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CANADA

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VALEDICTORY ADDRESS

Delivered to the Graduating Class at the Annual Convocation of the Medical Faculty of McGill University, March 29th, 1886.

By WILLIAM GARDNER, M.D.,
Professor of Gynæcology, McGill University.

Gentlemen of the Graduating Class :—It is my duty this year, on the part of the Faculty, to briefly address you on this, to you, great occasion of your attaining to the degree of Doctor of Medicine and Master of Surgery of this University. Let me, then, first extend to you our most hearty congratulations on this auspicious occasion, and to say how great an honor I feel it to be that I am thus permitted to be the first, metaphorically speaking, to take you by the hand. Believe me, gentlemen, this is no empty form of words. Who, I ask, can so heartily sympathize with you and enter into your feelings, as your teachers, who have been in your interests for years straining their energies, and have themselves passed through similar experiences. I cannot but recall how, just twenty years ago, I stood at this same platform and proudly, though, perhaps, blushingly, received my degree at the hands of the same noble, gifted, and high-minded principal who has to-day conferred on you the diplomas you hold in your hands. No words of mine are likely to influence or enhance your estimation of the value of the parchments you have thus acquired, but I cannot refrain from reminding you that this day you graduate from a school whose curriculum is unequalled in severity by that of any on this continent, and we proudly point

to the approval of a discriminating profession and public, as shown by a steadily-increasing number of candidates for our degree. The number of our students has, in the session just closed, reached a figure never before equalled.

Gentlemen, it is customary, and we believe it to be the duty of those who have been your teachers, when you are thus dismissed, when the bond which has linked us for four years as preceptor and pupil is to be severed, to improve the occasion by addressing you a few words of counsel and of warning. Success in this the profession of your choice is, of course, the object of your ambition. With all our hearts, gentlemen, we wish you that success in the best sense of the word. We have endeavored to impress you with the fact that if you are to succeed in such a sense you must deserve it. By a successful life, I do not mean that of necessity it must be a long and brilliant one. There are many obscure village practioners who, in reality, are more successful than others who seem to float on the highest wave of worldly prosperity. To the country or village practitioner are given opportunities for the development of independent judgment and self-reliance, faculties or qualities which often remain latent in his brother of the city, with ample opportunities for consultation when he is in deep water. In this way there are often developed in the country such men as we do not so often see in the city. If, in selecting the profession in which you this day graduate, you have looked to what is the true end of knowledge and work—to relieve the suffering and to minister to the comfort of man's estate, to lessen the sum of human sorrow on earth,—you have chosen a profession which yields the fullest satisfaction to your aim and the largest scope to your work. You have, during the last four years, been learning in order to act, the end of all knowledge being action, and the end of all action is to promote the welfare and the progress of mankind upon earth. In no profession are the opportunities of doing this good work so great and constant as in ours. To the least of us as to the greatest, occasions of tender sympathy and patient help occur every hour in the daily routine of our work; and no profession therefore rests so little

for appreciation upon any adventitious circumstance of time or place, or so little needs extraneous titles of honor to give it dignity and respect. Put a doctor in the midst of the wildest savages and they will respect the medicine-man, when the lawyer's fluent sophistry and the preacher's pathetic eloquence would not gain them consideration, or even save them from death. Associations which send missionaries to the heathen constantly recognize this fact. Protected by his medical skill, David Livingstone passed unharmed and esteemed, among the savage tribes of Africa; and a much greater than he, the Divine Christ while a preacher, cultivated the character and functions of a healer of the sick.

To-day, gentlemen, you enroll in the great band of workers of our profession at a time when the position of medicine in the estimation of the race, and when its capacities for the saving of life and the relief of human suffering are far in advance of what they have ever been—far in advance of what they were even twenty years ago. If it were possible, and time permitted, it might be profitable to draw a comparison, but there is to-day neither time nor occasion. There are many important functions to perform and positions you will be called upon to fill, other than those of a strictly professional capacity. The family physician is, nowadays, often the most trusted counselor and adviser. He occupies the same position as did the priest of old. Hence, without doubt, a vast amount of influence for good, but also possibly for evil, if not properly exercised. Perhaps this is going too far; at all events, it is safe to say that the field is divided between the clergyman and the physician. You will therefore be called upon, in season and out of season, to advise individuals and families. Your ability so do this well must depend not only upon strictly professional attainments, but upon the position you have acquired in the confidence of your patients, and that will depend largely upon general culture, on knowledge of men and things rightly used. Apart from the function of adviser and counsellor in matters other than medical, the family doctor exercises a great influence upon the morals and manners of his patients. Your conduct and deportment should be that of gentlemen. Tidy and cleanly in person, in manners a pattern,

