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RETROSPECT, ASPECT, AND PROSPECT IN MEDICAL
SCIENCE.*

By PROF. A. B. MACALLUM.

THE member of the faculty who is commissioned to deliver the opening lecture has to perform, in some measure, the duty of recording the progress made by the Faculty of Medicine during the previous session. To myself that duty is, for this occasion, an exceedingly pleasant one. The last session was one of hard work on the part both of the Faculty and of the students, and the results, as shown by the examinations, were satisfactory. In those of the University, last spring, the number of those who failed to pass was, on the whole, less than in 1892, although the number of students examined was greater and the examination more severe. But it was in the examinations of the Medical Council that the results of last session's work appeared most decisive. The students who underwent those examinations came from seven medical schools, all of which, with the exception of McGill, are within the Province of Ontario. Now, in the returns of the Medical Council for 1893 I find that, of the 112 students who passed the primary examination, 63 belonged to this Faculty, while

*The Inaugural Lecture of the University Medical Faculty for 1893, delivered October 3rd.

49 came from the six other medical schools. Further, of the students of this Faculty who presented themselves for that examination, 73.3 per cent. passed; while, of the students who came from the six other institutions, only 40.7 per cent. were successful. In the final examination of the Council, 42 out of the 85 who got licenses to practise were students of this Faculty. As 49 of them took that examination, the percentage of pass was 86. The percentage for the six other medical schools was 64.7. The whole constitutes a record with which both the Faculty and the students have reason to feel pleased. It shows also that the Faculty has been adapting its instruction, on the one hand, to what a broad curriculum of a progressive university should require, and, on the other, to the demands of a practical course of study such as the Medical Council aims to exact. The Faculty has, in the past year, endeavored to give a thorough, scientific, practical training to the student, and the results of the University and Council examinations are, in every sense, a full measure of the effort.

There is another aspect of these results which is significant for the future of the Faculty. Our students constituted 41.5 per cent. of all who presented themselves for the Council's examination, while of those who passed 53.3 per cent. were trained by this Faculty. If the latter continues to win results like these for the next ten years, at the end of that time a very large majority of the medical practitioners in this province will be graduates of this University, a distinction which should have been hers during the past thirty years. Without looking so far forward, however, we are justified in stating that, through the Medical Faculty, the Provincial University now exercises an influence in medical education corresponding to that which she exerts through her Arts' Faculty upon the liberal education in the province. And when in the near future she may have to consider the ways and means in the matter of expansion, let us hope that the influence in a new quarter may be of the greatest service to her.

I must not forget to mention that the Faculty has not been unmindful of other matters in which the student is to a very great extent interested. During the last session it recommended to the University Senate such a revision of the medical curriculum as would make it more in accord with that of the British Medical Council and with the trend of opinion resulting from experience as to what medical education should be. The Senate adopted all the Faculty's recommendations. The changes affect only students who begin their undergraduate course now and subsequently. Students will be required to undergo only one examination in subjects in which the former curriculum made two compulsory. Honors under the provisions of the new curriculum are no longer to be given as heretofore, and are in future to be won only in groups of subjects. The examinations are simplified, and in the first the University now insists upon a competent

knowledge of chemistry, biology, and physics before the student passes to the second year. This enables the student to do good, solid work in anatomy without being worried with the task of reading for an examination in that subject, the limits of which could never hitherto be fully defined for a first-year examination. That the University has not given chemistry, biology, and physics undue importance by making them alone the subjects of one examination is shown by the fact that the British Medical Council now requires all students to spend the first academic year in attendance upon instruction in these subjects, and with this regulation all the medical faculties and licensing bodies in Great Britain and Ireland must now comply.

I now proceed to discuss the future of medical science, and the bearing that possible advances in medicine may have upon the student's present course of study. This topic is one on which much may be said, and I take it up now because it is one of absorbing interest, and because, also, it is good for those of you who are preparing for a life of medical practice to be reminded that it is but a small part of your life's work to pass examinations, to acquire a degree and a license to practice, and that you may accomplish these things without, in the end, obtaining the object of your life. The student, as a rule, does not, unfortunately, look more than three or four years ahead, and he is inclined to let the future beyond take care of itself. It does this, but without, however, paying much attention to him who does not employ each year as it passes for that realization of the ideal which is considered to constitute success. All courses of study and all examinations merely insure the lowest standard of attainment that the necessities of the times permit, and beyond this they leave to the student the question of shaping his own career. His success in the future depends greatly on his capacity for foreseeing the wants of the future. Do not misunderstand me when I speak of success. How often do we hear the success of a physician or surgeon estimated by the magnitude of his practice! How often also do we find that it is his ambition to have a practice which will, in fact, engross all his time! That is in no sense my ideal of success, nor should it be that of any one who has a proper idea of the dignity of the profession. Success is rather to be estimated by the degree of professional qualifications to which one has attained, and of the recognition by the public of the attainment. The public must not, however, be set up as the final and only judge of success, for sometimes ignorance, sometimes fashion, may make a quack or a sham the idol of the hour. That has happened often in the past, and will, in all likelihood, happen often again. It is, in fact, not the quantity of professional work done, but the quality of it, that is the measure of success.

In discussing the future of medical science, there are two questions

which must first of all be answered : What is medical science, and how far into the future do we propose to dip ? The first question may be answered by the statement that it is that body of knowledge obtained through observation and experiment concerning the origin, course, and termination of disease and the influences which modify it. This is pathology, but in a wider sense than that usually given the term. It includes, in addition to pathology in the narrower sense, the foundation sciences, biology, physiology, bacteriology, and physiological chemistry ; and whatever, therefore, advances these will in a great measure aid in the advancement of medical science. The latter must always be in advance of medical practice, for it will always excel our knowledge of how the controlling influences are to be used or best employed; but the distance between the two will always depend on the skill and intelligence of the profession as a whole in any one generation.

In regard to the other question, I may say that to discuss the condition of affairs which shall obtain when we shall have ceased to take an interest in them is a performance of simple intellectual amusement, and of no practical advantage to us ; and, as the average length of a practitioner's life ranges between thirty and forty years, a period of thirty-five years, reaching beyond the close of the first quarter of the next century, embraces for us the extent of the future which we may comprehend in the outlook.

How will medical science develop within that time ?

In this forecast I will not attempt to prophesy, for one may do something more substantial than that. We may rely on the progress of medical science during the last thirty-five years, on what human necessities demand, and on the tendencies of research at the present day to guide us in determining the development of some parts of the science at least ; and we have also as an influential factor in shaping its future the appreciation in which medical research is held to-day.

The by far greater part of our knowledge of disease has been established within the last thirty-five years, and if we examine the history of research for that period we will find that any considerable advance in our knowledge in that department has been the outcome of a greater advance in some one of the foundation sciences, physiology, and physiological chemistry in the earlier years specially, and bacteriology and pathology in the later years. I might illustrate what advances these sciences have made by reference to physiology alone. Were an expert physiologist of the date 1860 transported through time to 1870, he would find himself very unfamiliar with the subject in its new form ; and were he to reach 1880 in the same manner as he did 1870, it is extremely doubtful if he would consider it possible to put himself in that relation to his subject in which he was in 1860. It was possible then for him to be an accomplished physiologist,

anatomist, human and comparative, pathologist, and physician at the same time; but in 1880 such a combination of qualifications was an absolute impossibility. During the last ten years more knowledge has been acquired from research in physiology than in all the previous twenty years, and with this accumulation the character of the subject has vastly changed. It was possible in 1880 for an accomplished physiologist to maintain at first hand an acquaintance with all the publications then constantly appearing embodying the results of original research in all departments of physiology; but with each succeeding year that became less and less possible, until now, when the literature annually appearing is so great in extent, that he who attempts such a feat is certain to fail. The periodical and other literature in some one department, as, for example, that dealing with the nervous system, is quite enough to engross his time; while if he wishes to keep himself acquainted with the literature in the other departments, he must depend largely on abstracts and summaries made by others. As a result of this widening of the subject, specialization in physiology has occurred to a very remarkable extent; and where a few years ago we had one species with but few varieties grouped under the genus physiologist, we find at the present day many species, each one rapidly developing into a genus. To-day, instead of the general physiologist, there are the neurologist, the students of the physiology of secretion, or nutrition, or of circulation, each one working in his own particular field of research, which, as investigation goes on, is found to be of vaster extent than supposition allowed.

What I have said with regard to the progress of knowledge of animal physiology is true to a great extent also of histology, bacteriology, and pathology; and it is quite possible that were I as much conversant with the literature and progress in those sciences, an appreciative description of the advances in them, and especially in bacteriology, would meet with a greater assent from you, because of the general recognition, on the one hand, of the immense strides that surgery has, on account of it, made within the last fifteen years, and, on the other, of the fact that through it we know the causes of a very important group of diseases. I do not wish to diminish one whit the recognition of merit which that science has justly as its due, but I would like to point out that it has not been the cause of all the progress which has obtained for the last ten years, for had our knowledge of physiology remained as limited as it was in 1880 there would have been no triumphs in brain surgery; we would not have the knowledge of diseases of the nervous system that we now possess; and the medical treatment of functional diseases would have been as largely empirical as it was in 1875. Bacteriology, indeed, suddenly opened to surgery fields of work from which it was hitherto excluded, and the bountiful harvest that it has reaped has absorbed so much of popular attention.

that little is given to the unostentatious progress that medicine has made—a progress, let me say, with all due respect to the surgeon, greater than that made by surgery in the last thirty years.

Now, a comparison of the advances in physiology and pathology for the last thirty-five years shows that in both there has been an immense acquisition of knowledge, and that in each decade the increase has been made in arithmetical, if not in geometrical, proportion to that of the preceding ten years. Bacteriology has also since 1880 in its expansion exhibited the same rate of progress. This advance is one element upon which we must rely in the forecast of the future.

The other element is the appreciation of medical science which obtains at the present day. By this do not understand me to mean popular appreciation, but that enthusiasm which is shown in investigation in all departments of medical science. The additions that are made annually to our stock of knowledge in this line indicate that a host of scientific workers are constantly experimenting, observing, and recording, and that every year the number in the rank and file of investigators is increased by the accession of fresh recruits. That is an appreciation that is certain to continue whether the state countenances it or not.

It is interesting to inquire why medical science is under so little obligation to constituted authority. Why is it that when the state gives endowments for the advancement of learning in languages, mathematics, metaphysics, and the natural and physical sciences, it neglects, as a rule, to give assistance to medical research or medical education? Several reasons are to be urged in answer to this question, and for one of these we must examine the condition of medicine during the first half of this century, when it could not press any such claims to be considered a science as it now presents. While it consisted of much that was valuable, the greater part of it was pure empiricism. This was not all. There arose in the medical world a discussion on questions of a purely dogmatic character that should never have been introduced into medicine at all. Whether like cures like, or whether a disease is cured by a drug which produces the very opposite symptoms, were the questions of the day. There were others on which the very opposite answers were given. Is the therapeutical action of a drug increased the more if it is diluted or shaken, or the more finely it is divided? This discussion first arose in Germany, which gave, at the same time, origin to some other fantastic and absurd creeds in medicine, like Rademacherism, Isopathy, Ideal Pathology, etc., and it spread to England, France, and to this continent. These questions were even taken up by the lay world, and discussed, in some instances, with all the partisanship that characterizes party politics. Then some strove to adopt a position between the two camps, and this added to the confusion. What

wonder is it that the public should, in the end, conclude that there was nothing scientific in medicine; that it was merely a matter of taste in more ways than one as to which school of medical practice you gave your adhesion when you desired medical treatment? Twenty-three centuries ago Hippocrates described a somewhat similar condition of medical practice which obtained in his time. Afterspeaking of some physicians who constantly administer strained decoctions of barley, while others strain the juice through a cloth in order to prevent harm to the patient resulting from swallowing a particle of it; while others, again, give neither the juice nor the thick decoction until after the seventh day, or after the crisis, he says: "Physicians are not in the habit of mootng such questions; nor, perhaps, if mooted, would a solution of them be found; although the whole art is thereby exposed to much censure from the vulgar, who fancy that there really is no such science as medicine, since in acute diseases practitioners differ so much amongst themselves that those things which one administers as thinking it the best that can be given another holds to be bad; and in this respect they might say that the art of medicine resembles augury, since augurs hold that the same bird, if seen on the left hand, is good, but, if on the right, bad" ("On Regimen in Acute Diseases"). In the days of Hippocrates, the introduction of creeds and dogmas into medicine and the consequent contempt of the vulgar did not matter; but the attempt made within the last one hundred years to introduce dogma and fanciful theory has resulted in retarding the development of medicine as a science of observation and experiment; and even at the present day, when we are not troubled so much with denominationalism in medicine, it has helped to prevent that recognition to which the science is entitled from the state.

Another reason for the indifference shown by the state to medicine and medical research, especially on this continent, is the fact that instruction in medicine has been very largely conducted and controlled by proprietary institutions. As these were managed for financial gain, it is manifest that they would spend as little as they could in equipping laboratories which cost money. It was to the interest of many of the teachers to teach the professional subjects well, for their own reputations were enhanced; but in instruction in the sciences there was very little of such inducement, for the air was full of talk about "practical" things and against "new-fangled notions." These institutions turned out a large number of medical practitioners, among whom were undoubtedly good men; but the ideas of many of these graduates concerning medicine and medical science could not be higher than those of the institutions from which they received their education. The advocates of the endowment of medical research have had to contend, therefore, with a confused public opinion, backed by the inertia of

at least thirty thousand practitioners, and also with schools and colleges of medicine whose craft was endangered. According to a lecture recently delivered by Professor DaCosta, the number of medical schools and colleges in the United States constitutes the greatest enemy of medical progress, for the weaker ones, in order to have students and live, keep the standard down. A few years ago there were nearly three hundred of them, and they now number about one hundred and forty-five. As there are but about twenty-five medical schools and faculties in Great Britain and Ireland for a population of 38,000,000, it is obvious that if the same proportion obtained in the 65,000,000 population of the United States there would be about forty-five such institutions. Professor DaCosta says that they die at the rate of three a year, according to which it would take over thirty years to get rid of the not only needless, but harmful excess. The majority of them confer the degree of M.D., although they have no university connection whatever, and we owe to such a condition of affairs that the American medical degree receives so little respect the world over. We may find in this condition also the cause of the failure of American universities to mould professional life, at least in medicine. Of late years efforts have not been wanting to bring medical education under the control of the state and other universities, and when such a result is fully attained no doubt the standard of efficiency in medical education will at once rise. We in Canada have all but succeeded in that respect, but the present condition of things was opposed by some who, for various reasons, object to the university and state control of medical education, nominally on the ground that the latter is "professional." "I think nothing human foreign to me," said the Roman of old, and our present-day culturists subscribe to the sentiment and urge the state to endow the study of language, of which but less than one per cent. of the population receive the benefit, while they are ready to oppose granting state aid to the study of pathology and sanitary science, by which every unit of the population would be benefited directly or indirectly.

A third cause of the failure of the public, through constituted authority, to support medical research is the prevalence of a spirit very much like that of fatalism. It is a harsh term to employ, and I use it apologetically, although I cannot find a milder one that befits the situation. In the east, where cholera and leprosy find a permanent home, there is an extraordinary apathy regarding them. No effort is made on the part of the natives to prevent the occurrence and spread of these diseases, or of any other, for that matter. Why should they, when they regard these as ordained by fate? What is the use of fighting against fate? We wonder and are perplexed at the phase of character presented, without thinking that we of the west, as a whole, exhibit the same.

(To be continued.)

DISEASES OF THE STOMACH : THE MOST RECENT
METHODS DEvised FOR THEIR DIAGNOSIS AND
TREATMENT.*

BY ALEXANDER MCPHEDRAN, M.B.,

Assistant Professor of Medicine and Clinical Medicine, University of Toronto.

Mr. President and Gentlemen :

I have, in the first place, to express my grateful thanks to the President of this Association for the honor he has done me in requesting me to deliver the address in medicine on this occasion ; while at the same time I am deeply sensible of my own inability to discharge the duties with that erudition, that broad grasp of the greater questions in medicine, which an address on such an occasion as this should embrace in its purview.

In casting about for a subject that would be of general interest, of those that occurred to me I deemed that a discussion on the more recent methods devised for the diagnosis and treatment of diseases of the stomach would be most suitable. Strange though it may appear, it is a department in which little is done at the meetings of our associations.

The digestive process is one of such complexity that although much has been cleared up, especially during the last few years, there yet remains much to be explained and elucidated. Beginning at the mouth, the process of digestion is carried on during the passage of the food through the stomach and the greater portion of the intestinal tract, and defect in any part of the course may disturb the process in the whole, and thereby furnish products to the circulation, which may evolve a train of symptoms most distressing and complicated.

Formerly, the major part of the function of digestion was assigned to the stomach, and it was considered that little could go wrong so long as *its* work was effectively done. While the latter is to a great extent true, yet later investigations have shown that nature, in view of the importance of the proper digestion of the food, has been very liberal in her provision for effecting this purpose. A double provision is made for the proper solution of each of the three great classes of food, viz., the farinaceous food by the saliva and the pancreatic juices ; the albuminous by the gastric and pancreatic juices ; and the fats by the pancreatic juice and the bile. In view of these facts, and for the further reason that after the removal of the stomach some of the lower animals continue to have a comfortable existence, some have come to regard the pancreas as the most important organ of digestion, and to view the stomach as little more than a receptacle and "warming pan" for the food. This is the swing of the pendulum to the

*Being the Address in Medicine at the annual meeting of the Canadian Medical Association held at London, September, 1893

opposite extreme. We have abundance of clinical evidence to prove that the importance of the stomach cannot be overestimated ; that an active performance of its function is essential to perfect digestion and our well-being.

The stomach may be said to have a threefold function to fulfil :

(1) To receive the food and lead partly to the conversion of the amylaceous and albuminous portions into absorbable bodies ; the amylaceous change being effected by the saliva, and the albuminous by the gastric juice—the process being completed in the intestine.

(2) By its acidity to protect the food from fermentation and decomposition.

(3) To discharge its contents, partly by absorption into the blood, but mostly through the pylorus into the duodenum after its own share of the digestion has been completed ; the discharge occurring gradually, so as not to overload the duodenum.

In health, for the first three-quarters of an hour after food is received into the stomach, the hydrochloric acid of the gastric juice enters into combination with the albuminates of the food, so that no free acid is present. During this time the digestion of the starchy food is actively progressing, and is only arrested by the presence of free hydrochloric acid, nearly an hour after the meal is taken. In hyperacidity, or a hypersecretion of the gastric juice, free hydrochloric acid is present sooner than normal and arrests the digestion of the starches prematurely, and thus increases their liability to fermentation. In such circumstances the filtrate of the stomach's contents will give a reaction with Lugol's solution, proving that the digestion of starch has been interfered with ; normally, no such reaction is obtained. The imperfect change in the starch might be due either to a deficiency of ptyalin, or an excess of acid ; and as the former is probably never defective, the occurrence of the reaction practically demonstrates excess of hydrochloric acid in the stomach.

The second function of the stomach, viz., the prevention of fermentation and decomposition, is one of the most important. While the digestion may be effected by the pancreatic and other fluids, none of them have the anti-fermentative powers of the gastric juice. With our food we swallow innumerable micro-organisms, especially those that cause fermentation and decomposition, but also pathogenic germs as well. Some of these are destroyed in the acid medium in the stomach, others are inhibited ; this is true especially of the fermentation germs. Many, however, especially the pathogenic organisms or their spores, unfortunately pass through unaffected.

Persons are occasionally met with in whom no hydrochloric acid is found in the gastric juice, and who, nevertheless, have fair digestion ; in such

the motor function of the stomach seems to be abnormally vigorous, causing the food to be discharged into the duodenum before decomposition can take place.

The amount of hydrochloric acid secreted increases in proportion to the amount of albuminous constituents in the meal, the maximum amount being reached about an hour after a light meal and four or five hours after a heavy one.

In health the duration of digestion varies with the quantity and quality of the food taken. In about six hours after a medium meal of mixed character the stomach will be found empty, or to contain only some shreds of food; even after a full meal the stomach should be quite empty in seven hours. In infants the duration in health is probably not longer than one or two hours.

In the intervals between digestion, the stomach contains a small amount of clear neutral fluid, without hydrochloric acid or pepsin.

Derangements of any function of the stomach are characterized in some by few symptoms, while in others disturbances of the greatest diversity are produced; such as neurasthenia, vertigo, insomnia, epileptiform convulsions, headache, catarrhal affections of the respiratory tract, pseudo-angina, joint affections of a rheumatic nature, rigors, etc. It doubtless occurs in the experience of all to meet with cases of these various kinds caused by defective digestion, the true cause often eluding our search. Just as the stomach is the organ at fault when the symptoms produced indicate other organs, so in many cases of apparent stomach disorders entirely different organs are involved.

In many persons with grave derangement of the gastric functions, complaint is made only of slight disturbance of general health, while they assure us that their digestion is quite good. This variety of symptoms is to be accounted for partly by the variation in the sensitiveness of the stomach, partly by the greater susceptibility of other organs to reflex disturbances, and partly by the almost infinite variety in the character of the poisons that result from the decomposition of the food. That many different poisons may be formed in the digestive tract and excreted by the kidneys has been well shown by Bouchard. He found that the urine of a perfectly healthy peasant, employed in the open air, produced no symptoms when subcutaneously injected into a mouse; but if the peasant's digestion were slightly deranged, so that the tongue became furred, the taste a little foul, and the bowels constipated, the subcutaneous injection of the urine then resulted in convulsions in some instances, while at other times coma was produced. Entirely different poisons must have been elaborated in the stomach and intestines to produce such a variety of effects. And of what a variety of symptoms in dyspepsia patients may be relieved by an

effective purge—mental depression, headache, insomnia, fugitive pains, nervousness, ill-temper, etc.

