unconsciously and indelibly fixed in the memory. These are the four cardinal points to know about any structure, and they are conveyed by a method unique in "Gray," and one that is as simple as it is effective. Colors are abundantly used to show muscle, attachments, veins, arteries, lymphatics and nerves.

The possessor of the new "Gray" will have the best issue in which this superb book has ever appeared, and from the foregoing description it may be gathered that it will outdistance competitors by a greater interval even than before.

## MEDICAL PREPARATIONS, ETC.

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### SUMMER DYSENTERY AS IT APPEARS HEREABOUTS, ITS TREATMENT, ETC.

By C. H. POWELL, A.M., M.D.,

Professor Principles of Medicine, Physical Diagnosis and Clinical Medicine,  
Barnes Medical College, St. Louis, Mo.

Case 1. Dysentery in a child aged seven years. I was one very hot day in August summoned to the bedside of little Jimmie McL., who was suddenly compelled to go to bed screaming and crying with his stomach paining him. I found his little features pinched and lips pursed together, his face very pale and eyes looking hollow and expressionless. His mother stated that the little patient had been complaining of not feeling well for the past twenty-four hours and she noticed that he slept but very little the night before, and made several trips to the closet. Believing that dysentery after all is brought about by germ activity, the thought occurred to me that if I could give some efficient but mild germicide internally and at the same time could flush out the bowel with the same antiseptic, I would have the key to the situation, accordingly I gave a teaspoonful dose of Glyco-Thymoline internally every three hours and put about one ounce of Glyco-Thymoline to the pint of water, with which I flushed the fluid through a good sized catheter high up into the bowel. An immediate improvement at once manifested itself, the pulse became perceptibly stronger, the fever reduced, the little patient became brighter in the face and the case at once changed from a very apparently serious one to one of little importance. A dose of castor oil was given on the second day and the patient made a quick recovery. On the third day all indications of the attack disappeared and the patient made a prompt return to health.

Case 2. Dysentery consecutive to an attack of typhoid fever. This case was very interesting as the prevailing complication that occurred two weeks after an attack of typhoid was attributed by the attending physician to non-healing of the typhoidal ulcerations. The principal symptom was in the nature of diarrhoea, with tormina or tenesmus and the passage of some blood. There was a recurrence of the febrile phenomena which was believed by the physician in attendance to be a recurrence of the typhoid. I satisfied myself from the nature of the attack that it was in reality dysenteric and that it was produced by an error in diet, accordingly, I recommended the use of peptonized milk internally as a food, tablespoonful doses of Glyco-Thymoline in a little water every four hours and wash out the bowels with a solution of about two ounces of Glyco-Thymoline to the pint, using in this case



water just as hot as could be tolerated by the patient. In twenty-four hours the fever was gone, the diarrhoea stopped and the bloody discharge became checked. The patient, very much to the surprise of the doctor who was in attendance, was completely relieved of the dysenteric phenomena in twenty-four hours and recovery in other directions from that time forward was uneventful.

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### VOIGTLANDER AND SOHN'S OPTICAL WORKS.

Voigtlander & Sohn, A. G., Optical Works—whose factory is at Brunswick, Germany, and their headquarters for the U.S.A. and Canada at 225 Fifth Avenue, New York City—have a business experience of over one hundred and fifty years. Their make of microscopes and microscopical accessories have been so highly commended by all classes of professional gentlemen that they now have a reputation which is world wide. Their Stands combine the latest improvements with the highest class mechanical construction. Their Objectives and Eyepieces are of the highest optical attainment; they are manufactured and thoroughly tested by scientifically skilled men, and give highest magnification with the largest possible clear and flat field. The objectives are all carefully centered and made par focal. They are mounted in such a manner as to prevent breaking the front lenses. All their nosepieces are provided with circular, dust proof plate and their stands are housed in highly polished mahogany cabinets with lock and key. "Voigtlander reputation" stands behind their goods. There are "none better in quality," and catalogues will be gladly furnished on application to the New York address as indicated above.

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### THE FIRST SYMPTOMS OF MIGRAINE.

Dr. J. J. Caldwell of Baltimore, M.D., in "Medical Progress" writes as follows: "The treatment of migraine, to be correct, must be adjusted on the basis of the element of causation. Constipation, if present, should be treated by a proper dietary and regular habits, but purgatives should be avoided. Only mild laxatives should be employed, and they should be abandoned when diet regulates the bowels, as proper diet will do. During the premonitory stage we can generally abort or rather prevent the development of an attack by the administration of two antikamnia tablets. They should be given, as soon as the first symptoms of the attack are manifest. If then, all symptoms are not speedily dissipated, another dose should be given in three-quarters of an hour or an hour. This means is a most effectual one to abort an

attack, and when the attack is developed, antikamnia tablets will relieve the pain usually in about forty minutes."

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### ABDOMINAL APPLICATIONS IN TYPHOID FEVER.

Success in handling a case of typhoid fever may be likened unto the steering of a ship, already in distress, through a dangerous rocky channel. Results depend upon the man whose hand is on the wheel. Lucky be the typhoid fever patient in the hands of a cool, commonsense doctor. It is this sort of a physician who guides his patient through the tortuous, rocky channel of typhoid fever and finally brings him into a safe port.

The many-sidedness of typhoid fever gives it a large interest and calls for good judgment. What to do and when to do it, are questions largely determining a physician's success in this infection. The bowels are inflamed, the Peyer's patches being the foci of inflammation, and it is but the application of commonsense principles to seek for some means of combatting this intestinal inflammation.

Local application prove efficacious elsewhere in inflammation—why not here? Applications with hygroscopic properties reduce inflammations in other tissues of the body and will do likewise in typhoid fever. The best of these is Antiphlogistine and its use in typhoid fever is demonstrable. It will tend to reduce the inflammation and thus contribute in making the typhoid patient comfortable and assist him in his return to health.

Antiphlogistine is applied over the abdomen to the thickness of an eighth of an inch and then covered with a suitable soft cloth. This is renewed twice daily.

This use of Antiphlogistine is a valuable adjunct in the usual treatment of typhoid fever and is of distinct assistance.—*Medical Era*.

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### "BARLEX."

This is a very carefully prepared malt extract, and is made from the best barley, by a special process which preserves the albuminoids, phosphates, maltose, and diastase. It has given excellent satisfaction as a nutrient. It has also been combined with cod liver oil in the form of an agreeable emulsion. The oil used is guaranteed to be the best Norwegian. The preparations of "Barlex" and 'Barlex' with cod liver oil are manufactured by Messrs. Holden and Company, of Montreal, whose reputation for making a good article stands very high.