you must remember that to many families and individuals, except the clergyman, you will be the only person who has an opportunity to exercise such an influence. In your relations with your patients, you must preserve a judicious reticence. Your patients have a perfect right to demand of you that you shall keep sacred facts concerning them learnt by you in a professional capacity. There is, as you have doubtless learned, only one exception to this rule, and that is when called upon to give evidence in a court of justice. You should, therefore, carefully avoid a habit of tattling and gossiping, as being unworthy the position of a cultured gentleman, especially a physician. I am sorry to say that the habit I would caution you against, so characteristic of small minds, is one too much indulged in by members of our profession. It is easily acquired, and with difficulty lost.

An important function of modern medicine—if not the most important, certainly one steadily growing as we make progress—is the prevention of disease. You will, I hope, pardon a brief allusion to certain instances in which you may do much to prevent disease. You all know that there seems ample evidence to show that insanity is on the increase. You also know equally well that in scarcely any other disease does hereditary taint play so important a part in causation. The marriage of persons with such tendencies is therefore a most serious question. You will not always be asked your advice on such points, but it will be your duty to speak with no uncertain sound, and to give it with all the necessary tact and authority. It will, perhaps, be often without avail. In these matters few persons are disposed to look to anything beyond their immediate gratification. If it were put to two persons passionately in love with each other that they may have children, one of whom would certainly die prematurely of consumption, another become insane, and a third perhaps commit suicide, I am afraid that in three cases out of four they would not practice self-denial and prevent so great calamities, but rather self-gratification and trust "the universal plan will all protect."

You are doubtless aware of the intimate relation between the spread and prevalence of typhoid fever, cholera, diphtheria and

other diseases, and the water-supply of households and communities; and it is in the case of small towns and villages, rather than large cities, that such modes of diffusion especially obtain. Pardon me if I draw your attention to the most recent and probably the most remarkable instance ever recorded—the outbreak of typhoid fever in the town of Plymouth, Mass., during the last summer. In that town, of eight thousand inhabitants, one imimported case of the disease, by contamination of the water-supply, led to the infection of no less than one-eighth of the whole population. One thousand cases of such a disease as typhoid fever, with, let us say, a mortality of ten per cent. Try, if you can, to imagine such a calamity. Now it is from our profession, surely, if any, that the influence with local authorities, families and individuals needful to avert such disasters must come. Here, then, is an important field in which the young practitioner may do a vast amount of good to the community in which he lives and to his own reputation. I will only further, in this connection, draw your attention to the necessity for your looking to the sanitary conditions of dwellings as affecting the health of their inmates. The women and the children of the community you live in will constitute a large majority of your patients, and this not only because they are more numerous, but because, also, they live more in-doors and are much more susceptible to disease-producing influences than the adult males. On all such matters you will find a vast amount of ignorance and apathy on the part of husbands and fathers; frequently baffling, with sadness it must be admitted, the best directed efforts to counteract them. Would that more members of our profession expended their spare energies in this direction rather than in the fascinating field of politics.

I take it that the great object of you all is to obtain practice, to get patients, and this requires time. No clientèle well worth having can be suddenly obtained. A practice quickly acquired is liable to be as quickly lost. You will therefore, doubtless, have to wait. Do not allow yourselves to be deluded by instances you may hear of in which, by some lucky chance, a man suddenly works his way to fame and fortune. The celebrated English physician, Dr. Arbuthnot, is said to have suddenly