A very large proportion of disease and suffering is due to imperfect assimilation and to absorption of toxic substances, on the one hand, and to defective elimination of waste of tissue and of imperfectly elaborated food products, on the other. While it is far from true that all our ailments are connected with, much less due to, derangement of these two functions, yet he is a wise physician who never loses sight of the importance, in every case, of carefully examining the avenues of supply and waste. Besides the diseases due to derangement of these functions, there are many, primarily not in any way dependent on them, through which he can hope to pilot his patient to the haven of health and comfort only by maintaining these functions in the best possible condition. Then, again, there is no disease to which they do not bear, at least secondarily, a close relationship.

It has been said, and with much truth, that "our feelings are the greatest liars in the world." With almost equal truth can this same charge be laid against the general symptoms of nearly all diseases. Of no diseases is this more true than of those of the digestive system.

Until the last decade or two the knowledge of digestion and its derangements was drawn from experiments, from symptoms, and from occasional accidental conditions that exposed the stomach to view, as in the celebrated case of St. Martin, so well studied by our distinguished countryman, Beaumont. The introduction of the stomach tube for purposes of diagnosis by Leube, in 1871, began a new era in the pathology of diseases of the stomach. By its use we place ourselves in direct communication with the stomach. By removing its contents from time to time and examining them, we may satisfy ourselves of the condition of the stomach and its functions with almost as much certainty as of that of the mouth or other visible part. We only need the knowledge to make use of the material at hand. The stomach tube is not a recent invention. John Hunter, more than a century ago, used it to inject irritating substances into the stomach; later, it was used to empty the stomach in opium poisoning. However, it is only in recent years that it has been used for purposes of diagnosis and treatment in ordinary diseases, and even yet its use is much too restricted. A decided step in advance was made when Ewald,* in an emergency, first used a soft rubber tube. A man was brought to his clinic who had poisoned himself with hydrocyanic acid. None of the standard hard tubes were at hand, and, as immediate emptying of the stomach was imperative, a piece of ordinary gas tubing was taken, the ends rounded, two eyelets cut in it, and then passed into the stomach. He found no difficulty in passing this soft tubing. Since then the use of the soft rubber

*Diseases of the Stomach.

tubes has become very general. They vary in size, the larger being about one and one-half inch in circumference, open at the lower end, having one or two large fenestra low down ; several small openings also add to its efficiency, as they allow the stomach's contents to filter into the tube from all sides. In the majority of patients these tubes are passed without difficulty ; but in some, from spasm of the esophagus, or other cause, it is necessary to resort to a firmer tube, such as a varnished silk web one. In a case recently even this could not be passed through the cardiac end of the esophagus on account of the spasm ; yet a second trial two days later was quite successful with a soft rubber tube. Such tubes possess the additional advantage of being practically safe, there being little, if any, liability of injuring the stomach or any other soft part, even if in an unhealthy condition. Even aortic aneurisms pressing on the esophagus should be safe from rupture, as little impediment will arrest the progress of the tube. It is a matter of no little importance that the use of the soft tube is less objectionable than of the hard one, as it is not necessary in using it to pass the fingers into the mouth, the end of the tube being simply passed back into the pharynx, when, on swallowing, it is grasped by the faucial muscles, when it should be pushed onwards rapidly into the stomach. It usually passes on into the stomach easily, but a choking sensation may be produced. Waiting while a long breath or two are taken usually suffices to overcome this strangling feeling, but not always, and the tube may have to be withdrawn. I do not wish to minimize the difficulties, which are sometimes insurmountable, but we need rarely have any fears once the consent of the patient is obtained ; that is oftenest the insurmountable difficulty. Quiet confidence on our part usually suffices to overcome all difficulties. In the nervous a cocaine spray to the pharynx may overcome uncontrollable irritability.

Having passed the tube into the stomach the contents can usually be obtained by expression, but sometimes patients lose control of the abdominal muscles, and cannot compress the stomach so as to force the contents through the tube. In such, some form of aspirator should be used—an ordinary family syringe may suffice. Sometimes the failure is due to introducing the tube too far, and withdrawing it a few inches slowly is often successful.

It has been objected that the use of the stomach tube is disgusting, offending the refined tastes of the better class of patients. But viewed in that light, how much more disgusting is a rectal, or even a vaginal, examination ! Fear, not disgust, is the prevailing feeling against its use ; at least, so far as my experience goes. It is a matter of education. Were we to regard, as we should do, the examination of the stomach, in diseases of the digestive organs, as essential as does the gynecologist the examination of the

uterus, the idea of its being offensive would never occur to either patient or physician. This is more than can be said of the work of either the rectal surgeon or the gynecologist. Furthermore, were the use of the tube duly frequent, most persons suffering from digestive disturbances would soon come to regard examination of their cases as defective until recourse had been had to its assistance. It can be used in delicate ladies and fastidious gentlemen with as little difficulty as in the baser sort. However, it will take time to educate, not only the public, but more especially ourselves to its great importance in diagnosis and treatment. It seems to me that the greatest difficulty to be overcome is not the reluctance of our patients to submit to such examination—that difficulty will be overcome as soon as we convince them of the importance to *them* of such procedure—but the chief difficulty is in our own defective training in the requisites to enable us to make the necessary chemic examination of the stomach secretions when they have been obtained. This question will impress on us the urgency there exists for a fuller and more thorough training of all medical students in chemistry, especially physiological. It is being more and more driven home to us that to keep abreast with the advancing knowledge of pharmacology and pathology, especially of the physiologic processes, the physician of the future must be possessed of a much greater and more thorough training in the chemic and physiologic laboratories than it is our privilege to obtain.

For accurate scientific examination of the stomach secretions, considerable time and fairly extensive laboratory appliances are requisite; so that, for most physicians in active practice, easy and approximate results will have to suffice; and for the treatment of most cases, such results will meet our needs on the whole satisfactorily. If it be objected that to be useful and reliable our results should be accurate, I would remind you that few of us insist upon such accuracy in urinary examinations. How few ascertain the amount of albumin by weight, or estimate precisely the amount of urea in the urine. Yet we find it necessary to know approximately the state of the urine in most diseases; we find such estimates usually all serve practical purposes. So in time I have no doubt that we will not be satisfied without a general estimate of the stomach secretions in diseases affecting the digestive tract, leaving exact analysis for the well-equipped laboratories.

In any given case, or in comparing different cases, in order to obtain results from which useful conclusions can be deducted, it is self-evident that examinations must be made under similar circumstances as to food, time after eating, etc. An abundance of albuminous food calls for an abundance of gastric juice to saturate it—much more so than a light meal of farinaceous material. An examination, therefore, after a mixed meal

will give much more complicated results than after one of a lighter nature, and the results would probably be more useful. To obtain uniform conditions, Ewald advised examination after a "test breakfast," consisting of a dry roll, or a round of toast, a cup of water, or of weak tea or coffee without milk or sugar. This furnishes nothing to become offensive should decomposition take place, yet it contains all those classes of food, and what remains to be aspirated after an hour's digestion is of such a liquid nature as to pass through the tube easily. It is, however, often desirable to withdraw the contents of the stomach after ordinary meals to ascertain the time required to complete the digestion of a meal, so far as the stomach is concerned, or whether the stomach disposes of one meal before another is taken. It is not unusual in some persons to find in the stomach the remains, often copious, of the food taken during twenty-four or even forty-eight hours, and that, too, without producing much conscious disturbance.

The contents of the stomach, if withdrawn during the first thirty or forty minutes of digestion, should owe its acidity to lactic acid, as can be easily demonstrated by Uffelmann's test with a solution of carbolic acid and chloride of iron; after an hour's digestion the lactic should be replaced by hydrochloric acid, with more or less acid salts. The total acidity should be within certain defined limits, either above or below which indicates an abnormal condition. The presence of free hydrochloric acid is readily demonstrated by Gunzberg's test with phloroglucin-vanillin solution. Experience with it enables one to judge fairly well, by the depth of color obtained by the test, as to the amount of hydrochloric acid present. To be more accurate, we can, by successively diluting the stomach contents until the reaction to Gunzberg's reagent fails, obtain a fairly approximate estimate of the quantity of free hydrochloric acid present, since we know that this reagent will act until the dilution reaches one to twenty thousand.

Now, while it is of the utmost importance to be able to make ourselves acquainted with the constituents of the gastric juice at various periods after a meal, especially as to the presence of hydrochloric acid in normal amount, or its absence, we must not forget that failure of secretion of hydrochloric acid, on the one hand, and its excessive secretion, on the other, are alike only symptoms of disease—symptoms whose import, to be rightly estimated, must be weighed in conjunction with the other circumstances of the particular case. But a short time ago it was considered that the persistent absence of hydrochloric acid was particularly pathognomonic of carcinoma. Further investigation has demonstrated that hydrochloric acid is not infrequently absent in gastric catarrh, in degenerations of the gastric mucosa, and in certain gastric neuroses. On the other hand, cases of gastric carcinoma are met with in which free

hydrochloric acid is found after food, and in a few it is present in excessive quantity. In these latter, it is supposed that the cancer is secondary to, and develops on, the cicatrix of a gastric ulcer, in which latter disease we know that the gastric secretion is usually highly acid. The reason for this difference in these two classes of cancers is probably due to a widely disturbed degeneration and inflammation of the gastric mucosa in the former class, while in the latter changes in the mucous membrane are limited to the immediate vicinity of the neoplasm.

We are, nevertheless, fairly safe in laying down as a rule that while the absence of hydrochloric acid is not pathognomonic of cancer, its persistent presence is strong evidence that cancer does not exist.

Then, it will probably be found that in cases of doubtful diagnosis between cancer and chronic gastric catarrh, the effect of treatment with the stomach tube will be of material aid. In such cases the regular daily washing out of the stomach will be followed by general improvement in cases of simple chronic gastritis, while in cancer the improvement is usually confined largely to some relief of the stomach symptoms, without much gain in general health.

In such a case under my care in Toronto General Hospital a year ago, in a man who was much addicted to beer drinking, and whose symptoms were those of aggravated chronic gastric catarrh, no improvement resulted from lavage. There was no pain, tumor, or cachexia to indicate cancer, but his condition grew worse steadily. He left the hospital, and a month or so later died at his home. The autopsy showed a diffuse colloid cancer infiltrating nearly the whole wall of the stomach, and the general cavity was much contracted, a contraction that must have resulted chiefly after he left the hospital, as shortly before that time the capacity of the stomach was apparently normal.

The tube will, however, find its most frequent application both in diagnosis and treatment in that most common of "ills that flesh is heir to"—dyspepsia. By its use we are able to differentiate those characterized by hyperacidity from those more frequent ones in which there is a deficiency of hydrochloric acid secretion, and thus be guided to the treatment appropriate for each.

In the former we need to reduce the amount of sodium chloride in the food to a minimum, to neutralize the acidity of the stomach by use of such alkalis as magnesia and the alkaline carbonates, which contain none of the elements of hydrochloric acid, and to diet mainly on nitrogenous food, so as to appropriate the greatest possible amount of hydrochloric acid in its digestion.

In those suffering from in acidity, on the other hand, we must supply the deficiency in hydrochloric acid by giving it after food as freely as each

individual demands, usually in frequent, divided doses, and, it may be, peptonizing the food before it is partaken of—appropriate general treatment, of course, being carried out at the same time.

Of the dyspepsias, the most frequent are those associated with and dependent upon chronic gastritis. Here, too, no means of treatment avail as does thorough and regular cleansing of the stomach by means of the tube. Usually the appetite is poor, but it may be at times good, even ravenous; at others the first morsels or even the sight of food satisfies, or may beget nausea. "Soon after eating, such patients feel oppressed and bloated; they do not complain of true pain in the epigastrium; it is more of a choking, a vague sensation, which only becomes slight pain on pressure over the stomach." If decided pain occurs, we should suspect other lesions. These conditions are frequently combined with atony of the stomach wall; this leads to an undue stay of the food in the stomach. Decomposition results, the starches fermenting and the nitrogenous substances putrefying. Distension of the stomach results, with eructation of offensive gases, and regurgitation of sour and acrid liquid and masses of food. We cannot well conceive of a condition more suitable for the use of the tube than this. By its use we remove the decomposing remains of food that may have lain in the stomach for days; also the mucus lying in and adhering to the walls of the stomach, and the acrid fluid bathing alike stomach and contents. The relief that such cleansing gives to the sufferer none know but those who have experienced it.

Alkaline and antiseptic solutions have been advised, but plain water suffices for every purpose. The douching is continued, alternately pouring water into the funnel and allowing it to run off until the water comes away clear. Once daily is sufficient. In the absence of atrophy of the mucous membrane, the improvement from such lavage is usually rapid. The irritants that keep up the inflammation are removed; the douching stimulates the gastric gland secretion, which is less in proportion as the mucus is abundant; it also stimulates muscular activity, and these, in their turn, beget a healthier nutrition of the whole gastric mucosa.

With proper diet this will suffice to cure many cases, but it is best to aid it with general treatment, stimulating aromatics, massage, electricity, change of scene, etc., as feasible.

I am decidedly of the opinion that no single plan of treatment will give as good results as this in alcoholics, in all of whom chronic gastritis exists, usually in a marked degree. The douching improves the state of the stomach, begetting better digestion and assimilation; as a result, nutrition and excretion are better, and the nerve centres become more able to resist the demand for alcohol, which, as a result of the better nutrition, grows less and less with time. In such a case, a grave one, lately under

my care, the use of the tube every second day for four weeks was attended by the most gratifying results.

In the digestive disturbances of infancy, especially in the summer diarrheas, medical literature furnishes us with a most convincing mass of evidence in favor of cleansing the stomach with the tube, and thus cutting off the supply of irritant matter to the intestinal tract. The removal of such irritants from the stomach by whatever means, at the same time that the bowel is emptied of its decomposing contents, should suffice to cure most cases if done sufficiently early.

If with the chronic catarrh there be also dilatation of the stomach, lavage is the only course that avails. It is the sovereign remedy. In chronic cases with much dilatation, even it will fail to restore the stomach to its normal capacity; but, in any case, it will, if effectively carried out, relieve the inflammation of the mucous membrane, prevent decomposition, and imprové digestion. Combined with massage and electricity we may, even in severe cases, if not too chronic, obtain a complete cure. While the douching is being done, massage of the abdomen should be used so as to empty any sacculations of the stomach and assist in dislodging masses of adherent mucus and food, the douching to be continued until the water comes away clear. It is best done before breakfast, once a day being sufficient, or six or seven hours after a meal, so as to give time for digestion. Effective washing relieves or improves the nausea, the depression, the headache, the disgusting vomiting of fermented food and mucus, etc., that give so much distress. In these cases constipation is usually troublesome. One of the benefits of the use of the tube is relief of this constipation especially early in the treatment. So constantly does the relief occur that Kussmaul considers its absence an ominous sign of advanced degeneration of the stomach wall, or of stenosis of the pylorus.

In the majority of cases of dilatation from pyloric obstruction from carcinoma much benefit results from regular use of the tube, though less, of course, than in chronic gastritis. In some, however, and they have been those in whom there was extensive infiltration of the walls of the stomach, the distress produced by the entrance of the water even in moderate amount rendered the continuance of the treatment inadvisable.

Excellent results have been reported from the use of the tube in gastric neuroses. The alternate douching and emptying acts as massage on the stomach wall, and has a soothing effect on the hypersensitive nerves, just as massage of an external part often relieves pain. At the same time any remnants of food and mucus which may act as irritants are removed; the warm water acts as a soothing bath; and the impact of the water stimulates peristalsis, and this always improves both circulation and secretion.

Its use is said to be sometimes equally gratifying in reflex vomiting, especially in pregnancy, the patient being fed through the tube.

Recently considerable use has been made of the electric currents, both galvanic and faradic, in diseases of the stomach. There is good evidence that even the application of both poles to the abdominal walls stimulates the action of the stomach, but the more direct application of the current, by having one pole in the cavity of the stomach, is much more effective. By moderately distending it with water, plain or saline, and introducing one electrode into the stomach, while the other, a large one, is placed on the epigastrium, its walls can be brought into the direct circuit of the current. By means of the sedative effect of the constant current, some cases of gastralgia may be relieved. The interrupted current is, however, of greater use and wider application. With one electrode in the stomach, peristaltic action is stimulated, and it is thus of much use in atony and dilatation. In many cases the appetite and digestion are improved by its use; there seems to be a freer flow of gastric juice, and more vigorous contraction of the stomach walls. Of course the good results may be partly due to the general effect, both physical and mental, on the patient. I have, at all events, found considerable good result from the faradic current as used in atony of the stomach.

Much that I have said may appear commonplace and elementary; but my subject, of necessity, has to do with the commonplace—with the receiving of supplies, preparing and distributing them to the various organs of the body. What has been uninteresting in it has been due, I am aware, to the manner in which it has been presented to you. It has been said that four-fifths of all the ailments for which treatment is sought are due to functional disturbances, the remaining one-fifth to organic disease. Of these four-fifths, such a large proportion is due to derangements of the digestive process that the subject becomes one of surpassing importance. Without careful examination of the functions in health and disease, we cannot hope to thoroughly comprehend it, and it is only by the more minute investigation of the stomach contents that any advance in our knowledge of these diseases can be looked for. Moreover, it is a subject which all have to consider in daily practice. While it belongs to the general practitioner *par excellence*, yet it is one that the surgeon cannot ignore, and every specialist must take cognizance of it daily, as it may bear an etiological relationship to many of his cases. It cannot, therefore, become the special preserve of any specialist.

If I have said anything to stimulate to a more earnest, painstaking examination into this much-neglected, though most important, subject, the object of this address is attained, and I close with a feeling of having occupied your time to some purpose.

A CASE OF ELONGATION OF THE EPIGLOTTIS.*

BY PRICE-BROWN, M.B.,

TORONTO.

In the treatment of the case I now report, I am much indebted to Dr C.C. Rice, of New York, for a paper read by him last year at the annual meeting of the American Laryngological Association, entitled, "The troublesome symptoms caused by the enlargement of the epiglottis, and the advisability of reducing the size of the cartilage by operative measures." I was much impressed by his article, as I had on several occasions treated patients for laryngeal disease in which the epiglottis presented either an abnormal development or some unusual feature in reference to position.

In no case, however, up to the time of writing, have I found it advisable to operate, except in the one which I have the honor to report to you to-day. And in this case, owing to it being more one of malposition than malformation, I was obliged to resort to the method which Dr. Rice, at the time of the preparation of his paper, considered unadvisable, namely, the use of the galvano-cautery.

On Feb. 27th, 1893, Miss M., aet. 23 years, tall and slight in figure, presented herself for treatment. Family history was not good. Although both parents were living and healthy, yet on the father's side there was extensive tuberculosis. Two of her brothers likewise had died of consumption between the ages of 20 and 30 years. Patient herself had been delicate from infancy; and according to the statement of her family physician, the apex of her left lung had already been diseased twice. During early childhood her respiration had been of a whistling character; and throughout life she had been subject to throat colds, attended by marked hoarseness. Sometimes this amounted to complete aphonia, lasting for a period of one or two weeks. One other interesting feature was the difficulty the patient had always experienced in freeing the throat from mucus.

Two years prior to consulting me, her physician sent her to Colorado Springs for six months. She returned much improved in general health, but with little amelioration of the throat symptoms.

When she came for advice, she had been free from cold for several weeks. Laryngoscopic examination revealed a healthy larynx, so far as could be seen. The epiglottis, however, was long and narrow, with the end turned up, and occupied a completely horizontal position. During ordinary respiration, the whole of the free end pressed against the posterior wall of the pharynx; while on forcible inspiration or expiration, it was

*Paper read at the Laryngological Section of the Pan-American Medical Congress, Washington, September, 1893.

raised slightly, seemingly enough to admit the passage of a narrow knife blade. The whole larynx was deeply seated, and it required two and one-quarter inches from the right angle of the laryngeal probe to reach the tip of the epiglottis.

Fortunately, the patient was tractable. The manipulation of the parts was tolerably easy; and as a good view could be obtained, I considered the case a favorable one for operation.

On March 1st, after applying a 15 per cent. solution of cocaine, I made the first tentative touch with the galvano-cautery, watching carefully for pseudo-membranous inflammation or edema as possible results. The reaction, however, was slight, and on the 4th, during forcible breathing, I slipped the galvano-cautery blade between the epiglottis and post-pharyngeal wall. Then drawing the former forward by means of the instrument, so as to free the pharyngeal surface, I cauterized the central margin and also the left side of the tip. The operation was followed by sloughing and acute congestion of a mild type, but no edema. I operated upon the remaining portions on the 18th and 29th. Throughout the treatment, simple albolene sprays were used to the throat several times a day. At no time was the reaction very strong; and owing to the effect of the cocaine, the operations were not only painless, but the epiglottis itself remained immobile during the cauterization; enabling the operator to limit as he might choose the amount of work done.

During the whole course of treatment, the deglutition of fluids was not interfered with to any marked degree. Of course, solids were interdicted for several days after each application of the galvano-cautery.

The shortening of the epiglottis amounted to about one-quarter of an inch, leaving as a result a perpetual niche of about half that width.

On April 1st, as the patient was in need of general recuperation, I allowed her to return home, to a town 100 miles distant. There was still a protruding corner that I did not like, so I arranged for her to come for further treatment later on.

Accordingly, she visited my office again on June 6th. The epiglottis during the interval had entirely healed, and, although she had suffered once or twice from cold, this had not, as formerly, been attended by hoarseness. I found, however, as I expected, a little projecting nodule on the left side. This I touched twice with the galvano-cautery at an interval of three days. The healing was more rapid than formerly, and in ten days the young lady was well enough to return home. On final examination before her departure, the sloughs had separated, the epiglottis was uniform in length and regular in outline; and although the organ was still, and probably never would be, in the horizontal position, the vocal cords could both be distinctly seen, something that was quite impossible previous to the cautery operations.

Six weeks later I heard directly from my patient's mother that, physically, much progress had been made, and that the throat itself was now quite well.

In reference to the advisability of using the galvano-cautery in the treatment of cases of this kind, it must be said that the experience gained by the history of one case is not sufficient to establish a rule. Malposition to the extent and in the form described is probably exceedingly rare. It was fortunate in this case that the epiglottis was both narrow and thin, facilitating operation, and reducing to a minimum the probability of edema. If, on the other hand, the organ had been broad, or thick, or hypertrophic, caustic treatment would certainly have been more dangerous; in view of possible pseudo-membranous inflammation, or edema of the inner surfaces of the larynx. I have on several occasions seen extensive edema of the palate and uvula resulting from galvano-cautery operations on the tonsils; and if a like result should occur to the ary-epiglottic folds or ventricular bands, from similar treatment of a thickened epiglottis, the end would scarcely justify the means. In well-selected cases, however, there are several facts in favor of this method of operating which would seem well worth considering. Sufficient time for thorough and careful treatment is an all-important requisite for a successful issue. Then the operations can be performed bit by bit; and by having the patient under daily observation, the parts can be kept under perfect control. There is no bleeding to interfere with examinations; and when cocaine of sufficient strength is applied, we have not only immobility of the epiglottis, but likewise freedom from pain. To this might be added that the chiselling may be done so perfectly as to challenge comparison with the normal epiglottis.

For cases in which, for various reasons, the galvano-cautery might be unsuitable, I would suggest the construction of a rectangular epiglottome, in which the teeth would merely transfix the epiglottis without drawing it through the ring, as in tonsillotomy. The amount cut off by the blade would thus be under the complete control of the operator. If trimming of the margins was still deemed necessary, this could be accomplished by the galvano-cautery after the healing of the primary wound.

Selected Articles.

HYPERTROPHIES AND DEGENERATIONS OF CICATRICES AND CICATRICIAL TISSUE.

FROM a paper read by Dr. John Collins Warren, of Boston, before the American Surgical Association, and which appears in the *Annals of Surgery* for September, we take the following :

The material by means of which a defect in the integuments is repaired is known as a cicatrix, and consists of a new formation of connective tissue covered by epidermis. In tracing the evolution of this new tissue we find that it is formed from the fixed cells of the connective tissue, and from the cells found in the walls of the small blood vessels. These cells, when in a state of reproductive activity, are known as fibroblasts, and it is from them that the new tissue is formed which firmly holds the edges of the wound in apposition.

The process does not, however, cease with the closure of the wound, for if we watch the cicatrix during the next few weeks we find that the line of union has, in many cases, become much more marked, and that it is the seat of a distinct growth of tissue by means of which it is raised above the level of the surrounding skin. There is an increase in the vascularity of the part, and the bright red color which results gives it an unusual prominence, which threatens, when the scar is situated in exposed regions, to become the cause of an unsightly deformity. The new formation appears, however, to be merely a provisional one ; gradually the swelling diminishes, the new tissue shrinks back to the level of the surrounding integument, and the bright color fades away.

If we examine a wound at the end of the first week of the healing process, we find remarkably little change in the tissues. A line of small round cells, which take the staining fluid readily, serves to indicate the point in the section where the edges of the wound have been brought together, but there is as yet no further change. It is not until the end of the second or third week that the tissue, known as cicatrECIAL tissue, can be found, and the period of full development is really much later than has usually been supposed. In fact, it would not be an exaggeration to say that the process of cicatrization requires a full year for its complete evolution; that is, for that point to be reached at which no further changes are likely to take place.

At the end of a few weeks, however, we are able to see a well-developed cicatricial tissue. This consists of a connective tissue and an epithelial portion. The fibres of the connective tissue are packed together in bundles, which interlace one another in various directions. At times the fibres run singly in very small bundles, and are so interwoven as to form a fretwork. This is in striking contrast to the arrangements of the fibres of the adjacent corium.

The elastic fibres, which are twisted about the bundle of fibres in the normal cutis, are wanting, being rarely replaced when once destroyed.

The interlacing bundles of fibres leave no space for adipose tissue or glands, and give to the cicatrix its characteristic density. Old scar tissue is sclerotic, and does not color as readily as the normal cutis, and we see comparatively few cells, but in the early stages of development the cells are numerous, and can be found in clusters here and there, surrounding the blood vessels which run between the bundles of fibres.

The papillæ are never completely reproduced, and we see at certain points wavy lines of epidermis underneath which loops of vessels lie, but these are not genuine papillæ. A thin layer of epidermis, the lower border of which is represented by a more or less horizontal line, is the usual covering of a scar.

The glands are not entirely destroyed, as many of them lie deep. The ducts of the sweat glands may often be seen on the surface of scars, and hair follicles, with lanugo hairs and sebaceous glands, are occasionally seen. These epithelial structures often play an important part in the epidermization of a cicatrix.

The vessels of a fresh scar are very numerous, particularly the capillaries. If the wound has united by first intention, they run horizontally; but if the wound has closed only after a slow process of granulation the vessels, generally speaking, ascend vertically towards the surface, and form there a rich anastomosis, which gives to the scar its characteristic hue. (Winiwarter.*)

Lymphatics are not usually found, and nerves are rarely seen, although Robin describes them, and Jobert attributes the sensitiveness of some scars to rudimentary nerves which form there. The occasional presence of a large nerve fibre may give rise to more serious symptoms. The color of a scar may become a bluish red or violet; it gradually becomes paler, and assumes a yellowish tinge, and finally a pure white. More rarely there is a deep yellow or brownish color, or some deeper pigmentation. It may have a mottled appearance, due to the presence here and there of patches of epithelial cells in the granulating surfaces. The presence of grains of powder produces a marked discoloration. Scars rarely disappear

*Deutsche Chirurgie. Lieferung 23.

entirely, although this occurs not infrequently in scars formed during early childhood. Usually they remain as a fine, white line; or, if the scar has stretched, as it frequently does when there is tension, the line becomes a band. Scars grow in proportion to the rest of the body. Nélaton cites the case of a cicatrix, in an infant, reaching from the wrist to the elbow, which later in life covered the same distance.

Mr. Adams observes that the rate of growth, as demonstrated in these cases, did not appear to be sufficiently known to the surgeons, or considered by them when performing operations on children in exposed portions of the body, the opinion being that scars remain stationary or wear out. It is true that the scars of some slight wounds do wear out to a certain extent, but after deep wounds, and when a portion of the skin has been destroyed, the cicatrix appears to be persistent through life, and to grow *pari passu* with the rest of the body, or rather with the portion of the body on which it may be placed. Vaccination scars are, undoubtedly, often much enlarged by growth.

According to Panas, locomotion of scars may take place. A small scar near the eyelid in infancy rose gradually with increase in years, until it was situated close to the roots of the hair.

The so-called false scars or striæ seen in the skin after pregnancy are due, according to Winiwarter, to a displacement of the elastic fibres. Instead of the thick bundles ordinarily seen, there is a coarse meshwork.

The most striking peculiarity of scar tissue is its tendency to contract. This contractile power exerts its influence during the healing process in a beneficial way, distant margins of wounds being brought nearer together, and the covering of the defect by epidermis being greatly facilitated. It is also the cause of the most striking deformities which disease can produce. So irresistible is its power that everything yields before it. Tendons are bound down into hopeless inactivity; nerves are held with an iron grip; the breasts may be so distorted that lactation becomes impossible; limbs are rendered useless; the trunk is bent upon the extremities; and even the solid bone is moulded into fantastic shapes.

What is this hidden power? What peculiar conditions of tissue exist which endow it with such precocious qualities?

Delpesch has suggested that the contraction of scar tissue was due to a condition which allied it to muscular tissue. According to Panas, we must regard cicatricial tissue as a provisional growth which is intended to preserve union until the edges of the normal skin have been regenerated. The absorption of this transitory structure is the final stage of the healing process. If the normal tissues are not reproduced only one act in this process is accomplished, and it is this attempt at absorption which brings about the great condensation of the scar tissue.

Looked at from this point of view, we see why it is that hypertrophied cicatrices are produced when the edges of the wound retract from some cause or other. The abundant formation of new tissue is an exaggerated effort on the part of nature to supply the necessary covering for the part. If the cicatricial tissue possessed any specific contractile qualities, we should find a subsequent approximation of the edges of the wound, which is not the case. A broad, flat scar is usually the eventual outcome of such conditions. And we find this tissue so yielding to steady pressure that in wounds of the abdominal wall, when accurate adjustment of the edges of the wound has not been effected, the intervening scar tissue yields, and a hernia results.

It is only when there is an extensive loss of substance that the effects of contraction become perceptible. Moreover, this shrinkage begins even before the cicatricial tissue is developed, for we see the approximation of the edges of a large defect during the process of granulation. Contraction is here evidently due to absorption. The contractile power of a scar is, according to Robert Jones, largely dependent upon the amount of granulation tissue which becomes organized; all in excess of local demand adds to its contractile power.

Regarded from a physiological standpoint, scars may be divided into three classes, viz., hypertrophied scars, or those due to an excessive formation of cicatricial tissue; contracted scars, or those due to an attempt at absorption of larger cicatricial surfaces; and, finally, the normal scar, which represents the more or less imperceptible tissue which forms the line of union of the well-adjusted edges of a wound.

Scars ordinarily are not painful, for, as we have already seen, nerves are not usually found in them. Scars may, however, become a source of pain by their adherence to structures which are sensitive, as bone or nerve trunks and fibres. Some observers, as we have seen, have found nerve filaments in the scar tissue, and Follin speaks of neuromatous enlargement of nerves in scars.

Weir Mitchell* speaks of cicatrix pressure on nerves as unusual, and mentions, as one of two cases which came under his observation, the presence of a cicatrix close to the sciatic nerve, so that whenever the leg was straightened the man suddenly lost power and suffered pain. Pressure may also be brought about by contractions, which leave the limb in an abnormal position. During the war numberless examples of painful scars, caused by gunshot wounds, came into the hospitals for relief. It was in a case of this kind that I first saw morphine injected subcutaneously by the late Dr. J. Mason Warren. Mitchell refers to superficial shell wounds causing painful cicatrices due to compression of sensitive cutaneous nerves.

*Injuries of Nerves. 1872.

He was unable to find any accounts of the microscopical examination of painful scars, but is inclined to believe that some such alteration exists in the nerves as that described by Danielson and Broeck as occurring in anesthetic leprosy. The early symptoms seemed to be referred to simple congestion of the neurilemma; the succeeding and latest phenomena are due to a hyperplasia of the connective tissues within and without the nerve sheath.

Among the most common of the pathological changes observed in scars is that hypertrophic condition known as keloid (*chele*, a claw).

There is a general tendency among writers at the present time to disregard the distinction between true and false keloid.

True keloid has been considered by most observers as a spontaneous new formation in the corium independent of any pre-existing wound; but there is a growing feeling of late years that keloid tumors spring from cicatrices more frequently than has been supposed, and that some cases of supposed true or spontaneous keloid in reality sprang from minute scars caused by pressure of clothing or friction of folds of skin. Kaposi recognizes both true and false keloid, and also a third variety, which he calls hypertrophied cicatrix. The latter form I have already described as a variety of scar. In addition to these forms, a verrucose cicatricial tumor is described by Hawkins, and syphilitic keloid is mentioned by several writers.

The typical true keloid, like that described first by Alibert, is situated over the sternum, and is composed of newly-formed tissue of firm and elastic consistence, sharply defined, and raised 2 to 4 mm. above the level of the skin. It extends transversely across the median line of the chest, and terminates at either end in one or more prolongations, which give it its characteristic appearance and name. Its surface is smooth and shiny, and the color red, like that of a scar, in the single specimen which I have seen during life. It is, however, said at times to be white, pinkish, or even purple. It grows to a certain point, and then remains stationary. There is little or no tendency to ulceration. There is usually no history of a pre-existing scar, and the growth, to all appearances, has developed spontaneously. Keloid is described by different authors as growing in almost any region of the body, but the pure type, such as I have described, is found on the chest; and as it is an extremely rare form of growth, and is highly characteristic in its appearance, it seems to me deserving of a separate classification from other forms of keloid, in spite of the possibility that it may have developed from some lesion that may have passed unnoticed. According to Hebra, it is found once in two thousand cases of skin disease. True keloid rarely disappears. I do not find any well-authenticated reports of the spontaneous disappearance of such a tumor.

It is not painful, but may give rise to an itching, prickling sensation, and it is for this reason principally that patients are said to seek relief.

False keloid may develop in almost any part of the body. There appears to be a tendency in scars situated on the chest to form keloid tumors more frequently than elsewhere. Why this is the case is not apparent, but in this region hypertrophies of scars seem to be more frequent than elsewhere. False keloid is also found in the face, both surfaces of the extremities, back of the hand and foot, and external genitals (Crocker). It is found after puncture of the ears, and sometimes develops from leech bites. It is also well known to spring from the scars of acne pustules, and in this case is often multiple. Hutchinson gives a portrait of such a case where, in addition to numerous tumors in the back, there is a growth over the sternum strongly resembling true keloid, which suggested to him the possibility of the development of the latter variety from acne pustules, so frequent in this locality, which have been overlooked. They are said to be found rarely in the mucous membrane. Verneuil reports a case of keloid of the conjunctiva.

True keloid appears to be a disease of adult life, but false keloid may appear at any age. There seems to be a keloid disposition in certain families and individuals, and the peculiarity of the African race in this respect is, of course, well recognized in this country. False keloid grows to a certain point and remains stationary for many years, and finally flattens somewhat, and becomes paler. It may grow at times to an unusual size.

This statement of the minute anatomy of keloid agrees essentially with that made by Langhans, Kaposi, Crocker, Plicque, and others.

The development of keloid probably takes place in the following way: A growth of cells first occurs in the adventitia of the arterioles; these later become fusiform cells, and finally fibres. As bundles of fibres form in this way around the arteries, the tissue of the corium is gradually compressed by them, and the different bundles thus uniting form the keloid growth.

Keloid is a fibrous tumor, which, in consequence of its development of the vessels, is composed of bundles of fibres running parallel with them in contrast to a simple cicatrix, which consists of fibres which form a network. The tendency to recurrence is evidently due to the implication of the walls of the blood vessels for some distance beyond the borders of the tumor.

The origin of such a growth from the walls of the smaller arteries, and the presence of many fusiform cells, suggests the possibility of the existence of muscular tissue at some period in the existence of these growths. We have examples elsewhere of fibro-myomata, and it is precisely in those

races most liable to uterine fibroids that keloid is most frequently found. One authority, as we have already seen, has sought to explain in this way the great contractile power of this form of growth. A more careful study of the origin of keloid might develop the fact that the media of the artery is also involved in the pathological change, and that a growth of myomatous tissue actually does take place.

Cancer has been associated with cicatrices by writers ever since Alibert described keloid, and pointed out the close affinity which the disease, which he first called cancroïds, was supposed to bear to epithelioma.

It appears usually long after the scar was originally acquired, and it is seen most frequently in individuals from forty-five to fifty years of age.

Rudolph Volkmann* has collected 128 cases of cancer developing from scars, ulcers, or fistulæ of the extremities: of these the greater portion formed in scars, particularly those which had a tendency to break down and ulcerate, or in wounds which for some reason had not entirely healed. As this is the history of most ulcers of the lower extremities, it is not surprising to find that cancer occurred ninety-five times in the lower extremity, and only thirty-two times in the upper extremity; in other words, the disease is nearly three times as frequent in the lower extremity.

Cancer of the lower extremity developing in ulcers is of a mild type, usually resembling more closely the so-called epithelioma than any other form of carcinoma. Some of them have large epithelial cells and belong to the polymorphous type of epithelioma, while others resemble closely the pure rodent ulcer, or small cell epithelioma, containing chiefly cells such as are found in the deep layers of the rete mucosum.† It is on this account that glandular involvement in these cases is comparatively rare. In the 128 cases quoted by Volkmann, only twelve were known to have died of cancer. Sixteen of these died of other diseases, and in fifty-five cases the subsequent history could not be obtained.

Many of the so-called keloid tumors of unusual size are undoubtedly sarcomatous in nature, and Virchow, as we have seen, attributes the recurrence of such growths to their malignant character.

The cause of the suppurative inflammation may be due either to reinfection of the cicatrix, or to the awakening of spores which have long been dormant. The most common form of relapse is due to tuberculosis. An unfavorable state of the health or a severe local strain are usually the exciting causes.

Cicatrices may reopen, owing to the presence of foreign substances within them.

The use of silk ligatures and buried sutures is now a well-recognized

*Klinische Vorträge, February, 1880.

†Warren, Rodent Ulcer, 1872.

source of the formation of obstinate sinuses. This is true, however, of certain localities only. How often do we hear of silk ligatures used in an amputation of the breast after the wound has once healed?

On the other hand, operations in the abdominal walls or cavity are often followed by the development of stitch sinus, even though the wound has healed in the most approved aseptic manner. The size of the ligature used in pedicles accounts partly for this difference, but the principal cause is the strain brought to bear upon the cicatrix. The formation of minute stitch abscesses and sinuses in operations for the radical cure of hernia and the shortening of the sound ligaments are familiar examples of this type. Even though the buried suture be thoroughly aseptic, the subsequent strain brought to bear upon the tissues paves the way for a secondary infection.

Cicatricial tissue does not appear to suffer any senile changes, which in other tissues has been quaintly characterized by Hutchinson as "Tissue dotage." Beyond the distinctly diminished resisting power to carcinoma, there appears to be no degenerative process clearly due to age. In fact, the scar tissue may be said to have grown old prematurely, and, therefore, is susceptible to no further change with advancing years.

Treatment of scars. Every effort should be made to favor as minute a development of scar tissue as possible. The careful adjustment of the edges of a wound is too well recognized an axiom to need repetition here. If buried sutures are to be used, I should strongly advise the use of an animal suture rather than silk, owing to the tendency of the latter substance to work its way sooner or later to the surface at some point. Any one who has studied under the microscope the healing of wounds cannot fail to recognize the great irregularity of the edges of the wound and the tendency of the epidermis of one lip to bury itself uselessly into the deeper tissues. An unnecessary amount of granulation tissue is formed in such cases, and furnishes material for an hypertrophied cicatrix (a new formation between the edges of the wound). Very superficial stitches should be used more freely than in my experience is customary with surgeons. Packard recommends the making of very oblique superficial incisions, which in his experience leave an imperceptible cicatrix.

The popular idea that the flesh of certain people heals quickly is not a fanciful one, but is based upon an unusual power of regeneration in the skin which they possess.

When there is a large open wound on the face, the skin forming the edges of the wound pushes forward until the exuberant granulations are reached. From this point a thin layer of epithelial cells grows over the granulation tissue and forms a scar which remains as a permanent disfigurement. This stage of the healing process should, according to Lassar,

be prevented, and for this purpose the dressing should be removed every few days and the thin layer of epithelium should be scraped off. The borders of the skin may be refreshed by a knife or a sharp spoon. In this way the normal epidermis and corium will have an opportunity to cover in a much greater surface of the wound, and the cicatrix will often be reduced to an almost imperceptible size. Volkmann has called attention to the fact that those parts of the face in which the skin contains large hair follicles and sebaceous glands have an unusual power of regeneration, as these structures are storehouses of epithelium from which a mass of epidermis is formed which springs up through the granulation tissue and is surrounded by the superficial growth, giving to the newly-formed skin both the functions and appearance of an almost normal structure. It is perhaps due to the greater regeneration of the skin of the face that scars in this region are less liable to stretch.

Robert Jones has also dwelt upon the importance of a systematic checking of the superabundant growth of granulations, as the contractility of cicatrices is largely dependent upon the amount of granulation tissue which becomes organized. He advises that the granulation should be frequently scraped and burned, while the limb (in case the scar is there) should be kept extended. Plastic operations should not be performed for the relief of contractions until the old cicatrices have been stretched. The healthy skin is stretched at the same time, and the contractile element in the scar tissue is destroyed by continued extension. It is this yielding of cicatricial tissue which favors hernia in abdominal scars.

It is important to remember that the skin, and, indeed, other tissue, as muscular fibre or aponeurosis, are capable of regeneration, and that by approximation we favor this process and avoid, as much as possible, the substitution of the less highly-organized cicatricial tissue. I do not believe it to be a good substitute for other tissue in the radical cure of hernia. "Scar tissue is unreliable, and should be avoided," ought to become an axiom of modern surgery.

For projecting scars compression has been recommended by various authors. Panas* quotes the case of an actress who had scars on her face from smallpox. She wore for the space of six months a mask both day and night. The skin, at the end of the treatment, presented to the feel a polished surface; but when pinched up, points of induration could be felt in it. Compression will often remove the redness as well as the elevation of a scar. The earlier it is done the better. It should be continued for some time after the nodule has disappeared. It must be used at first all night; later on in the treatment, compression for a few hours at a time

*Paris, 1863.

will be sufficient. For old scars he advises excision; slight scars can often be removed by actual cautery.

Unna* recommends for the treatment of depressed scars of the face friction with sand to prevent the undue accumulation of the horny layer of the epidermis. A case of scars produced by pustular acne was treated successfully in this way. After a few months of this treatment it was found that the depressed scars on the nose were shallower and smaller in diameter, and were scarcely perceptible. In a case of smallpox scarring, in a woman twenty years of age, three months of the friction treatment made the skin smooth. The situation of the previous depressions was marked by less pigmented circular spots.

Unna employs finely powdered marble. He prepares a "pulvis cutificius" of two kinds. The powder may be used alone or mixed with powdered soap, sulphur, or other powders. It should be applied as a lather. The action of the carbonate of lime has probably some beneficial effect. A fine sponge is dipped in the powder and the diseased parts are polished with it, at first slowly, later more rapidly but lightly, more as one would polish a boot. The frictions should be employed for ten to fifteen minutes once or twice a day.

Depressed cicatrices from gunshot injury, disease of the bone or of the glandular structure of the neck, are often the cause of considerable deformity. An operation for their relief has been planned and successfully carried out by William Adams.* This consists in the subcutaneous division of the scar with a fine tenotomy knife. Two or three punctures may be necessary to liberate extensive scars. The cicatrix should then be carefully everted, and while held in that position two hair-lip pins or finer needles are passed through its base at right angles to one another so as to maintain the cicatrix in its everted or raised form for three days. Adams reports several cases in which the depression had not reappeared several years after the operation.