risen to fame and fortune by his happening to be at Epsom when the carriage of the Prince of Orange was upset. There is, doubtless, a small amount of truth in this and other similar instances, but for the most of you it will be but a waste of time to sit behind a brass door-plate all day long doing nothing, or even drive about in a carriage with no patients to visit. All such expedients, sometimes resorted to, generally fail. You must wait, actively working while you wait. The exact form of the work I cannot prescribe, but it may be at home, in a dispensary, a hospital, or a medical school. You must also make your labors known by medical societies, by medical journals, or by separate publication, and be prepared to have them criticized and perhaps condemned; and it is well for all of us that our work should be criticised. If there is no medical society in your town or district, one of the first things for you to do is to try to found one. While waiting for practice, and always throughout your professional career, you must read in order to keep pace with the progress of medical knowledge. It is, after all, but a small modicum that each of us can contribute to medical knowledge, but the sum of the contributions of many workers amounts to much. You must therefore acquaint yourselves with the work of others by reading books and monographs, but especially medical journals. Now the periodical literature of medicine is exceedingly copious, and sometimes of such a character as to justify the suspicion that the existence of part of it is rather for the necessities of the editors and writers than the readers. You must therefore select for this and for another reason, for to many of you money to subscribe will fail if time to read them do not. But pardon me if I say that a single useful hint well repays the annual subscription to a medical journal. I make no apology in attempting to guide your choice by advising you take, first, the CANADA MEDICAL AND SURGICAL JOURNAL, the organ of your Alma Mater—a journal of which those who conduct it have just reason to feel proud. Then you must take and read the *London Lancet*. The great ability and high professional tone of its leading articles, and the discrimination shown in the choice of other matter, give it a position without a parallel in medical journalism. The medical man who for ten years faithfully reads his *Lancet* must inevitably

be in every sense a better man than his neighbor who systematically neglects it. Of American journals, the *Philadelphia Medical News*, the *New York Medical Record* and *New York Medical Journal* ought to be selected. But to all of you who aspire to a position at all above the rank and file, who are not content with the bottom rounds of the ladder where throngs the crowd, I would say you must not be satisfied with the medical literature of our mother tongue. You must know French and German, and, if you have not hitherto acquired these languages, I would say begin now, when for a year or two most of you will have plenty of spare time on your hands. There is no use in your expecting to know anything of consequence of the intense activity in medical matters which prevails in Germany and elsewhere from translations.

It has been said that to get on in medicine capital is necessary. If by capital money is meant, then I say it is not essential. Some of the most successful men have had no money. In fact, if you have money to invest, there are many ways by which to get a better material return than medicine. The capital essential to success is brains and industry, and it may be a comfort to many of you to know that these will suffice. No doubt a little money will sometimes greatly assist, but just as often it enervates or paralyzes. In the study and practice of medicine, your tastes and objects are doubtless varied, but the great majority of you must of necessity be general practitioners. In these days of prolific specialism, some of you may aspire to special work, thinking it easy or remunerative. Well, it may be remunerative in a few instances of marked success, but that it is ever easy when successful I deny. I would further say to those of you who aspire to special practice, that if you are to be either safe or successful specialists you must first have a wide knowledge and experience of general medicine and surgery. Success in special practice depends largely on having acquired the confidence of the profession of the community in which you live, and this you cannot get without attainments which entitle you to it.

We have especial congratulations for those of you who have attained to honors and prizes. They are the fruit of

honest hard work, and we are pleased to know that the class, as a whole, approves. I beseech you, however, to avoid making improper use of them. A short time ago I was shown a country newspaper from the western part of Ontario containing a professional card which read as follows: "Dr. ———, Graduate in Medicine and Gold Medallist of McGill University." It is true that the card stated facts, and while to laymen it may seem pardonable or even justifiable to thus publicly make known academic success, from the point of view of high professional tone it must be deplored and condemned. So are all newspaper notices of medical men in connection with operations, accidents and the like. I have lived long enough in this city to watch the career of several men whose names were constantly for a time in the newspapers. None of them have attained to any position, and most of them have utterly failed.