Pigmentation of the cicatrix may be due to various causes: That produced by the presence of particles of powder is most conspicuous. These cases should be taken as soon after the injury as possible, and the skin should be scrubbed with a nail brush while the patient is under ether. A number of cases have been most successfully treated in this way by C. B. Porter. In older scars the particles of powder can be removed without further deformity by the punch devised by S. J. Mixer for that purpose.

Unpigmented scars are said by Pashkis to be improved by tattooing with a skin-colored mixture made with sulphate of baryta, yellow ochre, and water.

*Unna, Vierteljahr, für Derm. and Syph., Vol. VIII., p. 508.

*London, J. and A. Churchill, 1879.

The treatment of true keloid is most discouraging, owing to the persistency with which it returns. The patient usually seeks relief from pain and itching rather than from the deformity. Kaposi recommends the use of mercurial ointment alone, or in combination with iodine and glycerine. Quinine and arsenic may be given internally.

Plicque recommends scarification for the relief of pain. The incisions should be made about 1 cm. apart, and should cut through the whole thickness of the tumor.

If excision is attempted, the line of the incision should run from 1 to 2 cm. beyond the limits of the disease, and should extend through the cellular tissue to the muscular aponeurosis.

In certain regions it is possible to remove the growth with an ample margin of healthy tissue, as in the lobes of the ears. In such cases recurrence rarely takes place.

Compression is recommended by many writers for the cure of false keloid. Unna treated in this way a cicatricial keloid, the result of a burn. A soft mercurial ointment was first applied, and held with circular strips of adhesive plaster. Outside of this dressing collodion was used freely. The dressing was renewed at the end of a week. The keloid gradually disappeared after treatment during two and one-half months.

Iodide of lead ointment was occasionally used instead of the mercurial ointment. A mixture of four parts of acetate of lead with twenty parts of collodion is applied with a brush, and after a few days' treatment the keloid is said to shrink, become paler, and cease to pain. The frequency of the application should be gradually diminished.

Compression has been employed by Verneuil by means of an elastic bandage. Vidal has produced great improvement, and even disappearance of the tumor, by deep linear incisions dividing the vessels thoroughly.

TREATMENT OF SURGICAL TUBERCULOSIS.

Dr. Jeannel, of Toulouse, (*Semaine Médicale*) recommends the following treatment: After the tuberculous area has been laid bare and the neighboring parts covered with cold compresses, a tampon soaked in seething salt water (of a temperature of 108-110° C.) is introduced into the focus, and all its diverticula thoroughly exposed by friction to the action of the boiling water. This procedure is repeated with a second tampon, and, after it has been carried out for five or six times, it may be assumed that all the diseased tissues have been destroyed; as it is known that tubercle bacilli cannot resist a temperature of 100° C. Jeannel has successively treated several cases of suppurative local tuberculosis by this method, in some of which there were numerous fistula.—*International Journal of Surgery.*

Progress of Medicine.

MEDICINE

IN CHARGE OF

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Home for Incurables.

STRIÆ FORMED IN THE SKIN AFTER INTESTINAL AFFECTIONS.

Dr. Kirstein presented a patient, eighteen years of age, who had always been in good health until an attack of lung trouble, which lasted for two years; then in October fell severely ill with typhlitis, which confined him to bed for six weeks. About Christmas he had a relapse of typhlitis, which lasted six days. In January noticed formication and dragging sensations in the shoulder, and then observed the presence of some peculiar marks very similar to those seen on the abdomen of women after delivery. These striæ were situated at the level of the tenth dorsal vertebra, their direction perpendicular to the axis of the body, and were almost confined to the left side, only a few prolongations passing over to the right. The skin was depressed in these striæ, and small ridges branched out perpendicularly to their direction. The patient remained weak and depressed for the effects of the perityphlitis

With respect to the origin of these striæ, although in this case there was no mechanical cause of great moment, one cannot help thinking of some divulsion of the skin or of some atrophic process. In literature we meet with many such cases, and always with a history of a grave intestinal affection or some disease of the abdomen. Senator observed an analogous case in a soldier twenty-four years of age, who in 1870 had suffered from an acute attack of dysentery, and for many years had sanguinolent dejections. In 1877 suffered from a severe shoulder pain, and noticed the cutaneous striæ as in this case.—*La Cronica Médica*. R.B.N.

MONEY (A.) ON A NOTE ON THE DIAGNOSIS OF TUBERCULAR MENINGITIS.

Every text-book of medicine refers prominently to the difficulty of diagnosing some cases of tubercular meningitis, but little attention has been drawn to the value of the reflexes. In cases of doubt I believe an appeal to the condition of the reflex actions during the course of the disease will sometimes prove of signal service in the diagnosis. The

reflexes are altered in cases of simple inflammatory fever and enteric fever, but the alterations are fairly definite; the knee-jerks are increased, and an ankle clonus may be obtained. The superficial reflexes are also increased. The deep reflexes in the arms are apt to be developed or exaggerated if normally present. These changes are usually symmetrical on the two sides of the body. The knee-jerks are never lost in uncomplicated cases of inflammatory or continued fever whilst the pyrexia lasts.

In meningitis an increase in the activity of the reflexes may be present, and frequently it is found that there is a loss or diminution of some of them. In a doubtful case, in which the diagnosis rests between tubercular meningitis and typhoid fever, the absence of the knee-jerk tells in favor of the former; and this absence is very strong evidence of tubercular meningitis if the knee-jerk on the other side is exaggerated, or if there is ankle clonus on the same or the other side. I have notes of many cases of tubercular meningitis in which this unusual combination of lost knee-jerk, with fairly marked ankle clonus, obtained. I have never met this combination in a case of enteric fever.

In two other cases of tubercular meningitis, completed by an autopsy, the superficial and deep reflexes on one side of the body have been totally lost, whilst those on the other side were decidedly exaggerated. In an infant aged fifteen months the side on which the reflexes were exaggerated subsequently became hemiplegic. This was also the case in a girl aged two and a half, which I saw with Dr. Dagnall Clark, but there was no autopsy. In a case of hemiplegia in an infant aged ten months, reported in the "Clinical Society's Transactions" in 1884, a vascular lesion was found, thrombosis of a branch of the middle cerebral artery complicating the signs of tubercular meningitis.

The case reported by Dr. Shewen in *The Australasian Medical Gazette* for January presented an insensibility of the right side of the body, followed by hemiplegia, the knee-jerk being absent, but a distinct ankle clonus present. It will be noted that in the case referred to above the hemiplegia supervened on that side on which there was a greater sensibility. One observed that raising the left eyelid for ophthalmoscopic examination caused the child to wake up and show resentment, whereas the right eyelid could be raised and the eye examined without any notice being taken of the procedure by the patient.—*Australas. Med. Gaz.*, June, 1893.

EMPHYEMA AND ITS PROPER SURGICAL TREATMENT.

Dr. Carl Beck, of New York city, at the Pan-American Congress, read a paper on the above subject. The essential question in this paper was which of the three methods of treatment used—aspiration, incision, or resection—gave the best result. From his personal experience, together

with statistics collected, it proves resection the method of treatment for obtaining the best recovery. Resection, he found, was gaining ground daily among surgeons. Some surgeons have been in the habit of making an incision first and then use drainage for a time; and, if no good results are obtained, follow it up with resection, which only causes unnecessary delay, and in many cases makes the prognosis bad. The prognosis of any case depends entirely upon the early diagnosis made by the practitioner and the method of treatment adopted by him. In using a hypodermatic needle for diagnostic purposes, sometimes the pus will be too thick to flow through the needle; and in case it fails to appear, if you will unscrew the syringe, leaving the needle inserted, and then push a wire through, upon withdrawing the wire you will find the end covered with pus.

Aspiration. Absorption can only take place under the most exceptionally favorable circumstances; therefore in the large majority of cases treatment by aspiration alone only drags the case along until the patient's vitality sinks too low for resection to save him, and it is from just such cases as these that the opponents of resection gather their statistics.

Incision. This method of treatment will permit of drainage, but there are always adhering lumps to be found upon the surface of the pleura which no amount of drainage or washing can remove. They must be picked off with the finger.

Resection. This is by far the best of all methods. We are then enabled to sweep the finger around inside, opening up any pockets, and tear off all adhering lumps and thoroughly cleanse and drain the cavity. In making a resection, if the operator is careful to preserve the periosteum, the rib will grow again. After making a resection I do not immediately insert a drainage tube. If a tube is inserted at once, owing to the fact that the movements of respiration will cause the tube to irritate the surfaces, you will cause more or less hemorrhage. I usually wait three days before inserting it.

In conclusion, I will say that resection is safe, clean, and easy to perform, and gives by far the best results. I do not, however, approve of the method of resection recently recommended in Germany.—*N. Y. Med. Record.*

"ROSIN WEED."

In a recent number of the *New York Medical Record*, Dr. Beverley Robinson draws attention to the good effects of "rosin weed," *Silphium laciniatum*, in the treatment of dyspnea in pulmonary phthisis. He uses a tincture made according to the following formula:

R.—Fl. extr. silph. laciniatum (root)... f ʒi.
 Alcoholis..... ʒiv.
 Aquæ..... ʒii.
 M. Filter. Sig.: ʒss.-ʒi. as a dose.

OBSTETRICS

IN CHARGE OF

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THE BEST DRESSING OF THE UMBILICAL CORD.

Lvov (*Revue Médico-Chirurgicale des Maladies des Femmes*, May 25th, 1893), under the above title, holds that glycerin is the best dressing for the cord, because it is not only antiseptic, but also drying in its effect. He has used it in five hundred cases, and finds that it mummifies the cord and causes it to drop off in three to five days. The mode of procedure is as follows: After the cord has been ligated and cut, its visceral end is dried most carefully with absorbent cotton, and hermetically sealed by a thin layer of cotton moistened with pure glycerin. Over this are applied a few turns of a tarlatan bandage. This dressing is not changed until the cord comes away. During this period the child is not bathed; the cord is not even inspected, the external tarlatan bandage being changed only when it becomes soiled. The granulating surface left by the dropping off of the cord is perfectly healthy, non-inflammatory, and cicatrizes in from nine to ten days under a dressing of subnitrate of bismuth or talc.—*Therapeutic Gazette*.

LONG-CONTINUED HEMORRHAGE IN THE LATTER HALF OF PREGNANCY,
DUE TO DETACHMENT OF A NORMALLY-SITUATED PLACENTA,
AND ACCOMPANIED BY SEPTIC INTOXICATION, WITH
A REPORT OF TWO CASES.

Hirst (*Medical News*, July 22, 1893) reports two cases of hemorrhage from detachment of a normally-situated placenta, both occurring at about the sixth month, and evidencing the absorption of septic products from the slowly-decomposing clots which had formed between the layers of the decidua vera.

The first case had been bleeding profusely from the genital passage for two or three weeks. She was profoundly reduced from loss of blood, and had considerable fever. The child was still alive. Diagnosing premature detachment of the placenta, in view of the alarming condition of the woman, Hirst determined to terminate the pregnancy. The placenta was found to be attached at the fundus, with one-quarter of its maternal surface covered with blood-clot, dark in color and firm as liver in consistence. Clots extended along the membranes to and beyond their point of rup-

ture. The patient recovered, after exhibiting symptoms of septicemia for a time.

The second case had been bleeding for six weeks, despite careful rest in bed, with opium and viburnum during the last four weeks. She had a septic temperature during this time. Although the fetus was still alive, it was determined to terminate the pregnancy. The placenta was found attached at the fundus. About one-eighth of its surface was degenerated from previous separation. A long, decomposing clot was attached to this margin. The woman made a good recovery.

These are of especial interest, inasmuch as the text-books in common use do not describe this condition, and the general practitioner, unless he had seen and recognized such an accident, would be at a loss in handling his case.—*Univ. Med. Mag.*

DRY BIRTH.

Dr. George D. Weston, in *University Medical Magazine*, reports an interesting case:

Mrs. A., primipara, expected confinement March 10th. On Feb. 14th lost a large amount of water, which so frightened her that she fainted; water continued to pass for some hours; os undilated. Labor commenced March 9th, progress slow; after some hours patient etherized and delivery accomplished. Right hand was applied to the right cheek, so that labor was retarded by the position as well as by the dry birth. The special point of interest is the rupture of a bag of water three weeks before term. There was no liquor amnii at the time of delivery, and the vernix caseosa was dry.

INDUCTION OF LABOR BY CHAMPETIER DE RIBE'S BAG.

Dr. Heelas, late house physician, General Lying-in Hospital, Lambeth, London, reports (*London Lancet*) twelve cases of induction of labor by the use of this bag. The patients treated were under the care of Drs. Herman and Cullingworth. As a rule, there was not much difficulty in introducing the bag; though occasionally, especially in primipara, it was necessary to procure a preliminary dilatation of the os by bougie tent or Barnes' bag. In nervous patients it was found an advantage to have them placed under an anesthetic and on their backs. Generally, when the bag was in position there was no further trouble until it was expelled, when the os was found to be fully dilated. The objection raised that it not infrequently displaces the head in vertex presentations does not appear to be a very serious one, because in certain cases a displaced head can be easily replaced by external manipulations, while in other cases the displacement is only a step towards what is desired, namely, turning.

In eight cases there was contracted pelvis ; in one, uterine fibroids ; in one, an inflammatory swelling around the uterus ; in one, accidental hemorrhage ; in one, premature rupture of the membranes. In two cases a vertex presentation was converted into a breech ; in two others the head was displaced towards an iliac fossa. In every case delivery was completed within twelve hours of the introduction of the bag.

In the February number of *THE PRACTITIONER* we gave an abstract of an interesting discussion on this subject at last year's meeting of the British Medical Association. Dr. Barnes was inclined to sneer at the new bag on account of its shape, which he had discarded many years before while experimenting with dilating bags because it was faulty. Certain accouchers of New York have also objected to it on account of the tendency to displace the presenting head. It has been used, however, quite extensively on the continent and in Great Britain during the last two years, and the results in the hands of most have been very satisfactory. We believe that when once placed in position it completes the dilatation of the os more safely and more quickly than any other instrument which has yet been devised.

THE LIFE AND DEATH OF A UTERINE FIBROID.

Kleinwachter (*Archives of Gynecology, Obstetrics, and Pediatrics*) gives a report of one hundred cases of uterine fibromyomata which he has watched for many years. We learn from the *International Medical Magazine*, which gives an abstract of the report, that the author thinks there is no fixed rule for calculating the age of a fibroid from its size. A fibroid, as a rule, grows quickly from a little lump to a big tumor. Sudden increase of a fibroid already large is frequent ; a fibroid seldom remains stationary or diminishes before the menopause. The precise effect of ergot is difficult to determine. In pregnancy a fibroid increases, diminishes during involution after delivery, and may disappear altogether. The menopause has not nearly so beneficial an influence as is generally supposed ; the fibroids often continue to grow, and sometimes more quickly than before. At this time there is some risk of malignant degeneration of the tumor. There is no accurate explanation why some fibroids grow quickly and others slowly ; the rate of growth probably depends on the prevalence of the myomatous or the fibromatous element in the fibroid, a matter which cannot be elucidated by purely clinical research.

TRIPLETS.

Mr. Sidney Matthews, of Crawley, Sussex, England, reports triplets with three separate placentæ. On June 30th, a poor woman was confined at Crawley of triplets, two boys and a girl. Though remarkable in

itself, it seems to be further noticeable from the facts that all three were vertex presentations, and that each had an absolutely separate placenta, the births occurring: child, child, one placenta, child, second placenta, third placenta. The children are alive and the mother doing well.—*Brit. Med. Jour.*

SURGERY

IN CHARGE OF

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AND

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ORCHIDOPEXY.

Dr. Jalaquier has performed this operation for testicular ectopy fifteen times in thirteen patients. Ten cases were unilateral, inguinal. Two bilateral cases were complicated with hydrocele or hernia. In all these cases there was communication with the peritoneal cavity. The most important point about these cases is the occlusion of the vaginal sheath, not the fixation of the testicle. His results were perfect in twelve patients. The cord always remained somewhat shortened, but the hernia had not been reproduced. The case that failed was in an epileptic child.

Dr. Felizet believed testicular ectopy was a complex lesion, and that clinically the defective position of the organ was of secondary importance. There are two great classes of ectopy, the mobile and the fixed. Each has its own therapeutic indications. When the testicle is movable it is ordinarily normal, and the external orifice of the inguinal ring is enlarged. When it is fixed the ectopic gland is valueless. It is painful at times, atrophied, and nearly always associated with a hernia, which does not favor the descent of the organ. In these cases the ectopy and the hernia require treatment, and operative interference is always indicated.—*La Cronica Medica.*

R.B.N.

CLASSIFICATION OF CANCEROUS DISEASES.

Dr. Herbert Snow (*Lancet*, July 29th, 1893), in a lecture recently delivered at the Cancer Hospital, defines "cancer" as "a large group of morbid conditions in which all elements normal to the body are found to multiply luxuriantly, and to prey upon the healthy tissues, eventually destroying the life of the individual. ¶ The cells or nuclei which have

undergone this profound modification appear to have now become independent organisms—parasites, or, rather, autosites. . . . There are strong reasons for regarding this peculiar change as one of reversionary character, of devolution instead of evolution; the cell elements of the particular tissue attacked reverting to a primitive, amebiform condition once universal throughout the germ.”

Dr. Snow, taking the tissue origin as a natural basis of classification, recognizes nine primary genera of cancer. “(1) Epithelioma, derived from epidermis, or from non-specialized epithelium; (2) carcinoma, from the specialized epithelioid cells of secreting glands; (3) sarcoma, from the fixed cell elements of the connective tissues; (4) lympho-carcinoma, from the lymphoid or adenoid tissues, especially from those which constitute the lymph glands; (5) cylindroma, from tubular gland follicles in the stomach and intestines; (6) rodent ulcer—the cancer of short hair follicles—from the cells of the outer root sheath; (7) endothelioma, or primary cancer of serous membranes, probably derived from the germinal endothelium of the stromata; (8) myosarcoma, from the nuclei of non-striated muscle; (9) blastoma (from *blastos*, germ), vestigial cancer derived from unobliterated fetal residue—a new group corresponding to the inclusion theory of Cohnheim.”

This classification, it will be observed, includes all the tumor formations which may merit the term “malignant.” It discards the generally accepted idea that the sarcomata are derived from embryonic tissue, and therefore form a sufficiently distinctive class to warrant their classification in a separate group.

A.P.

THE TREATMENT OF GANGLION.

Mr. H. Martyn Jordan (*Lancet*) reports success in treating twenty-five cases of simple ganglion by aspiration and subsequent injection of Marton's fluid (grs. 10 of iodine; grs. 30 of iodide of potassium; 1 oz. of glycerine). After injection of from *m*15 to $\bar{3}$ ss. of this fluid pressure is applied, and the parts kept at rest by means of splints and bandages for five or six days. The method has also been adopted with like success in chronic bursitis.

A.P.

CURVED SKIN INCISIONS.

Mr. Peyton T. B. Beale advocates the use of curved incisions wherever possible. The following advantages are claimed:

(1) It heals more rapidly, and for these reasons: There is really only one edge of the wound, that belonging to the flap, that is movable, the other edge being still adherent to the subjacent tissue; moreover, the flap having been stitched to the neighboring skin or held well away from the

seat of operation, both edges of the wound are quite uninjured by the time the sutures are inserted.

(2) The resulting scar is smaller, though this is only of importance in certain parts, for the skin may be incised obliquely in making a curved incision, so that the epidermis on the edge of the flap is slightly in advance of the true skin.

(3) It fully exposes the part to be operated upon, assuming that the base of the flap is twice or three times its length, and gives the operator plenty of room in which to work.

(4) Suturing the edges is easier than in the case of a straight incision, especially if the skin be pricked in one or two situations exactly opposite to one another before the incision is made, and often the curved wound is adapted to the shape of the part better than a straight one.

(5) The resulting cicatrix is not over the seat of operation.

(6) Drainage is often most perfect by inserting a tube through an incision in the base or some part of the flap, thus giving no hindrance to the primary union of the incision and preventing any possible discharge from infecting the edges.

(7) Incision through inflamed or diseased skin may be avoided and yet the disease be easily reached.

(8) There need be no tension on the edges of the wound, as a flap of skin is, so to speak, loose, and if there is fear of tension a thick silk suture may be passed through the base or some part of the flap and out again, and then through the skin on the other side of the incision and there fixed, thus avoiding a long suture beneath either edge of the wound.

ON THE REAL NATURE OF DIPHTHERITIC PARALYSIS.

It is very important that we should entertain clear ideas as to the probable nature of the forms of paralysis which are often a sequel of diphtheria, and which constitute such a remarkable feature. We must not assume vaguely that they are any proof of blood-poisoning, far less that they necessarily denote a specific fever. In all probability they are purely local in origin, and are due to an ascending neuritis which starts from the nerve-endings in the affected mucous membrane. In this feature they are probably their analogues in a number of other diseases. Infective inflammations of skin and mucous membrane are liable always to result in the implication of the end-organs of the nervous system, and from them to travel upwards along the nerve-trunks. Beginning as an affection of sensory structures only, they may, on meeting, by ascent along a sensory nerve-trunk, with motor-trunks or nuclei, implicate the muscular system. This is exactly what we observe in the neuritis of leprosy. In this disease the

skin is invariably the part first affected. Its sensory structures are destroyed or greatly impaired by a chronic inflammatory action, and local numbness is the result. At this stage, however, another complication may occur, although it is very far from being invariable. The inflammation may travel upwards along the sensory filaments, and when these, in the case of mixed nerves, join with their motor companions, may by implication of the united trunk produce paralysis of definite groups of muscles. Examples of this are constantly seen in leprosy. It is, I think, exactly the same in diphtheria. Defects in sensation of the mucous membrane which has been involved are constantly present after severe attacks of the diphtheritic throat. When the membrane has cleared away, the patient will allow the pharynx to be touched without displaying any sign of irritability. In a large majority of cases this condition of partial anesthesia gradually passes off, and no further complications ensue. This is just what is observed in the majority of cases of leprosy erythema. In a few cases of diphtheria, however, the process referred to, of ascending neuritis, sets in, and the proof that it has done so is afforded by the implication of certain groups of muscles, or even by a general limb paralysis.

My own experience of post-diphtheritic muscular affections has been not inconsiderable in connection with affections of the eye. Next to paralysis of the pharyngeal muscles, and indeed in some cases when these latter have been but slightly or only for a short time affected, we have the implication of that part of the third nerve which is concerned in accommodation. The patients, who are apparently quite well, make their appearance at the ophthalmic hospitals or in our consulting rooms complaining that they are losing their sight, and have become unable to read. On examination, it is found that a convex spectacle-glass entirely restores the reading power, the defect being due simply to loss of accommodation. None of the other third nerve muscles, as a rule, suffer. There is almost always the history of the patient having been troubled by fluids escaping by the nose. I have seen some cases of this paralysis of accommodation after very slight attacks of diphtheria, and a few in cases of quinsy or pharyngeal abscess, where presumably no real diphtheritis has been present.*

In all cases the condition after a few weeks' duration passes off, and this, I think, quite irrespective of any special measures of treatment which may have been adopted; nor have I ever met with cases in which relapses have occurred. The more severe and extensive forms of paralysis

*Dr. Mansel Symptom, in his interesting account of diphtheria as he observed it in Dr. Gee's wards in St. Bartholomew's, has the following important observation, which fits well with the opinions I have expressed: "In epidemics, catarrhal diphtheria may occur wherein there is no formation of false membrane whatever. These cases may communicate diphtheria to others, and may be followed by paralytic s."

are far less common than the mild ones, but they obey the same law as regards being transitory and recoverable, provided only that the patient can be kept alive.—*Jonathan Hutchinson, in Archives of Surgery.*

KRAUSE ON THE TRANSPLANTATION OF LARGE SKIN FLAPS WITHOUT A PEDICLE.

James P. Warbasse, in an editorial appearing in the October number of the *Annals of Surgery*, says of this method of transplantation :

The chief thing is that the operation be done aseptically, and that the bleeding on the surface to be covered be completely checked by compression.

The surface upon which the transplantation is to be done must either be a fresh wound, such as remains after the extirpation of a lupus area or epithelioma, or it must be converted into one. In the latter case, after the wound or ulcer has been cleaned, the limb should be rendered artificially anemic, and the whole region about the field of operation disinfected, and the granulations vigorously scraped away with a sharp spoon. The whole field should then be washed with sublimate solution, and this washed away with salt solution. After this the wound is thoroughly dried with sterilized gauze. The instruments and hands must also be dry. In every case of granulating wound, the ground of the defect should be removed with the knife. The dense fibrous tissue which underlies an old ulcer or granulating surface of long standing should be excised down to fairly normal tissue. It is of no consequence if an excavation results, for, as is known from experience with Thiersch grafting, these hollows soon become lifted up to a level with the surrounding skin. The same procedure is followed in chronic ulcers of the leg. If the underlying tibia is thickened, it can be chiselled off level. As a dressing, Krause uses sterile gauze, firmly bandaged over the wound. After the dressing has been applied the tourniquet is removed from the limb.

The surface from which the skin is to be taken should be disinfected. This must not be done too vigorously. Krause advises against strong scrubbing with brushes. The sublimate solution should be washed away with salt solution, and the skin thoroughly dried with sterile gauze. The skin should be cut away with the greatest aseptic precautions, and only dry hands and dry instruments employed. The skin of the inner and front sides of the arms and the front of the thighs, and also from the rump, can be used. In order that the defect can be closed immediately by suture, it is well to remove an oval or spindle-shaped piece.

In order to quickly separate the skin from the subcutaneous fat, the whole flap should be cut about with the knife, and then the lower angle of

this spindle-form area lifted up with toothed forceps, and with the knife held almost at a right angle to the under skin surface the flap is cut away. When a sufficiently large piece has been cut, in order to avoid any unnecessary manipulating of the wound surface of the flap, it should be folded against the wound surface, and thus held between the fingers. Such detail as this insures a better result.

The delicate connective tissue layer between the skin and the subcutaneous fat comes away with the flap. When here and there a little fat remains attached to the skin, it does no harm.

The skin patch, which contracts to two-thirds, or less, of its original size, should be placed immediately upon the wound surface, all bleeding from which has in the meantime been checked by compression, or the occasional twisting of a vessel. Ligatures should never be applied, as they act as foreign bodies, and prevent the flap from coming in contact with the surface from which it must receive its nourishment by diffusion. By applying pressure to the flap for a short time it becomes cemented to the floor by a thin layer of coagulum, which holds it when the pressure is removed.

It is never necessary, in the limbs, Krause thinks, to suture the flap to the surrounding tissue. He has used the suture only in one operation, on the upper lip. When possible, the whole defect should be covered with the transplanted patch. The dressing should be applied so that a 5 per cent. sterilized iodoform gauze bandage be bound about the wound, in order to hold the flap firmly in place. Over this should be placed a moderately firm dressing, and the limb immobilized by a splint.

The first change of dressing should be done, according to Krause, on the third or fourth day, because vesicles often form and should be opened. In order to prevent the slightest disturbing of the graft, at first only the outer dressings should be removed. The whole limb should then be immersed in boracic solution for an hour or more, until the dressings are soaked loose. On reapplying the dressings a piece of iodoform gauze thickly covered with boro-vaseline should be placed over the graft. The same care should be employed at all subsequent dressings.

Krause has observed that these skin grafts do equally well when planted on muscle, fascia, connective tissue, periosteum, dura mater, or directly on a denuded, cortical, or cancellous bone surface.

Inasmuch as skin from any part can be transplanted by this method, defects in hairy surfaces can be corrected by the transplantation of hair-producing skin.

After the wound has healed the new skin becomes movable, and microscopic observation after twenty-two days has demonstrated a thin layer of newly-formed subcutaneous fat.

PEDIATRICS

IN CHARGE OF

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OBSERVATIONS ON ISOLATED CASES OF DIPHTHERIA.

In a paper read before the June meeting of the American Medical Association, Dr. W. A. Dixon, in discussing the probable modes of origin of isolated cases of diphtheria, says :

Diphtheria is a frequent and most destructive disease. The rich and the poor alike suffer severely from it. Sanitary conditions seem to have little to do with its prevalence. It has always displayed a marked tendency to prevail in sparsely populated districts rather than in centres of population. In this country it occurs as often on the hilltop as in the crowded city tenement houses. Observations go to show that country districts suffer more than populous cities. Pathological societies are replete with statistics showing its relation and communicability from the lower animals to man. In this country Dr. A. Jacobi says that probably the possibility of contracting diphtheria directly from animals is very much greater than the danger from water or milk.

Dr. J. Lewis Smith says that observations are accumulating which show that diphtheria, or a disease closely resembling it, occurs among animals. Since such distinguished observers admit that diphtheria may be contracted from the lower animals, I am encouraged to hold from my own observations that the isolated cases in the country or city may be accounted for in this way.

I will cite a few cases of isolated diphtheria to show that it is reasonable to conclude that children have been infected from birds, fowls, pigeons, and cats. In 1865 diphtheria prevailed as an epidemic in Southern Ohio, was malignant in character, and very fatal in its ravages. Preceding and at this period there was great fatality among the hogs and chickens in that region. In the family of Mr. G. the children were seized with violent symptoms of diphtheria. The chickens were dying with a disease affecting the throat. Some of them were brought into the house, where most of them died. The children spent most of their time with the sick chickens.

Another case was a child whose home was perfectly isolated. There was no possible chance of other infection. The child had a pet cat which it nursed continually, which had been ill some days prior to the child's attack, and had a discharge from the nostrils. Many more similar cases which have occurred in my practice might be cited. In quite every year from that time forward I have noticed instances of diphtheria in isolated homes where malignant sickness occurred among the animals. Recently my convictions have been so strong in favor of this animal infection theory that I inquire and examine into the condition of the animals belonging to the place.

OPERATION FOR UMBILICAL HERNIA ON THE NEWBORN CHILD.

Berger (*Nouvelles Arch. d'Obstét. et de Gynéc.*, June 25th, 1893) successfully operated on a female child thirty hours after birth, and exhibited it afterwards at a meeting of the Obstetrical and Gynecological Society of Paris. The infant was born strong, breathing well. The umbilical hernia was of the size of a small hen's egg, and covered by the membranes of the cord. There was a distinct neck or pedicle as thick as a man's forefinger, and made up of integument alone, which was united to the membranes by a deep groove. The lower part of the hernia was reducible, and the sac was there transparent. Coils of small intestine showed through it; they could all be pushed back into the abdomen. The upper part was irreducible, and in close relation with the vessels of the cord. After birth the hernia and abdomen were well washed and dressed with iodoform. On the next day the hernial sac was opened, and the small intestine reduced. The irreducible portion consisted of the cecum, the appendix, and about one-third of the large intestine, all intimately adherent to the membranes of the cord. A layer of these membranes had to be detached and reduced, together with the bowel. This manœuvre could not be done until a free incision had been made along the median line, as in abdominal section. The sac was excised. The peritoneum, the aponeurosis, and the skin were separately sutured. The operation lasted an hour and a quarter. The sutures were removed on the tenth day; recovery was complete at the end of a fortnight. Guéniot, in the discussion on Berger's case, referred to Lindfors' invaluable monograph "On Umbilical Hernia" which appeared last January in Volkmann's *Vortrage*. He said that, as in adults, very minute particulars of each case of this operation in infants would be needed. Nothing differed so much as two umbilical herniæ. Other abdominal viscera besides the intestine may lie in the sac, inseparably adherent, and the abdominal cavity may, by congenital defect, be much too small to hold all the herniated structures.

ACUTE NEPHRITIS AFTER VARICELLA.

Cassel (*Deut. Med. Woch.*, August 10th, 1893) first refers to the rarity of this complication. Although carefully looked for in over two hundred of his own cases, it was only present in the following instance: A girl, aged four, with no history of previous infective disease, went through an ordinary attack of varicella. About the twelfth to fifteenth day, the symptoms of acute hemorrhagic nephritis appeared. When she was seen, the face was swollen and the urine of a dark-red appearance, containing much albumen and blood. The digestive functions were disturbed, and constipation present. Temperature 39°C . Other organs were healthy. The symptoms of nephritis remained at their height for about six days, and then disappeared relatively rapidly in the next twelve days. The child recovered completely. There was no evidence whatever to lead the author even to suspect that it was an acute exacerbation of chronic nephritis. Among the twenty-five published cases, there have been all degrees of severity. The nephritis occurred from the fifth to the twenty-first day of the varicella, and lasted twelve to twenty-four days. Three fatal cases have been observed, and here the morbid anatomy resembled that of scarlatinal nephritis. As regards prophylaxis, children should remain in bed for a few days, even in the slightest cases, and should keep to the room for a week.—*Epitome British Medical Journal*.

PRELIMINARY REPORT ON THE CAUSES OF CHLOROSIS.

In the *Brit. Med. Jour.* for Sept. 23rd, 1893, Dr. E. Lloyd Jones gives the results of his investigations into the causation of chlorosis. Until the age of about 15 the specific gravity of the blood is about the same for both sexes; after that, however, the specific gravity in the female falls, while it rises in the male. In the healthy female there is a marked fall between the ages of 16 and 22.

Typical cases of chlorosis all occur between the ages of 14 and 26. In these cases so great is the fall that in sixteen out of eighty-seven cases of chlorosis the specific gravity of the blood was below 1037. There is no other common condition in which the specific gravity of the blood undergoes such profound change, and this is almost entirely due to a reduction in the amount of hemoglobin. That the reduction was owing to a falling off in the hemoglobin was demonstrated by taking the specific gravity of the serum in a large number of cases, when it was shown that, while after puberty in the female there was a fall in the specific gravity of the whole blood, there is at the same time an actual increase in the specific gravity of the serum.

In the first case of chlorosis examined, the specific gravity of the whole

blood was 1030; that of the serum alone 1028, which was higher than any the author up to that time had observed in any male. In eight other well-marked cases of chlorosis there was in every case a blood specific gravity much below normal, while in these eight cases the mean for the serum was 1027.3, which is not lower—possibly higher—than the mean in healthy males of the same age.

Because chlorosis occurs at the time when the specific gravity of the blood in a healthy female has a natural tendency to fall, the author some years ago concluded that chlorosis is simply an exaggeration of a physiological effect. At the present time he is more than ever convinced that chlorosis is an exaggeration of a change which normally takes place in the blood of a female at puberty, a change which, like the chlorotic condition, does not affect the blood of the male. He concludes that the blood plasma in the female at puberty tends to become heavier than in the years preceding puberty. No such change takes place in the male. Chlorosis is liable to occur at the time of this change. The specific gravity of the plasma is not necessarily altered in chlorosis, and the blood in chlorosis is not necessarily hydremic.

PATHOLOGY

IN CHARGE OF

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ERRATA.

In the issue of last month several errors occurred in this department, as follows :

Page 700—For “ $\frac{7}{8}$ M.” read 7 to 8 M.

Page 701—For “gelatines” read gelatine; for “Soltan” read Soltau.

Page 702—For “ulcerous obstruction” read venous obstruction; for “ulcers” read veins.

Page 704—For “tha tit” read that it.

THE DIPHTHERIA BACILLUS.

In so modern and scientific a work on medicine as that of Osler, we meet with the statement that the bacillus of diphtheria is to be found in the pseudo-membrane only, not in the submucosa, or blood, or internal

organs. This was written in 1892. The second edition will probably show a change here. Frosch reports the discovery of the specific bacillus in the brain, lungs, liver, spleen, kidneys, cervical and bronchial glands, blood, and pericardial and pleural fluids in ten out of fifteen cases; whilst the John Hopkins Hospital bulletin for April, 1893, contains a series of short articles in relation to the dissemination in the body of Loeffler's germ which are of great interest. Abbott and Ghiskey, of Philadelphia, record observations made on guinea pigs in which certain minute foci in the omentum which attracted their attention were discovered to contain diphtheria bacilli; the foci consisting mainly of polynuclear leucocytes. These foci, in the opinion of the observers, resulted from off-carriage through the lymphatic circulation of bacilli from the seat of inoculation. Flexner, in the same bulletin, reports the finding of the Klebs-Loeffler bacillus in broncho-pneumonic patches occurring in the course of diphtheria; whilst, more interesting still, W. T. Howard records a case of malignant endocarditis due to a bacillus which neither he nor Dr. Welch could distinguish from that of diphtheria. In cultures, as well as morphologically, they agreed exactly.

FISH DO NOT TRANSMIT TUBERCULOSIS.

Prof. Combemale (*Bull. Méd. du Nord*, April, 1893), of the Faculty of Medicine of Lille, has undertaken a series of experiments bearing upon the transmissibility of tuberculosis through fish. When one takes into account the fact that whole families of fishermen in Iceland, and particularly in Canada, succumb to phthisis, it might naturally be supposed that fish had something to do with it. Combemale's experiments, however, show that even fish which have been fed with bread containing tubercle germs, and that have lived in water infected with tubercular sputa, never become tuberculous. He has also shown that in carp inoculated in the muscles with tubercle the bacilli can be but rarely demonstrated, and these have lost their virulence and do not infect guinea pigs.—*Rev. Intern. de Bibliog. Méd.*, Jan. 25, 1893.

A NEW CULTURE MEDIUM.

Marchal (in the *Bull. de la Soc. belge de Microscope*, Jan., 1893) recommends the following:—White of fresh eggs, diluted with distilled water and mixed with a 1-1000 solution of sulphate of iron. The iron is to prevent coagulation in sterilizing, and is added in these proportions: To a litre of a 1 to 5 per cent solution of egg albumen add from 1 to 5 per cent. of iron solution. This medium is useful for diphtheria bacilli, coli communis, staphylococci, etc.—*Rev. Int. de Bib. Méd.*, June 25, 1893.

BACILLUS BILLET-DE-BANQUUS.

Acosta and Grand Rossi have been studying the bank bills of Havana and the microbes deposited thereon. They found that the weight of the bills actually increased during their circulation because of the sweat, grease, and dirt deposited upon them. In these deposits thrive the microbes. In two cases the number of microbes exceeded 19,000 upon the surface observed. Among these microbes there was one bacillus which appeared special, and which has been named *Bacillus billet-de-banquus*. It is septic. Inoculated in rabbits and guinea pigs, it caused them to die rapidly. There were also found the bacilli of tuberculosis, of diphtheria, and the streptococcus of erysipelas, as well as several other pathogenic forms.—*American Microscopical Journal*.

NEPHRITIS OF MALARIAL ORIGIN.

We are now fully able to appreciate why anemia should be so common a manifestation in the course of malaria; why under certain conditions of virulent intensity the pernicious forms should terminate fatally; why under other conditions thrombi should form in the blood vessels and give rise to symptoms as variable as the organs in which the morbid process takes place. By the gradual accretion of knowledge of this kind, we are prepared for the announcement that malarial infection may give rise to nephritis. Of this interesting association three instances are reported by Stefanowicz (*Wiener. klin. Wochenschr.*, No. 20, p. 365). In each the subject had lived in a malarious region; specific organisms were found in the blood; all of the symptoms, including the presence in the urine of albumin and casts, disappeared upon the administration of quinine in antiperiodic doses.

Three explanations of these remote or secondary complications of malaria at once suggest themselves:—First, a toxic process; second, thrombosis; third, hemorrhage. Without here entering into a discussion of the various possibilities in the case, we venture to express the view that the first proposition is that which in most cases best explains the conditions present. There is much reason to believe that in diseases of malarial origin toxic products are set free in the circulation, primarily as a result of the activity of the parasites present, and secondarily as a result of their destructive influence upon the red blood corpuscles.

The subject is one of practical interest, and worthy of further study. In this connection it is interesting to note that methylene blue has already been recommended in the treatment of nephritis, as well as of malarial disease.—*Ed. Phil. Med. News*, June 24, 1893.

Editorials.

THE MEDICAL COLLEGES.

THE medical colleges in the various parts of Canada were opened during the first week in October, and the regular work for the Michaelmas term is now in progress. We are not in a position to give figures, but we understand the numbers of new students are large, though they may fall a little short of those of last year. It was generally supposed that the new regulations of the council, as we pointed out in our last issue, would have some effect towards diminishing the numbers of students entering upon the study of medicine. Since the session opened, however, it is supposed by many that the reductions will not be great—in fact, not so great as many practitioners would like.

Those who desire to qualify for practice in the Province of Ontario will be required from this time forward to spend five years in the study of medicine before presenting themselves for the final examination. According to the announcement of the College of Physicians and Surgeons of Ontario, the professional examinations are divided into three parts—primary, intermediate, and final. The primary examination shall be undergone after the second winter session; the intermediate after the third or fourth winter session; and the final after the fifth year. The ordinary primary subjects will be embraced in the primary examination; the ordinary final subjects in the intermediate examinations; and the following subjects, clinical medicine, clinical surgery, diseases of women, and diseases of children, in the final examination. The regular course of study will include attendance during four winter sessions of six months each, and one summer session of ten weeks, and clinical work during the fifth year, six months of which may be spent with a registered practitioner in Ontario, and six months at one or more public hospitals, dispensaries, or laboratories devoted to physiological or pathological research—Canadian, British, or foreign.

We publish in this issue the opening address of Professor A. B. Macalium in the Medical Faculty of the University of Toronto. It will be read with great interest by those who appreciate in any degree the wondrous advances which have been made in scientific medicine in recent years.

THE CANADIAN MEDICAL ASSOCIATION.

WE publish in this issue a report of the last meeting of the Canadian Medical Association, held in London, Sept. 20th and 21st. The meeting was certainly not a pronounced success in all respects, but it was in many ways useful, as well as pleasant and enjoyable. There were present altogether eighty-eight—a very small number, considering the prosperous and well-peopled district in which it was held. The profession of London were exceedingly kind and hospitable to the visitors, notwithstanding the fact that it was a busy time for the doctors on account of the large crowds in attendance at the London fair, which was going on at the same time.

The next meeting will be held at St. John, New Brunswick, under the presidency of Dr. Harrison, of Selkirk. It was generally understood that Dr. Harrison well deserved the honor which has been conferred upon him. The decision to meet in one of the lower provinces was not reached without due consideration and considerable discussion. As long as the association preserves its peripatetic character, it is only just that a meeting should be held occasionally in the maritime provinces. The few who attended the last meeting at Halifax will remember that it was in many respects an exceedingly pleasant one, and those who will be able to attend the next meeting at St. John are likely to get a very cordial and warm reception.

We hope that there will be a fair representation from all the western provinces, and think the various local societies should make special efforts to assist in that direction.

The work of organizing a meeting in New Brunswick, while the chief officers live in cities and towns separated from each other by such magnificent distances, will be in some respects difficult. We understand, however, that the local committee of arrangements, composed of able and energetic men in the "lower provinces," will do a large portion of the work. If the various sections from British Columbia to Quebec will simply send men and papers, Nova Scotia and New Brunswick will guarantee a successful and pleasant meeting.

To individual physicians we desire to point out the fact, which is of course well known, that a summer trip from the various parts of Canada to the eastern provinces is a most delightful one. It is becoming quite the fashion, we are glad to say, for physicians to take an annual holiday. We hope that many will consider the matter during the coming winter and spring, and make their arrangements to spend a pleasant vacation next summer in a trip to New Brunswick and Nova Scotia, and at the same time attend the meeting of our national medical association.

Meetings of Medical Societies.

THE CANADIAN MEDICAL ASSOCIATION.

Reported by Dr. J. N. E. Brown, Official Stenographer of the Association.

The twenty-sixth annual meeting of the Canadian Medical Association met in Victoria Hall, London, Ont., Wednesday, Sept. 20th, at 11 a.m., Dr. Chas. Sheard, of Toronto, as president.