Gentlemen, I believe I cannot better indicate the spirit by which we must be animated in practising this profession of ours than by quoting to you the following words of an eminent surgeon: "Our manners should ever be but the expression of the habitual frame of our mind; and the habit and temper of mind which should animate us in our ministrations to the sick I can in no way so well indicate as by reverently paraphrasing the words which so expressively tell us of the Divine Physician's tender care and true sympathy for us in our soul's sicknesses—namely, we must be touched with a feeling of their infirmities. The refining and elevating influence of such true sympathy will keep us from ever making our noble office subservient to any ignoble end; and though it may interfere with our becoming rich, yet it will raise us into a higher and purer atmosphere above the petty vexations and disappointments of professional life. For what if, by our work, we become neither rich in worldly wealth nor great in the world's esteem? Surely a good name is rather to be chosen than great riches, and loving favor rather than silver and gold, and though we may achieve no social distinction, we may, by the Divine help, one day find, as many have found who are now gone to their rest, that the conscientious discharge of our duty in that profession which brought us neither

wealth nor rank has been to us none other than the house of God—aye, and the very gate of Heaven."

Again wishing you a full measure of success, and assuring you of our continued watchful interest in your future career, I bid you, for my colleagues and myself—Farewell!

MALIGNANT DISEASE OF THE RECTUM TREATED BY EXCISION AND COLOTOMY.

By G. E. FENWICK, M.D., Professor of Surgery, McGill University.

(Read before the Medico-Chirurgical Society of Montreal.)

The origin of cancer still remains a mystery unsolved, and the views of modern surgeons widely differ. Some look upon the cause at the outset to be purely local, a condition in which irritation long-continued will produce an alteration or change in the structure irritated; or that some slight accident or mechanical injury will give rise to the occurrence of tumor or foreign growth, which assumes a malignant type. The evidence of the local origin is the occurrence of the tumor or growth itself, affecting, as it does, a single part or texture of the body whilst all other parts or textures of the body are in apparent healthfulness. The first indication of the disease is its local manifestation. The constitutional implication is consecutive to the local disease. The manner of dissemination of the disease is regarded as evidence of its local origin. Cancer spreads or infiltrates the tissues in its immediate vicinity, it enters the lymphatics and even the blood vessels, and is carried to distant parts in the course and by means of the blood stream. Another method of dissemination is by local contamination, by which is meant that condition in which the disease extends to contiguous structures by actual contact, a well-recognized condition described by many observers. Others, again, regard the development of the disease to be due to some ill-defined and deep-seated condition of the constitution, that there exists a prior state of the body which favors the local manifestation, and that without this predisposition no amount of local irritation or local injury will be attended in its course by the occurrence of cancerous degeneration. That this disease is local in its development can hardly be

disputed, but that in many cases there exist a constitutional predisposition due to heredity would appear to be equally true. It is more than a mere coincidence that cancer will be found to afflict many members of a family and show itself in several consecutive generations.

If it can be shown that cancer can be arrested by early surgical removal, and that no subsequent recurrence will follow, it would go far to strengthen the position of the localists. The doctrine of the local origin of cancer is of the greatest importance in a surgical sense. Logically, we must admit that if the constitutional manifestations are due to a spread of the disease through the lymphatics and blood stream, there must have been a time when the disease was purely local, and when the lymphatic vessels and blood were not affected. If, then, the disease is *ab initio* local, and that it spreads through those channels to distant parts until the entire system is implicated, the necessity for early surgical interference becomes imperative. Then, again, the constitutionalist declares that the tumor is merely an expression of a previously morbid condition of the whole system, a condition somewhat analagous to a state met with in gouty persons, in which a sudden outburst of inflammation of a joint will occur without any apparent local injury. "Something is absorbed," says Sir William Jenner, "not necessarily pus, and there is in every part a disposition, under irritation, to burst forth into cancer. A gland or other part of the body is bruised or irritated, but such bruise or irritation does not develop extravasation of blood, thickening of tissue, or formation of abscess, but will be followed by the development of cancer." The return of cancer after removal at or near the part first affected or in distant organs is advanced as evidence of the constitutionality of the disease. On this head Sir James Paget says: "I would hold that the constitutional element in the origin of cancer is strongly marked in the constancy and in the method of its recurrence after complete extirpation." That recurrence is the rule after extirpation of cancerous growths experience leads us to admit, still, however, cases do occur occasionally in which no recurrence is observed. These are looked upon as exceptional, either that the life has not been sufficiently prolonged to be a

fair test, or that the disease has actually recurred in some distant part and has escaped observation.