The first session was devoted to business, there being no papers read.

Dr. Bray, of Chatham, after thanking the members for their kindness and consideration to him as president for the last year, introduced Dr. Sheard as his successor.

Dr. Birkett, of Montreal, secretary, read the minutes of last session, which were adopted.

A motion was then introduced asking that fees be required only of members in actual attendance at the association. Another, that after this those members who were to read papers and were unable to come should telegraph such inability to the secretary, so that the programme might be more easily carried out.

The secretary then read a communication from the National Bureau of Bibliography, Washington, D.C., informing the members of its value as a storehouse of medical literature from which they might procure information on any medical subject in which they were interested as students or lecturers.

Drs. McGregor, Campbell, Butler, Hobbs, and Weld, of London; Drs. Starr, B. E. McKenzie, and J. N. E. Brown, of Toronto; and Dr. Smith, of Quebec, were elected members of the association.

The president proposed that some provision be made for reporting the proceedings of the association, and named a committee to arrange for such reporting. Dr. Brown, of Toronto, was chosen to do the work.

The nominating committee was then balloted for, Drs. McPherson and Bray being appointed scrutineers. The result of the ballot showed the following gentlemen to have been elected: Roddick and Stewart, of Montreal; Fulton, of St. Thomas; Graham, McPhedran, and Macallum, of Toronto; Olmsted, of Hamilton; Harrison, of Selkirk; Holmes, of Chatham; and Bucke, of London.

Drs. R. A. Reeve, J. F. W. Ross, H. A. Macallum, T. S. Harrison, and Holmes, of Chatham, were chosen as the committee on ethics.

The subject of a uniform Canadian pharmacopeia was then discussed, and a committee consisting of Drs. Blackader, of Montreal; H. A. Macallum, of London; and Jas. Macallum, of Toronto, teachers of therapeutics, were appointed to memorialize the government in this regard.

AFTERNOON SESSION.

After preliminary business the president proceeded with his address, whose eloquent periods held the association in rapt attention and elicited the most hearty applause.

He expressed gratitude to the association for his election, saying that he felt honored to fill such a position, which had formerly been filled by men who had made the profession of medicine in Canada illustrious. He combated the statement made by some that the influence of the association was on the wane, and its work usurped in part by provincial institutions. It had for twenty-six years stood out against charlatanism; it had developed a feeling of friendship and unity among the profession; it had stimulated and helped men to professional excellence, and had given medical men an increased love and zeal for their calling. It had not outlived its usefulness. Such men as Howard, Ross, Osler, Hadder, Workman, and Wright, not to speak of men whose advancing years prevented them from attending this association, were examples of all that was good and noble and inspiring to the younger members of the profession. If a man would do good work, he needed to devote his whole attention to his profession. It was unfortunate that some of the younger men presumed that because they thought they had the latest and most improved methods they should parade them in such a way as to reflect on their older colleagues. Thackeray had asked how it was that the evil which men did spread so widely, whilst each good, kind word seemed never to take root and blossom. The president went on to say: "It appears to me scarcely conclusive to professional unity that we should have in the various provinces of the Dominion separate licensing bodies which confer the privilege of practising only for the province, and that those of us who to-day may reside in Ontario, in travelling to Manitoba or British Columbia, require there to pass a period of naturalization before we can even be examined, and then to again pass an examination which proves our qualification to practise, and this in our own country. Surely we are all Canadians; and if the spirit of the time means anything, we are united in patriotic feeling and national progress? Why should it be different in medicine? I may express the earnest hope that the time is not far distant when there will be some central examining board or boards for the whole Dominion, when a license from such a body will be a qualification to practise from one end of the country to the other." (Applause.) The doctor then spoke of the great strides medicine had made as a result

of bacteriological investigations. Curative methods followed correct diagnosis. Bacteriology was a practical scientific means to aid in this direction. He saw within the next decade a solution to the difficulty which beset the cure of phthisis and such diseases, whose causation had during the past decade been established. The science of medicine, like others, must depend upon the correlation of facts; upon the comparison of cases alike in many respects, but differing somewhat in their phenomena. Much difficulty there was in ascertaining what cases were sufficiently similar to become comparable, due to insufficient and erroneous records of the phenomena observed. Few men could, for and by themselves, see and describe the things before them. It took a long time before men could see the difference between measles and scarlatina; between typhoid fever and typhoid. Plato said: "He shall be a god to me who can rightly divide and define." Men, the speaker said, who have this faculty we cannot produce by any system of education; they come, we know not when or why. It was science, he said, that laid the basis upon which were wrought the revelations in practical medicine.

"Science seams and scars the detested face of hypocrisy and lies, adds beauty to beauty, grace to grace, truth to truth. It decks the flower of the field with loveliness, till all the universe beats with one heart, pants with one breath. It goes hand in hand with art. When the tale of great deeds ceases to thrill; when the awe has vanished from the snow-capped peak and deep ravine; when the lily of the field becomes no longer beautiful; when the tale of suffering causes no pity, then, indeed, and not till then, may science be said to have devoured art."

Science and practice, he said, should go together. It should be the work of the pathologist to study the etiology, diagnosis, and progress of the case. Paget was a pathologist and surgeon; so was Billoth. Koch was a general practitioner; Cheyne a consulting physician. In the lines of scientific attainment, Canada was fully abreast of the times. There were too many men in our country, however, who were possessed with the sordid ambition of the utilitarian, who thought they could not leave their practice a day to gather such knowledge and enthusiasm, have their powers of observation quickened, receive such mutual benefit as would come to them from attending medical associations. The president eulogized the good work of our colleges and the Medical Council of Ontario. In concluding, the president said that the government of the province was liberal, leaving to the profession the ordinance of its own laws; and did it show worthy intelligence on the part of those claiming to be ornaments of the profession to urge upon the gubernatorial body the wisdom of withdrawing from them what was justly and legitimately their own? The masses sent their representatives to represent them in certain issues, and, if

they did not do so they changed their representatives. "This is one law of political economy throughout the world. Have the physicians of our province not enough intelligence to be entrusted with the same privilege?"

Dr. Hingston was voted to the chair. Dr. Bray moved and Dr. Reeve seconded a vote of thanks to Dr. Sheard for his address. This was carried with applause. The president made a suitable reply.

Dr. J. E. White, of Toronto, seconded by Dr. Bray, of Chatham, made a motion to the effect that a committee be formed to report some scheme whereby the barriers that exist to interprovincial legislation might be overcome, so that practitioners in one province might be enabled to practise anywhere in the whole Dominion without re-examination, and that such committee be composed of Drs. Praeger, B.C.; Hingston and Mills, of Montreal; Waugh, of London; Sheard, of Toronto; Harrison, of Selkirk; Taylor, of Goderich; Worthington, of Sherbrooke; and Ross, of Toronto. Carried.

The next feature was the report of a case of eclampsia by J. Campbell, of Seaforth, Ont.

Patient, aged thirty-two, complained of headache, extending down neck to shoulder. Without physical examination, he administered something for what he supposed was neuralgia. He had not noticed that she was pregnant. In three hours patient had convulsions; was called again and found patient suffering severe head pain, and also in the epigastrium. Temperature normal; pulse full and bounding. Found patient to be about seven months pregnant. Administered an enema of \mathfrak{z} i. of chloral. This induced sleep. Had administered elaterium, which was soon effectual. Was unable to get urine. In few hours called, and while about to give another injection patient took another convulsion before chloroform could be given. Found urine full of albumen on examination. Very soon patient had another convulsion. Repeated enema. Found os dilated to the size of a quarter. Ruptured membranes. Labor pains came on, and after a sleep till 3 p.m. (case having commenced at 11 p.m. day before) was delivered of living child. Gave \mathfrak{z} i. ergot half an hour before delivery. Placenta delivery normal. No hemorrhage. Administered a diuretic mixture of pot. acet. and digitalis. Headache disappeared and all symptoms abated.

The doctor concluded his paper by saying that the subject was one that required further investigation, but thought that the following statements were justifiable in the light of modern pathology:

(1) Cell activity, both of mother and fetus, produced substances pernicious to mother if not excreted. (2) The excretory function was inadequate in the pregnant. (3) The unknown accumulated poison caused the eclamptic seizure. (4) The convulsions are believed to be the result of anemia of the brain, caused by the contractions of the arterioles—probably by direct action of some poison on the brain substance itself.

On account of the intense muscular action, the blood was driven into the internal organs—brain, kidneys, etc., causing apoplexy, and abrogation of the renal function, etc. Treatment, he said, should be directed to elimination; diminishing of the nervous sensibility; if convulsions ensue, to save child without adding risk to the life of the mother; and, lastly, to guard the mother from injury during the attack.

Dr. Laphorn Smith expressed entire approval of what Dr. Campbell had said in his paper. He thought the cause was due to pressure on the venous circulation of the kidneys, causing nephritis. He did not agree that the anemia of the brain was the beginning of it. The nephritis caused the albuminuria; the albuminuria caused the anemia. The indication for treatment was to remove the pressure by lessening the size of the uterus. He favored the use of chloral to assist in the dilatation of the os and to lessen reflex action. He thought hastening labor did not tend to cause convulsions.

Dr. Harrison outlined the history of a recent case of his where he employed bleeding, a remedy he had spoken at some length about in the treatment of this affection at the meeting of the Ontario Medical Association. He bled freely, with immediate and permanent effects. He employed as well enema of chloral and brandy.

Dr. Bethune, of Seaforth, corroborated what Dr. Campbell had said regarding his case. He was in favor of bleeding in sthenic cases, not in anemic; but he regretted that the young practitioner of to-day did not know how to perform this simple and often effective operation.

Dr. Irving, of St. Marys, asked if it were proper to give ergot in eclampsia. Did it not cause contraction of the arterioles—a thing to be avoided? Dr. Smith had said that the pressure of the fetus *in utero* was the cause of the convulsion. How was it that they often did not occur until after delivery?

Dr. Holmes, of Chatham, said that he was reminded of one thing in what Dr. Campbell had said—the danger of making too cursory an examination of the patient. Dr. Holmes pointed out the benefit derived in causing profuse sweating. He leaned to the theory that the convulsions were due to the circulation of some toxic element in the blood, independent of the nephritis.

Dr. Campbell closed the discussion.

Dr. Canniff, of Toronto, then gave an address on

SANITARY SCIENCE—SOME OF ITS EFFECTS.

Sanitary science, he said, was not a distinct and separate science, but rather a development of medical science, and that the medical man should be employed not only to cure, but to prevent disease. He advocated that we should have specialists on the subject. He also advocated the

same observation by individuals and families in regard to sanitation as is done in the case of the state and the municipalities ; and as it was desirable to legislate in regard to preventable diseases, so the principle was equally applicable in relation to individuals and families. It was nobler to prevent than to cure. The principles of hygiene should be taught by the parent and continued in the school. He advocated the principle of families employing a medical man by the year, who should make regular visits, and advise as to sanitation ; by so doing sickness would be prevented.

Dr. Arnott thought the idea of families employing medical men by the year good in theory, but bad in practice. His experience was such. He also thought it would be a bad education to the family itself. He thought the importance of a knowledge of sanitary science by medical men in the cure of disease should be emphasized as well as the prevention of it.

Dr. Bethune liked the idea of employment by the year, if possible. His experience had been that, having agreed to a certain amount for his services, he was called so frequently as to make it non-paying. If families could be educated up to it, it would be well for the country, and much disease prevented.

Dr. Wesley Mills thought that it would be practicable for the physician to look generally to sanitation, and to be paid extra when specially sent for. Family tendencies would then be understood. Until physicians were employed in the way mentioned, the best results would not be obtainable. He thought the appointment of specialists a good thing, and stated that in some places this question was being agitated.

Dr. Canniff thought he had been misunderstood. He only intended saying that if regulations as to hygiene worked well in municipalities, so it ought to in families. Statistics show that the practice of hygiene is a saving operation—saving the man and saving the labor.

Dr. Anglin, of Verdun, followed on a paper on

THE GENERAL PRACTITIONER AND THE INSANE.

This was a very practical paper. The subject of insanity was one which had been left alone too much by the general practitioner. It was important that he should know more about it, for on him rested the diagnosis of insanity, possibly the administration of treatment, the recommendation to hospitals, and the certification of the patient's mental condition. Generally speaking, it was better to advise hospital treatment, but in some cases this would be impossible. It was much less expensive, and the charge of environment was generally beneficial. He was glad that the old prejudice against insane hospitals was becoming lessened. It should be taught to the general public that insanity was a disease, not a crime. The doctor then described the hospital of to-day, showing that it was not a place to be shunned, as was the one of days gone by. If a man were called

on to treat a case of insanity, he should recommend a change of scene; the employment of one or two trained nurses. Relatives generally made poor attendants, as did also ordinary sick nurses. Sleeplessness should be immediately combated by giving moderate exercise, a drive, a meal, or a hot bath. Of remedies, alcohol, hyoscine, paraldehyde, sulfonal, chloral hydrate (and opium in cases due to pain) were useful. Constitutional treatment should be attended to strictly. The doctor outlined the points necessary to observe in making out certificates, laying special emphasis on the recording of phenomena actually seen by the examiner. He criticized the stupid methods of admission in certain states, but commended the progress of Canada in this matter. A certain amount of formality was absolutely necessary, and the doctor should be exceedingly exact in replying to the questions on the blanks used. It was wise to find out all one could about the patient before interviewing him. Deception should never be used with the patient, for this often rendered him less amenable to treatment. It was sometimes exceedingly difficult to detect symptoms, so careful to conceal them was the patient often. Three things should be noted—acts, appearances, and conversation. The patient should be told frankly that he was *sick* and needed *hospital* treatment.

This paper was discussed by Drs. Matheson, Arnott, and Mills. Dr. Anglin closed the discussion.

Dr. Harrison, of Selkirk, then followed with a paper on

IS ALCOHOL IN ALL DOSES AND IN ALL CASES A SEDATIVE AND DEPRESSANT?

He had formerly thought alcohol the great stimulant, and the physician who failed to administer it was culpable. Temperance physicians had refused to administer it for fear their patients would acquire the drinking habit. The subject was a scientific one, and should be discussed as such. If alcohol was a powerful sedative and depressant, as some claim, the use of it for so many generations would have caused untold injury, and the number of deaths caused by using a sedative instead of a stimulant uncountable. He spoke of a case in his practice of post-partum hemorrhage which promised to end fatally, and, while preparation was being made to inject blood, brandy had been administered freely per os and per rectum, and under it the patient rallied and recovered. In a case of typhoid fever, lasting seven weeks, and where the patient seemed dying of exhaustion and heart failure, after two weeks of a diet of port wine only the patient recovered, as by a miracle. Another case was one of puerperal fever, an extreme one, with pulse 140 to 150. All medication was abandoned, and brandy and port wine were given in a little milk and beef essence, and effected a permanent cure.

When a patient was nearly moribund, when a feather's weight in the wrong scale must be fatal, and brandy was administered, if the brandy

acted as a sedative the result must be fatal ; but the fact that the patient rallies shows it cannot be a depressant.

Dr. Arnott said he had some diffidence in discussing the subject, as he seemed a "lone bird in the tree." His views were and had been for years that alcohol was not a stimulant in its direct action. The question under discussion, in other words, is, "Does alcohol, or could anything under varying conditions, give the same results?" Suppose the principle were applied to water ; although under some circumstances it causes death, no one would say it was a poison ; the direct and primary action of water is nourishing. The profession are not divided at present as to the sedative action, because all use sedatives to bring about a stimulating result. There was, he said, not so much difference between Dr. Harrison and himself as appeared on the surface. Although opium was a sedative, we get stimulating results from it. He mentioned a case of his in practice, the setting of an old lady's arm—a Colles fracture. He had given her a great deal of pain, and suddenly she became white and pulse imperceptible. He was afraid the patient was dying. He thought it clearly the result of shock and called for whiskey, not as a stimulant (being opposed to that), but to relieve the shock ; none being in the house he gave the patient chloroform, after which the pulse became strong, and the operation was completed. He had another case, one of typhoid fever, in which the depression was very great ; in which he administered whiskey in large doses, an ounce every hour. Being alarmed, he called in another doctor. They administered one-eighth grain of morphia hypodermically, which did much more good than the whiskey.

Dr. Bethune said that alcohol was in one case a stimulant, in another a narcotic, and in another a sedative, according to the condition of the system. If taken in big doses, it was a narcotic. Perhaps some of them had felt the effect. (Laughter.) In neuralgia it was a sedative; when people took a tumblerful at night to put them to sleep, it was a narcotic.

Dr. Gardiner, London, said that by the use of alcohol the pulse got stronger, the eye brighter, the skin warmer, and the body invigorated. Whether it was called a stimulant or narcotic, it should not be used carelessly, but only when there was reason for it.

Dr. Mills, of Montreal, thought it was a subject demanding careful scientific study, especially as its elementary principles were taught in the public schools. The doctor said the necessity for experiment was absolute, and they were not prepared yet for dogmatism. He condemned the present school books as extreme. The children were taught that alcohol under all conditions was a poison. The medical profession should do something to counteract this.

Dr. Arnott said that alcohol was termed a stimulant, an anodyne, and

a narcotic. This was perplexing. The fact that the hospital having the lowest death rate in London, England, did not use alcohol, he made his excuse for speaking on the subject.

Dr. Laphorn Smith spoke of the experiments showing the effect of alcohol on the muscular power; how that soon after administration of the alcohol the individual tested could lift much more, but when the reaction had set in considerably less than at first. It was certainly a temporary stimulant. It affected the great sympathetic which contracted the arterioles more blood being forced into the coronary arteries, thus strengthening the heart.

Dr. H. A. Macallum said there seemed to be physiological evidence to show that all narcotics and poisons were stimulants. The respiratory stimulus was a poison. It could not be that CO_2 , the respiratory stimulant, and ultimately poisonous to that centre, could be a stimulant as secondary to narcotic action. All stimulants for secretion, respiration, and circulation ultimately were narcotic and poisonous. Anesthetics were stimulants in small doses. It could not be argued that CO_2 as a natural stimulant acted as a narcotic.

Dr. Harrison closed the discussion.

Dr. B. E. McKenzie presented a bad case of lateral curvature in which he had used a rawhide spinal support. The patient could be stretched four inches, so much was the curvature. He knew of no other treatment in such a case. It was fitted to a plaster of Paris model and had no seams. It fitted smoothly and seemed to afford much relief. This was the first time Dr. McKenzie had tried it.

EVENING SESSION.

Dr. Hingston, of Montreal, gave the address on surgery. It consisted of an historical review of the subject. He held that in Egypt, before the time of Moses, many so-called modern operations were practised. The Greeks considered surgery a divine art. Pythagorus, about 600 B.C., elevated surgery to a science. The Egyptians and Greeks practised nephrotomy, used tents, issues, and moxas, and trephined the skull; they also practised percussion as an aid to diagnosis, and drew fluid from the chest. Hippocrates made use of immediate auscultation as a means of recognizing disease. But the fall of the Macedonian Empire seriously interfered with the progress of surgery. The Alexandrian school were skilful in abdominal surgery. They first used the catheter 2200 years ago. Ammonius crushed stone in the bladder. There was another retrogression in the science at the time of the Cæsars. Celsus found that there might be rupture of brain substance without fracture of skull. He was first to describe the *contre coup*. Helidonius opened into the bronchial tubes.

The Arabians were credited with greater proficiency in surgery than history will justify; but to them we owe the preservation of Egyptian surgery. The suturing of wounds was practised by Albicasis, also the incising of the kidney for abscess. The Council of Tours forbade the clergy to spill blood. By this prohibition, surgery was divorced from medicine and got a serious set-back. When Columbus discovered America, the physicians of Europe were not superior to the medicine men of the aborigines of America. Vesalius laid the foundation of modern surgery. Paré advocated cupping for displacements of the uterus. Wiseman, in Britain, was original, but crude. His reports of successful treatment of cancer are so remarkable as to arouse suspicion as to the accuracy of his diagnosis. Wiseman believe in the magic royal touch for the king's evil.

Surgery, the speaker went on to say, preceded medicine in this country. The governor of Nouvelle France was always asking for surgeons to be sent out. The people did not need physicians. Dr. Hingston then described the marvellous advances of surgery during the past forty years in the treatment of many surgical cases, but was sorry that in some cases this divine art had degenerated to a commercial question, owing to the greed-for-gold spirit which had extended to some of the members of the profession. He especially cauterized the practice of those one-idea gynecologists who referred all female disorders to the uterus, and instituted a daily tinkering process as a means of obtaining money.

Dr. Eccles' paper,

MOVABLE KIDNEY, WITH TWO CASES OF NEPHRORRHAPHY, was next read. This condition, he believed, was often overlooked, and something else treated (often hysteria) for it. This resulted from neglecting to examine the kidneys—a matter always to be attended to in obscure cases with symptoms of hysteria, melancholia and general nervousness, and dyspepsia. This organ, having no special support, was in danger of displacement. The thirty cases Dr. Eccles reported were all females. Patients had a dragging-down feeling, or aching in the back or along the urethral lines. In most there was dyspepsia, accompanied by constipation, diarrhea occurring in only four. In six there was an exacerbation of symptoms during menstruation. In some seven there was inability to lie on the side opposite the displacement. Intermittent hydronephrosis was observed in seven. Dr. Eccles then outlined two cases fully. The first had most of the typical symptoms for a number of years, the most prominent being the frequent attacks of severe pain, which at first lasted about an hour, and latterly forty-eight. These were accompanied by swelling inside, followed by its disappearance and a great flow of pale urine. The doctor could feel the kidney. Had support and pad applied, with complete relief. Movement of the organ had kinked the ureter. The speedy relief of this condition was conservative to the kidney.

In another case reported the abdominal support failed to give relief. Operation was advised. After the usual incision, the capsule was opened along the convex border one inch in width. Two silkworm gut sutures were passed into the parenchyma three-eighths of an inch deep, two catgut through capsule and fatty capsule above and below, continued through the muscle and fasciæ. The fasciæ were united by separate catgut sutures before those through the kidney and its capsules were tied. Good recovery.

In a second case of operation Dr. Eccles did similarly, but did not dissect up capsule, as it was thickened, and a cystic condition appeared underneath. A good recovery followed.

Dr. Hingston pointed out that a misplaced kidney was more easily felt if the patient leaned forward during the examination. He showed how one might be mistaken by telling of a patient who came to him suffering in this way, upon whom double ovariectomy had been done for its relief. This mistake would not be made if one, by grasping the kidney and making gentle traction downwards, found that pain was experienced, while pushing it upward gave relief. The reverse would take place in the case of the enlarged ovary. In many cases he thought operation unnecessary.

Dr. Bethune had had a few cases. They were all in women, on the right side. The trouble proved most annoying during pregnancy. In one case he had the kidney, on removal, was found to be cancerous. He thought cases of displaced liver were more common than was generally supposed. He did not see how operation could help the patient much, as there would be difficulty in retaining the kidney in position, even after operation, so little was there to which it could be solidly attached.

Dr. Bell, of Montreal, agreed that many of these cases needed no treatment. The condition was often accidentally discovered. But in cases where hydronephrosis developed, some operation seemed to be necessary. He had had no personal experience in the use of the pad and band, and did not think it likely they would do much good. He had operated on patients where this treatment had been tried and found to be a failure. He thought the operation of nephrorrhaphy in many cases effectual in making a permanent cure. At first he was skeptical regarding the operation, but he got over that. He knew of no other means of relief.

Dr. Laphorn Smith agreed with Dr. Bell. The frequency of cases he believed to be due to improved methods in diagnosis. Formerly, they were called hysteria. Dr. Smith wished Dr. Eccles would show his ingenious method of retaining displaced kidney in such cases as are not bad enough for operation. He was reminded of the principal causation of the trouble when he heard a young man remark to his friend after a tight-laced young lady passed by them, "I wonder where she puts her thirty

yards of intestines?" He (the speaker) had not seen any cases of men with this affection. He considered the ounce of prevention to be a modification of the corset. Dr. Eccles closed the discussion.

Dr. H. S. Birkett, of Montreal, read a paper describing a

CASE OF SUBCORDAL SPINDLE-CELLED SARCOMA AND ITS SUCCESSFUL
REMOVAL BY THYROTOMY."

The doctor outlined a history of the case. The principal symptoms were marked dyspnea, hoarseness, until almost complete aphonia occurred; in the later stage, almost complete suffocation when in the prone position. Patient was thin and anemic; was pregnant; was compelled to sit upright, with mouth open. On examination the laryngoscope showed a large subglottid tumor nearly filling the lumen of the larynx, dusky red in color; vocal cords free. Tracheotomy was performed, low down; the tube made breathing easy. Labor was induced; tumor, strange to say, decreased in size. In three weeks tumor was removed by thyrotomy. Incision was made between the alæ down to upper border of cricoid. On separating tumor was well exposed; it was attached to right ala of thyroid just below vocal cord. After removal site was cauterized with chromic acid. Three deep silkworm gut sutures closed deeper structures; and superficial ones the wound externally. Microscopical examination revealed it to be spindle-celled sarcoma. The condition was unique. The operation of the thyrotomy was practically devoid of danger in itself; its result depended much upon what it was done for. As to its employment in tuberculosis, opinion was divided. The doctor closed by detailing at length why he adopted the method he did rather than removing the growth *per vias naturales*.

Dr. Osborne, of Hamilton, commented on the decrease in the size of the tumor after delivery. He supposed it was on account of some reflex condition between the uterus and the tumor.

Dr. Birkett explained that the whole arterial system was in a state of great tension during pregnancy; after delivery this would lessen much, and hence there might be a lessening in the size of the tumor due to the fact.

A splendid banquet was given to the visitors by the local members of the profession at the Tecumseh House, beginning after nine o'clock. About two hundred sat down. Dr. Hodge presided, and introduced the toast list. "The Queen" was honored with the National Anthem. Dr. Hingston, of Montreal, and Dr. Praeger, of British Columbia, responded for "The Dominion" in witty speeches. Dr. Harrison, of Selkirk, spoke on behalf of the Ontario Medical Association. The chairman, in toasting "Our Guests," warmly welcomed the visitors. He regretted that the meeting was at the same time as the Western Fair, as it had interfered with arrangements. Dr. Sheard, the president, replied warmly. Drs. Canuiff, of Toronto, and Birkett, of Montreal, also spoke to the toast. Mr. C. W.

Davis sang, and the "Ladies" were proposed by Dr. J. S. Niven, vice-chairman, and championed by Drs. Thornburn and Anglin.

THURSDAY MORNING.

Dr. Holmes, of Chatham, read a paper which consisted of a report of two cases of laparotomy for unusual conditions. The first gave a history of miscarriage preceded by hemorrhage, and this was followed by pain in the left iliac region, where a swelling was discovered, like an orange in size and shape, two inches to the left of the uterus, and fluctuating. Laparotomy was performed, and an ovary containing three ounces of pus removed. The abdominal cavity was flushed and the usual dressings applied; no drainage tube. The important point in the case was that there was no disease of the tubes. This was unique, as far as he was able to make out from the records.

The second case Dr. Holmes had seen after the patient had been ill ten days. Pain was present in right iliac region, where the attending physicians detected some hardness. Chills and fever, constipation, vomiting, and great prostration were succeeding symptoms; also great tympanites. No tumor could be made out at this time. Exploratory incision was deemed necessary. Appendix was sound. There was no obstruction, but peristalsis was absent. The gut was stitched to the wound with the idea of incising if bowels did not move soon. This had to be done, the patient being then almost *in extremis*. A copious evacuation of fecal matter from the fistula took place. Stimulants could then be retained, and the patient improved. But the fistula was a great annoyance. Dr. Holmes made several unsuccessful attempts to close it, but failed. Patient was then transferred to Harper's Hospital, Detroit. Resection of the affected portion of bowel was made and the ends joined by Murphy's buttons. Patient made a good recovery. The doctor showed the kind of button used, and gave a report of operations in which it had been successfully employed.

Dr. Atherton agreed with Dr. Holmes that abscess of the ovary without affection of the tube was rare. In regard to peritonitis with paralysis, he found puncturing to allow the gas to escape a good measure, two or three times if necessary. He had seen no trouble arise from such proceeding. This might be tried and laparotomy avoided.

Dr. Holmes replied to this by saying that he had employed this measure, but it was in cases where the abdominal walls were thin. Where the walls were thick, as in the case reported, he considered it unwise. In fact, when the abdominal wall was opened one of the assistants introduced a small trachea, but without relief of the symptoms.

Dr. Bell, of Montreal, then presented a paper on

SOME UNUSUAL CONDITIONS MET WITH IN HERNIA OPERATIONS.

The doctor reported five cases, all of marked interest. The first was a

case of hernia in a woman, *æt.* 55. There were not the symptoms of strangulation, but she suffered great pain. Temperature 102° , pulse 100, bowels open. The tumor was situated in Scarpa's space in right groin, looked livid red, was indurated at the base and fluctuating; a pointing abscess, in fact. It was opened; a pint of fetid, sanious pus escaped. A mass of omentum protruding was cut off. Then the interesting point in the case was noticed; in the centre of the mass was a tubular cavity, resembling the large intestine. It was stitched into the skin wound. To the outer side of the mass the appendix was found strangulated and sloughy. This was removed and bowel returned. Patient made a good recovery.

The second case was one of congenital inguinal hernia attached to the bottom of the tunica vaginalis. The hernia was easily reducible, but would not stay so. It was so troublesome that operation was decided upon. It was omental, and the peculiarity was—which accounts for the inability to retain it—a hydatiform cyst growing from the omentum and adherent to the bottom of the sac of the tunica vaginalis testis, just long enough to allow the hernial contents to escape within the internal ring and yet short enough to maintain constant traction upon this portion of omentum and bring it down in spite of any truss. The protruding omentum was tied and the cyst was removed. Patient made a good recovery. This was a unique case, Dr. Bell thought.

The third was a case of congenital cecal hernia in a child three years of age. Hernia had existed from birth, and was irreducible. Radical operation done. Through the peritoneum, the cecum and ileum could be made out, and were found adherent to the cord. Even after splitting canal, it was impossible to reduce. When peritoneum was opened and traction made on ileum, it readily slipped back. The superfluous neck of the sac was dissected away and the remainder sutured down around the cord, the conjoined tendon brought over and sutured to Poupart's ligament, and canal closed by a suture.

The next was a most interesting case, where there was hernia of a tubercular ovary and tube through the inguinal canal of a female infant. It was diagnosed omental hernia, was solid to feel, freely movable, pediculated, and gave an impulse when child cried. Was exposed, but seen not to be omentum. Resembled undescended testicle, but patient was female. Was removed—diagnosis still uncertain. Operation finished successfully. Subsequent microscopical examination revealed tubercular cystic ovary.

The final case cited was a most interesting one—suppurative inflammation of hernial sac simulating strangulation, onset sudden (from a fall), and constitutional symptoms rapid, calling for immediate action. Cutting down, sac was found very thick and edematous, from which, upon incision,

half an ounce of sero-pus escaped. It was occluded above. Another incision was made into the sac above the occlusion and a loop of small intestine, scarcely constricted, slipped back into abdomen. Patient got entirely well. The doctor inclined to think patient had suffered from hernia before, that sac had become shut off, and that the reputed recent cause merely pressed it further down, and the manipulation for reduction had set up an inflammation, possibly through the agency of the ameba coli, which went on to suppuration.

Dr. Canniff asked how Dr. Bell diagnosed the omental tube which was cut off from the intestine.

Dr. Bethune detailed at length a case of strangulated hernia which was not operated on, on account of stubbornness of patient. Suppuration occurred and a fecal fistula established, which finally closed and patient made a good recovery.

Dr. McFarlane, president of the Ontario Association, and Dr. Temple, delegates from that body, were invited to seats on the platform.

Dr. Bryce was not present to read his paper on

PROPHYLAXIS IN TUBERCULOSIS,

but his paper was handed in as read. It was pleasant, the paper stated, to see so much attention directed to a disease causing a greater economical loss than any other agent except alcohol. He gave some condensed results of a study of the subject taken from the mortality returns of the Registrar-General's Department of Ontario, and arranged the tables so as to show the number of deaths occurring in persons of the same family. He also gave a tabular statement of the total mortality returns of Ontario institutions for the insane, showing the proportion of deaths from consumption among patients. He also presented a tabulated list of the various diseases, showing from the annual report of the Inspector of Public Institutions for 1892 a large proportion suffering from this disease. Five per cent. of the total inmates of our hospitals suffered from this disease. The elements in prophylaxis partook of three qualities—individual, municipal, and governmental. Individual prophylaxis depended almost wholly upon the intelligence of the infected person, his habits of life, and the extent to which he is impressed with the duty of protecting others. As to municipal, the first measures are largely those of improved local sanitation. As to governmental, it consists mainly in giving direction, financial support, and legislative sanction to municipal efforts. He said that had he not been an interested and active spectator for two years of the manner in which legislation has kept in touch with public opinion, he would think this visionary. He cited the numerous acts providing for treatment of the blind, dumb, etc., and thought that there were but two limits to the class of municipal and governmental work, viz.,

the degree to which the public are informed regarding the need for work in this direction, and the extent of municipal and governmental financial ability. This work was not to be considered relegated to the police, but to the action of intelligent Christian men and women. The two objects to be held in view were (1) the alleviation or cure of the tubercularized patient, and (2) to lessen the danger to the healthy public. In the higher altitudes of our province we had suitable climatic conditions. In such places homes might be established for patients—places where they might go and live. These places might be made self-sustaining, as many of the patients would be able to work. That such homes would be popular may be concluded from the success of such semi-private institutions in Germany.

The Nominating Committee presented their report as follows: It first recommended that the next place of meeting be St. John, N.B.

Dr. Canniff did not favor going so far. Few, if any, physicians came from that section to the annual meetings in Ontario.

It was explained that St. John was tacitly promised the meeting next year, in view of London getting it this year, on account of the movement westward to the World's Fair.

Dr. Praeger urged the claims for British Columbia for 1895. The St. John recommendation was adopted.

The report, after a few amendments, resulted in the election of the following officers for the ensuing year:

President, Dr. Harrison, Selkirk, Ont.; general secretary, Dr. F. N. G. Starr, Toronto; treasurer, Dr. Small, Ottawa; vice-presidents—Ontario, Dr. F. R. Eccles, London; Quebec, Dr. Stewart, Montreal; New Brunswick, Dr. Christie, St. John; Nova Scotia, Dr. Muir, Truro, N.S.; Manitoba, Dr. Spence, Brandon; Northwest Territories, Dr. Newburn, Lethbridge; Prince Edward Island, Dr. Taylor, Charlottetown; British Columbia, Dr. McKechnie, Nanaimo. The provincial secretaries elected were: Ontario, Dr. I. Olmsted, Hamilton; Quebec, Dr. Anglin, Montreal; Nova Scotia, Dr. Keen, Cow Bay; New Brunswick, Dr. McLaren, St. John; Prince Edward Island, Dr. Johnston, Charlottetown; British Columbia, Dr. Walker, New Westminster; Manitoba, Dr. McDiarmid, Winnipeg; Northwest Territories, Dr. Calder, Medicine Hat.

It was moved and seconded that all the papers be read in the order received by the secretary, and if the writer be not present at the time it should be read that the paper be placed at the bottom of the list; and, further, that it was desirable that an abstract of the paper be made and forwarded to the secretary at least three weeks before the date of the association. After a good deal of discussion this was carried.

THE ASSOCIATION VISITS THE ASYLUM.

On invitation of Dr. Bucke, of the London Insane Asylum, the members of the association went out to that institution for luncheon, being conveyed out on a special C.P.R. train. They were taken first to inspect the sewage system. The sewage is used as a fertilizer on the farming land of the institution. The luncheon was thoroughly enjoyable. Numerous toasts were drunk heartily, while the asylum orchestra, under Professor Sippi, discoursed sweet music.

THURSDAY AFTERNOON.

The association assembled in Victoria Hall at 3.30.

Dr. McPhedran addressed the association on the subject,

THE MORE RECENT METHODS OF DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH.

He said that formerly it was taught that the stomach was the principal and only organ of digestion, but now it was known that the whole alimentary tract takes part in the digesting process. He said that the function of the stomach was threefold, viz. : (1) To receive food and to partly change starchy and albuminous food into absorbable bodies. (2) To prevent the fermentation of the food. (3) To discharge its contents partly into the blood, but chiefly into the duodenum.

For the first three-quarters of an hour no free hydrochloric acid was, he said, present in the stomach, as it combined with the albuminates; if present, there was a hypersecretion of it, which arrested the digestion of the starches. It reached its maximum in amount in four or five hours. The gastric juice retarded the action of or destroyed more germs, specific and non-specific, than any of the other digestive ferments. The duration of normal digestion, he said, depended on the character and amount of the food; also on the age of the patient. The symptoms of stomach disorders were multiple and various. Until the last decade our knowledge of gastric disorders depended on experiments and symptoms, accidents, etc. Now we owe much of our knowledge to the stomach tube. This, he said, should be soft. The patient not only readily became accustomed to it, but even often would request its use. An approximate knowledge of the stomach's contents would, in most cases, be all that was requisite for the physician in active practice. A test breakfast should be given consisting of a round of toast or a dry roll, with a cup of water, or of weak tea, or coffee, without sugar or milk. This should be withdrawn from the stomach after one hour's digestion. The acidity of a normal stomach, he said, should be due to lactic acid for the first thirty or forty minutes; after this time to free hydrochloric acids. These acids were detected by Uffelmann's and Gunzberg's tests respectively, which the doctor described. It had been taught that absence of hydrochloric acid indicated carcinoma.

This was not so: It might be absent in other conditions and present, even excessively, in this. However, it could be said that its persistent presence formed strong evidence that cancer did not exist. The tube was useful in discriminating between gastric catarrh and carcinoma. The washing would be followed by improvement in cases of the first; but not much in the second. Its principal use, however, was in dyspepsia, in determining the acidity of the contents. On this our treatment could be based. The lavage stimulated the gastric gland secretion, and stimulated the muscular walls to renewed activity. Proper diet and general treatment would suffice to cure many cases. This treatment was particularly useful in alcoholics; also in infantile digestive disturbances. Constipation was relieved by its use; also the gastric neuroses, and reflex vomiting of pregnancy, the patient being fed through the tube. This subject was one of immense importance on account of the immense frequency of disease of the stomach; four-fifths of all the ailments medical men were called on to treat being caused by derangements of this organ.

Drs. Ferguson, Wesley Mills, Gardiner, and Praeger discussed the paper.

The meeting then divided into sections, Dr. I. H. Cameron presiding over the surgical side, while Dr. Moorhouse presided over the medical.

SURGICAL SECTION.

Dr. Primrose presented a paper; subject,

A LARGE SARCOMATOUS GROWTH IN THE NECK, WITH SECONDARY DEPOSIT IN THE LUNG.

It was found in a boy four years of age, a patient in Victoria Hospital, Toronto, under Dr. Cameron. It extended on the right side of the neck from the median line in front to a point near the vertebral spine, and from the lobule of the ear to the clavicle. Was noticed two years and three months before, corresponding to the region of the right lobe of the thyroid gland. Caused little pain. Was somewhat lobulated, with prominent veins coursing over its surface. Fluctuation distinct. Measurement on tumor side of neck horizontally, $13\frac{1}{2}$ in.; left side, 6 in. From lobule of ear on right side (over tumor) to outer extremity of the clavicle, 7 in.; on left side, $2\frac{1}{2}$ in. Left pupil twice the size of right. Some dysphagia. Child died in July. The tumor was found in the *post mortem* to possess several processes; but it had not infiltrated or eroded the surrounding tissues, a point to be considered in the diagnosis. There were secondary deposits in the lungs. The anatomical relations of the various structures adjacent were much altered. The large vessels on the tumor side were entirely obliterated. Those on the left side were enlarged. The processes spoken of were in the direction of least resistance. The muscular structures in the neighborhood were atrophied.

In the upper part of the tumor there was a predominance of fibrous tissue,

and septa of this tissue divided it off into lobules of spongy tissue. A peculiar condition was found in the spinal canal, the cord being surrounded below the dura mater by a mass of tissue, resembling in gross appearance the tumor growth, but it was not the same. It contained connective tissue corpuscles and nerve cells and fibres. Its nature Dr. Primrose had not yet made out. The tumor itself was examined microscopically, and proved to be sarcomatous. The beauty of Dr. Primrose's paper was that he had frozen transverse sections through the child which exemplified in a most splendid way his paper. The sections were much admired by the association. Photographs of the same were also presented for inspection.

Dr. Praeger spoke in high terms of the paper and the sections.

Dr. R. Ferguson, of London, then gave a report, and presented a recent successful case of cholecystotomy. The symptoms of gallstones in this case were for a long time obscure, the pain being referred to the epigastrium; no pruritus, feces lacking the characteristic color, and the absence of jaundice. Pulse and temperature remained normal. She had many attacks of pain, which were relieved by hot appliances and morphia. These paroxysms did not appear or disappear suddenly. Gastric ulcer, gastritis, and intestinal colic were excluded. Gastralgia was probable. Stomachic treatment gave no relief. The ordinary treatment for gallstones afforded no relief. But finally some of the typical symptoms of gallstones began to show themselves. Patient was transferred to the hospital with a view to operation. But, after lying quietly for two or three three weeks, she improved so much that she went home, operation being postponed. But she soon became worse. On one occasion she had felt, after a severe paroxysm of pain, a dropping of something in the region where the pain existed. Operation was gone on with. Eighty gallstones were removed. The edges of the incision of the gall bladder was sutured to the edges of the wound. A cough retarded the process of healing. Repair did not take place well. Suppuration set in. Parotitis in left gland set in; also a localized peritonitis. The attacks of pain returned. Dr. Ferguson then tried to insert a catheter through into the bile duct, which he thought he accomplished. The side of the catheter appeared to grate on some hard substance, but improvement took place, and patient returned home in ten and one-half weeks after the operation. But in four weeks the symptoms reappeared; pain very severe. Chloroform had to be administered constantly, as morphia seemed insufficient. She inhaled thirty-six ounces. Another operation was decided on. The incision was extended downwards $1\frac{1}{2}$ inches lower, allowing exploration with the finger in the region of the bladder. A body $2\frac{1}{2}$ inches long, one-eighth of an inch thick, was scooped out of the gall bladder. Its structure had

not been determined. The opening in the gall bladder was secured by a purse-string suture, and a drainage tube inserted into bladder. Patient made, although very nearly collapsed at the close of this operation, a good recovery. The pain in the second instance, the doctor thought, might have been due to the presence of the mucous cast (if such it was), which might have been forced out of the bile ducts into the bladder. The doctor's paper was valued highly. The patient was present, and the seat of operation exposed for operation. A small biliary fistula was still to be seen, but in other ways the patient seemed perfectly well.

Dr. Cameron, chairman of the section, asked why cholecystectomy might not be done in such cases rather than cholecystotomy.

Dr. Praeger had had a case where the pain was referred to the epigastric region. The doctor then outlined the case. It proved to be much like Dr. Ferguson's, only that the stones were in the duct, instead of in the bladder, and adherent to each other. In closing, the edges of the bladder were stitched to the sides of the wound. He was of the opinion that cholecystectomy should be preferred to cholecystotomy.

Dr. Meek had seen and helped with Dr. Ferguson's case, and agreed with him as to the causation of the recurrence of pain after the first operation. Dr. Meek cited another case in which the peculiarity was the immense dilatation of the bladder, one they had recently operated successfully upon. He was surprised to hear that Tait had adopted cholecystectomy instead of cholecystotomy.

Dr. Praeger told of a similar case he had to that of Dr. Meek; the bladder contained one and a half pints of bile and some forty stones.

Dr. Smith, of Fingal, then reported on Dr. Meek's last case, which was under his care. Patient was doing well. A point he dwelt on was that the temperature at the time of operating was 105° . In three hours it was normal, and had remained so.

Dr. Cameron then spoke of the propriety of removing the gall bladder. In cases especially where there was great distension and the presence of a number of stones that operation was preferable. There would thus be less danger to the peritoneum after the operation; the persistence of a biliary fistula is done away with. The bile, instead of escaping externally, should take its natural course and thus carry out its digestive function in the intestines. Dr. Cameron spoke of the administration of very large doses of glycerine, two or three ounces each hour of the paroxysm, for the relief of cases of gallstones. He supposed it acted by its hydrogogue effects—dehydrating, and thus relieving, the swollen mucous membrane. He had seen satisfactory results from its use.

Dr. Ferguson said he had tried equal parts of glycerine and succinate of iron (about half an ounce of glycerine) four times a day.

MEDICAL SECTION.

“Some of the uses of sulphurous acid” was the subject of a paper read by Dr. Arnott, of London. He began by saying that he had in his experience profited most by learning new applications of old remedies. Sulphurous acid was an old remedy. Homer spoke of its use in fumigation. The doctor spoke of its application in typhoid fever. It was particularly useful in that class (for he held typhoid had different causes) of typhoid due to “rapid multiplication of bacteria in the blood.” The remedy should be freshly prepared and administered early in the disease. He would give from one-half dram to a dram every two hours, or even more, if the patient could stand it. With it he had not lost one per cent. of his cases; and his patients, he said, were never given alcohol. To his mind, it was the remedy in typhoid. In early phthisis it was useful. It did not hurt the stomach. He had almost discarded the use of cod liver oil. It had been noted that consumptives who labored in sulphuric acid works improved in health.

Dr. Hodge presented three cases of Friedreich's ataxia in one family, two sisters and a brother. Father had eczema of legs so badly that he was obliged to use crutches; also had leucoderma of hands. A paternal uncle suffered from hemeralopia. These were the only neurotic points in the family history. The first, M.W., æt. 41, had a history of falling down stairs, having since then a weakness in the legs. Got worse since she was ten years of age. Now patient could not walk without support. Stagger while standing, even with eyes open. Left alone, falls forward. Gait like one drunk. Leg muscles suffer only atrophy of disuse. Legs sensible to pain, touch, and temperature variation. Has pain now and then in right hip. Plantar reflexes normal; patellar increased. Feet in condition of talipes varus. Marked curvature of spine. Upper extremity normal. Pupils act normal. When she fixes to either side, there is marked horizontal nystagmus. Face not symmetrical; mouth drawn to left side. Tongue on protrusion turned to right, and exhibits fibrillar twitching. All senses normal. The second, Sarah, æt. 37, has suffered since she was 13, but nothing wrong with the gait till six years ago, at which time she received a hurt in the knee. Now she cannot walk without a cane. She would fall forwards if unsupported. In most respects she resembles her sister. Her speech is slow, and not very plain.

The brother, æt. 36. Feet began to deform at 15. When eyes were closed, he would fall backwards. Gait wide-legged and zigzag, and somewhat stamping. Lying down, he can do all the ordinary movements of the legs. In prominent symptoms, much like sisters. Right hand is claw-shaped. Atrophy of muscles of hands. Left hand somewhat affected, too. Curvature of spine. Suffers with excessive sweating.

Drs. Meyers, Macallum, Mills, Arnott, and Moorhouse took part in the discussion ; Dr. Hodge replying.

Dr. McKeough then followed by reading a paper on

PUERPERAL ECLAMPSIA.

In all cases the urine should be examined—more especially in primipara, who make up seven-eighths of the cases. Albuminuria, however, was not always followed by eclampsia. The prophylactic treatment should be directed to diet, and the use of eliminatives. Fluid diet, milk being best, should be recommended. Salines should be given to keep the bowels free; while for the skin nothing was so good as the daily hot baths for twenty minutes, the temperature on immersion being 99° , and gradually raised to 112° . Ice might be applied to head, and large quantities of water should be freely given the patient. If after this treatment the albuminuria is still present, labor should be induced. The process the reader of the paper then described. If any nervous symptoms showed themselves, chloroform should be administered. One should always keep in mind, in treating such cases, three points in the etiology—heightened vascular and nervous tension; the presence of some poison, probably from the kidneys, in the system; and the presence of the fetus *in utero*. If eclampsia comes on in spite of all previous treatment, the steps should be (1) sedative; (2) eliminative; and (3) induction of labor. The doctor referred to venesection. In certain plethoric cases it might prove useful. But in trying it as a last resort in two of his own cases, it did not save them. In fifty cases in Guy's Hospital in which it was performed, 30 per cent. died. Immediately after, in thirty-four cases where it was not used, $20\frac{1}{2}$ per cent. died.

THURSDAY EVENING.

The report of the committee *re* interprovincial registration was presented by Dr. Praeger, in the absence of Dr. J. E. White, chairman of the committee. It proposed that a Dominion Medical Council be formed "to take general surveillance of the medical curriculum, and of all matters affecting the general public and profession of the whole Dominion," formed either by representatives (one each) from the members of the various provincial Medical Councils, or elected by the medical population of Canada irrespective of provincial lines; or on the "line of the British Medical Council." Its duties should be the equalization of the medical curriculum to a just and high standard; to secure interprovincial reciprocity; to have the power to withhold or take away a Dominion license from a provincial graduate for just cause; to approve all provincial examination papers before they were presented to candidates. There should only be one examination for the provincial and Dominion licenses, and extra fee for the latter. If it followed the British Medical Council in its formation,

the British Medical Council regulations should be operative as applicable to the Dominion. All men now on provincial registers to be entitled to Dominion registration within the year of the formation of the first Dominion Medical Council on payment of \$10. All practitioners outside of Canada and Great Britain would be allowed a Dominion license upon passing the prescribed examination. All those on the British register would be entitled to registration upon payment of \$25 as soon as Great Britain extended the same privilege to Canada. The committee further recommended that the association, through a committee, should present these views to the provincial councils, and by concerted action with them to apply at the next session of legislature for such permissive legislation as would be required to establish the powers and duties of the Dominion Medical Council. If any provincial council refused to accede to the demands of the general profession for these objects, that this association should instruct their delegates to go to the legislature of such province and secure the required concession.

Dr. Praeger moved its reception.

Dr. A. B. Macallum thought there were many difficulties in the way of bringing about the result desired in the report. The formation of a Dominion council as was recommended in the report would have to conflict with the various provincial legislatures which have under their control the subject of medical education. Such a council would be inert. One of the difficulties was that the graduates of universities in Quebec were granted licenses to practise, while this was not the case in Ontario. If such outside universities were granted such extended privileges, the institutions of Ontario, Manitoba, and the other provinces would be clamoring for their rights. Then, too, the courses of study in medicine in the various universities were much different. In Quebec, for instance, subjects were taken up which were regarded as foreign to medical education. Some of their universities demanded of the students a knowledge of Catholic history, metaphysics, etc., much to the dissatisfaction of the English minority. Dr. Macallum would strongly support a Dominion council, but one with powers considerably different from those outlined in the present report. A British medical council would answer our conditions far better than such a Dominion council as proposed. He suggested that representatives of all the various councils and universities of the Dominion and Britain form a council, and that they, after debate, recommend, after proper legislation, that the standard shall be raised in this or that subject of every province. Then it would be easy to have the desired reciprocity. The report presented was a most ill-digested one.

It was moved by Dr. Cameron, and seconded by Dr. Macallum, that the report be tabled. This carried.

Dr. Wesley Mills, of Montreal, then took up the subject,

PECULIAR FORMS OF SLEEP OR ALLIED CONDITIONS.

He gave a report of his observations of the *Arctomys monas* (woodchuck) during a period of five years, and more particularly during its season of hibernation. With the phenomena presented, he compared strikingly similar phenomena in two or three cases in human individuals. Some of the points were the periodicity of the attacks of stupor, abstinence of food and consequent emaciation, great slowing of respiration and circulation, the partial cessation of stupor to attend to urination and defecation, the tendency to increased reflex action. The professor's account of the lethargic condition in man was listened to with exceeding interest; the cases, some of them being authentic, having come under his own observation. The professor, as an evolutionist, contended that these tendencies were analogous to those in the lower animals, and inherited, so to speak, from them. Although Dr. Mills takes this advanced view, he says he is inclined less than ever to pooh-pooh what is said regarding trances and other similar popular notions.

Dr. A. B. Macallum, of Toronto, while admiring Dr. Mills' able paper very greatly, took some exception to his views. He contended that pathological conditions in the subjects whose cases were cited caused the lethargy; no such change in the brains of the lower animal, so far as he knew, took place. The subject, however, was one of extreme interest in connection with medical psychology—the question of the relationship of periods of lengthened sleep to mental disease. Dr. Mills would be prepared, he said, to believe in the Rip Van Winkle legend.

Dr. Cameron regretted that Dr. Mills had been obliged to omit the latter part of his paper, which dealt with the real nature of the hibernating and allied conditions. It would have been interesting to have heard a comparison between such various conditions as sleep, ordinary coma, the somnolent form of status epilepticus, etc. Regarding the pigmentary and fatty changes Dr. Mills spoke of, all were familiar. Dr. Cameron inclined to think it was a question of pathological chemistry rather than a gross pathological change.

Dr. H. A. Macallum gave Dr. Bucke's tide-theory, that sleep was influenced by, or in the same manner as, the tides. The child's sleep corresponded to the two periods of rest between tides.

Dr. Mills, in replying, said that changes had been observed on examination of the brain cells of hibernating animals. He believed the object of the condition was for preservation of life. In winter, when it was difficult to get food, the woodchuck did with little or none. On account of his peculiar condition, inherited, no doubt, from his sluggish ancestors of ages ago, "Sleepy Joe" (one of the cases reported) found it agreeable to his constitution and economical to spend that portion of time when sustenance

was difficult to obtain and weather inclement in the lethargic state. Regarding the Rip Van Winkle story, he (Dr. Mills) thought it was like Shakespeare—a case in which the genius anticipated the science.

Dr. J. C. Myers, of Toronto, then read a paper on "Multiple Neuritis." He gave a brief history. Family history negative. Had for eleven years a suppurating knee; began from an injury. Always used to work. Two years ago had an attack of paralysis from exposure to cold; recovery in ten weeks. Present illness began in July last. Noticed first stiffness in right foot, which soon attacked the left; then went to the hand. The stiffness changed to paralysis, legs and forearms being involved. Took to bed. No pain or abnormal sensations. Complete paralysis of the flexors of the the ankles and extensors of the toes. Posterier tibial muscles weak. All forearm muscles affected, extensors most. Slight wasting of the affected muscles, particularly those of the thenar eminences of the hand. Marked hyperalgesia over the body. Tactile and temperature senses were exaggerated. Knee and elbow jerks lost, also skin reflexes. No paralysis of the ocular muscles. Disks normal. Health in other particulars good. Galvanic current shows A.C.C. is equal to K.C.C. From August 15th patient began to improve, and is continuing to do so. Power gradually returned; muscular nutrition increasing, and ability to walk returning, the walk being that of a "stepper." Myelitis was suggested as the diagnosis. This Dr. Myers negated by the distribution of the paralysis, integrity of the muscles, and absence of bladder and rectum symptoms. He diagnosed it multiple neuritis, with a favorable prognosis. Treatment: Salicylate of soda and warm baths; after a few days strychnine and other tonics, with massage and electricity, were given. The reader of the paper then gave a minute description of the pathological changes which take place in this disease—the parenchyma being almost alone affected. The nerves most often affected were the anterior tibial and musculo-spiral. It was caused, it seems, from a morbid state of the blood; this poison had a special affinity for nerve tissues. Modern pathology had enabled us to see that this was a separate disease from those with which it used often to be confounded, in which the lesions occurred in the central nervous system. Dr. Myers pointed out the various differences between such diseases and multiple neuritis, both as regards pathology and symptomatology.

OPHTHALMIC MEMORANDA

was the subject of Dr. A. Reeves' paper. He referred to the progress that had been made in ophthalmoscopy; also in the treatment of such affections as trachoma, lymphomata, astigmatism, stricture of the lachrymal duct, etc. The speaker outlined the present treatment for such affections, and methods of employing surgical therapeutics, where necessary. He discussed at some length the subject of sympathetic ophthalmia.

Dr. Osborne, in discussing the paper, spoke of the necessity of treating the nasal catarrh which was found in many cases of lachrymal duct affections. He also spoke of the great value of the ophthalmometer in astigmatism.

Dr. Reeves replied.

Dr. Harrison, the president-elect, was then voted into the chair. Votes of thanks were heartily given to the retiring president, the medical profession of London, and the railroads.

Dr. Anglin moved that the usual honorarium be given to the secretary. Carried.

Mr. J. H. Chapman, of Montreal, had an extensive and beautiful array of all kinds of surgical instruments on the platform, which were much admired between sessions by the members of the association.

Book Reviews.

THE RÔLE OF THE POSTERIOR URETHRA IN CHRONIC URETHRITIS. By Bransford Lewis, M.D., St. Louis. Reprinted from the *New York Medical Record*.

DISEASES OF THE SKIN. A manual for students and practitioners. By Charles C. Ransom, M.D., Assistant Dermatologist, Vanderbilt Clinic, New York. Students' Quiz Series. Philadelphia: Lea Brothers & Co.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS. By J. Burney Yeo, M.D., F.R.C.P., Professor of Clinical Therapeutics in King's College, London, and Physician to King's College Hospital. With illustrations; in two volumes, 630 and 740 pages. Philadelphia: Lea Brothers & Co., 1893.

A DICTIONARY OF MEDICAL SCIENCE. Containing a full explanation of the various subjects and terms of anatomy, physiology, medical chemistry, pharmacy, pharmacology, therapeutics, medicine, hygiene, dietetics, pathology, surgery, bacteriology, ophthalmology, otology, laryngology, dermatology, gynecology, obstetrics, pediatrics, medical jurisprudence, and dentistry, etc. By Robley Dunglison, M.D., LL.D., late Professor of Institutes of Medicine in the Jefferson Medical College, of Philadelphia. Edited by Richard J. Dunglison, A.M., M.D. New (21st) edition, thoroughly revised, greatly enlarged and improved, with the pronunciation, accentuation, and derivation of the terms. In one magnificent imperial octavo volume of 1181 pages. Cloth, \$7; leather, \$8. Philadelphia: Lea Brothers & Co., 1893.

TOOTH EXTRACTION. A manual of the proper mode of extracting teeth, with a table exhibiting, in parallel columns, the names of all the teeth, the instruments required for their extraction, and the most approved methods of using them. By John Gorham, M.R.C.S. London; Fellow of the Physical Society of Guy's Hospital, etc. H. R. Lewis: 136 Gower St., W.C., London, 1893. Price, 1s. 6d.

The fact that this little work is in its fourth edition is a recommendation in itself as to its intrinsic value. The chapter on anesthetics is very weak, but the remainder of the little volume is well worthy of perusal.

It seems surprising, however, that in 1893 a writer should be found giving so much prominence to the old tooth-key as a means of extraction. For, though deprecating its general use on account of the unnecessary injury to the gums and adjacent parts, the author yet advocates it as the best instrument in certain cases. We would certainly not advise any student or general practitioner to invest in a tooth-key.

THE DISEASES OF THE NERVOUS SYSTEM. A text-book for physicians and students. By Ludwig Hirt, Professor at the University of Breslau. Translated with permission of the author by August Hoch, M.D., assisted by Frank R. Smith, A.M. (Cantab.), M.D., with an introduction by Wm. Osler, M.D., F.R.C.P. New York: D. Appleton & Co.

A work which has been highly recommended by Dr. Weir Mitchel, and introduced to the profession of this continent by Dr. Wm. Osler, does not need any special words of commendation from us.

The author divides the subject in a somewhat different manner from that ordinarily pursued. The diseases of the brain, spinal cord, and general nervous system are separately treated; the cranial nerves, for instance, are taken along with the brain, after the diseases of the membranes and before those of the brain proper. He divides the diseases of the general nervous system into two principal classes: those without any recognizable anatomical basis, and those with known gross lesions. In this latter class he places locomotor ataxia, a disease which is almost, if not always, placed along with the affections of the spinal cord. He is of opinion that this is warranted by the general character of the disease; the cerebral, spinal, and neural systems all being implicated. The lesions of the neural system have been described first by Turck, Friedreich, Westphal, and more recently by Déjerine and Pitres.

His remarks upon the causation of tabies will be of interest. He divides cases into two classes—non-syphilitic and syphilitic.

The non-syphilitic causes occur in those voluntarily predisposed to nervous affections, neurotic families, etc. Causes of direct hereditary character are very rare.

As exciting causes he mentions (1) exposure to cold; (2) traumatic influences; (3) over-exertion.

The merits of the work are briefly these:

(1) Very lucid explanation of some of the more difficult points in the pathology of the nervous system.

(2) Well-executed illustrations, many of which are original.

(3) Very little of importance even of the most recent investigation has been omitted.

We can confidently recommend the work to students and practitioners who wish to obtain within a reasonable (about 650 pages) compass a thoroughly reliable work, and one containing all that is of much value in the literature of nervous diseases.

A NEW ILLUSTRATED DICTIONARY OF MEDICINE, BIOLOGY, AND COLLATERAL SCIENCES.

Dr. George M. Gould, already well known as the editor of two small medical dictionaries, has now about ready an unabridged, exhaustive work of the same class, upon which he and a corps of able assistants have been uninterruptedly engaged for several years.

The feature that will attract immediate attention is the large number of fine illustrations that have been included, many of which—as, for instance, the series of over fifty of the bacteria—have been drawn and engraved especially for the work. Every scientific-minded physician will also be glad to have defined several thousand commonly used terms in biology, chemistry, etc.

The chief point, however, upon which the editor relies for the success of his book is the unique epitomization of old and new knowledge. It contains a far larger number of words than any other one-volume medical lexicon. It is a new book, not a revision of the older volume. The pronunciation, etymology, definition, illustration, and logical groupings of each word are given. There has never been such a gathering of new words from the living literature of the day. It is especially rich in tabular matter, a method of presentation that focuses, as it were, a whole subject so as to be understood at a glance.

The latest method of spelling certain terms, as adopted by various scientific bodies and authorities, have all been included, as well as those words classed as obsolete by some editors, but still used largely in the literature of to-day, and the omission of which in any work aiming to be complete would make it unreliable as an exhaustive work of reference.

The publishers announce that, notwithstanding the large outlay necessary to its production on such an elaborate plan, the price will be no higher than that of the usual medical text-book.

Medical Items.

DR. W. A. YOUNG has been appointed a coroner for the city of Toronto.

DR. OLIVER WENDELL HOLMES was eighty-four years of age on the 29th of August, when he was enjoying good health.

DR. J. EDGAR has been temporarily appointed superintendent of the Hamilton Hospital in the place of Dr. Olmsted, resigned.

DRS. B. E. MCKENZIE and FREDERICK WINNETT have been added to the staff of demonstrators of Anatomy in the Medical Faculty of the University of Toronto.

DR. HUGO TOEPPEN, who graduated in the University of Toronto, 1892, is practising in St. Louis, Missouri. He has been appointed Professor of Histology in the Beaumont Hospital Medical College of that city.

DR. L. F. BARKER (Tor. '90) is still living in the Johns Hopkins Hospital, Baltimore. He paid a short visit to his friends in Toronto and Whitby in September, but returned to Baltimore, where he expects to continue his work in bacteriology and pathology for another year.

DRS. CHARLES TEMPLE and D. A. ROSE have been added to the staff of demonstrators of Anatomy in Trinity Medical College. Dr. Anderson has been appointed demonstrator in Pathology, Dr. Pepler assistant in Pathology, and Dr. Fenton assistant in Histology in the same institution.

DR. JOHN STEWART, of Pictou, N.S., visited Toronto in the first week of October, and was present at the opening exercises of the Medical Faculty of the University of Toronto. He is much pleased with the decision of the Canadian Medical Association to meet in St. John next year, and is very anxious to have a large representation from this part of the country.

DR. PRAEGER, of Nanaimo, B.C., has become one of the most faithful attendants at the meetings of the Canadian Medical Association. He has made many friends in this part of Canada, who were pleased to see him again at the London meeting. A member who travels from two to three thousand miles to attend the meetings of the association deserves about the best treatment his brethren can give him.

DR. INGERSOLL OLMSTED, who has been medical superintendent of the General Hospital in Hamilton for the last three years, has resigned his position in that institution, and will go to Philadelphia, where he will act as assistant lecturer in bacteriology in the University of Pennsylvania. Dr. Olmsted's resignation caused universal regret in Hamilton, and the city council presented him with an engrossed address, which contained kindly expressions in reference to his future success.

ABOUT October 15th a medical directory of the State of Connecticut will be issued by the Danbury Medical Printing Company, of Danbury, Conn. It will contain a list of all the medical practitioners of the state, the various medical societies, all the dentists and dental societies, druggist and pharmaceutical societies, nurses and training schools for nurses, hospitals, etc. Price \$1, delivered free by post.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—The next regular meeting of this very prosperous association will be held in New Orleans, Nov. 14th, 15th, and 16th. We are instructed by the able and worthy secretary, Dr. W. E. B. Davis, of Birmingham, Alabama, to say that members of the medical profession from all sections are cordially invited to attend. We can assure our readers that any Canadians who may have the good fortune to be able to attend the meeting will receive a very warm and cordial welcome from our generous brothers in the "Sunny South."

TORONTO AT THE CANADIAN MEDICAL ASSOCIATION MEETING.—It has been remarked somewhat frequently in recent years that Toronto physicians do not take sufficient interest in the meetings of the Canadian Medical Association. This year the president, Dr. Sheard, did his duty in asking his brethren of the city to support him in making the meeting a success. We were very glad indeed to see so large a representation from Toronto—twenty-eight in number. If there were any grounds for complaints concerning our apathy respecting former meetings, it is satisfactory that they did not exist in connection with the London meeting.