Cancer of the rectum appears to arise in a very insidious manner, and in many cases it is almost impossible to obtain a correct clinical history bearing upon the length of time that the disease has existed. It would appear that the earliest symptom is smarting, itching, and general discomfort about the anus. As has been remarked, the patient is constantly aware that he has a rectum and anus, and would be glad if he could dispense with them even for a time. A dull, aching pain is more or less constant, and is increased by exercise or after defœcation. This discomfort increases during the night, so that the patient's rest is broken, which has a marked influence on his general appearance. As the disease advances, the patient experiences some difficulty in obtaining relief, and if he examines his stools they will be found streaked with blood or bloody mucus, or be flattened or grooved, or exceedingly small, as if forced through a narrow or contracted opening, or else broken up into small masses or hardened concretions not unlike sheep dung, and symptoms of obstruction soon follow. There is an inability to thoroughly empty the bowel, a constant sense of something being left behind, which cannot be got rid of; this leads to straining, and blood and slime come away, which is often offensive. The external orifice, unless carefully bathed, will become tender and excoriated, and tenesmus is occasionally very distressing. In this condition the patient suffers from increased pain, sometimes of a lancinating character, a constant desire to go to stool, an uncomfortable fulness, and much wind. In this stage, diarrhœa frequently alternates with constipation. The pain now becomes almost constant, the patient looses his appetite, food, if taken in moderate quantity, appears to add to his distress, he rapidly emaciates, the pain becomes more severe and constant, requiring opiates to procure rest and sleep, the liver becomes secondarily involved, the feet and legs œdematous, and the patient sinks exhausted or through a sudden invasion of peritonitis.

The period of duration of the disease is stated to be from eight months to three or four years. In reference to this point,

much will depend on its nature and the age of the patient. If it is a fungating, soft mass protruding from the mucous surface, prone to bleed, and occurring in a young person, the downward course will be rapid. If, on the other hand, it is a superficial spreading ulcerating mass, in an individual beyond middle life or in old age, the disease may exist for months or years before the patient is released by death.

Examination of the Bowel.—In conducting an examination, the patient should be previously prepared. A dose of castor oil should be given the day before that fixed for the examination. On the morning of the examination the bowel should be well washed out by an enema. Place your patient on his left side, with his knees well drawn up; in this position fully four inches of the bowel can be reached by the finger. If you examine without an anæsthetic, and direct your patient to bear down, a little more of the bowel can be explored. Anæsthesia is, however, a great assistance, more especially in women, as with the finger in the vagina the ulcerated surface, if such exists, and is within reach, can be forced out through the anus and the character of the disease accurately made out. On introducing the finger, a belt of healthy mucous membrane is sometimes met with between the anal margin and the commencement of the morbid growth. A common situation is somewhat less than two inches from the anal opening. On examination, the mass does not always feel like a distinct tumor, but rather a thickening or hardening of the submucous tissue. The mucous membrane may be ulcerated, which is readily made out. The base feels firm and hard, and the edges raised and overhanging. This sometimes appears to be the extent of the disease. If a distinct tumor exists, this will be felt projecting into the bowel; the growth may be situated in the anterior wall or on either side, or engaging alone the posterior wall, or, again, you may have it infiltrating the entire circumference of the bowel, forming a complete annular stricture. The inguinal glands should always be carefully inspected, although in many cases these are not in any way implicated. The absence of glandular enlargement in this region cannot therefore be taken as evidence of the non-existence of malignant disease.

Treatment.—In considering the treatment of cancer of the

rectum, very much will depend on the character and extent of the disease as to what operative measure should be selected, or, indeed, whether any operation should be attempted.

From the limited experience I have had of the operation of excision, either in part or in whole, of the lower end of the rectum, I believe that in cases where the entire mass of disease can be removed, and that the disease has been seen and recognized sufficiently early, the patient will thereby be rendered more comfortable, and the progress of the disease will, for a time at least, be arrested. I cannot agree with those who boldly declare that extirpation is absolutely curable. Cancer of the rectum shows different degrees of malignancy; whilst in some, rapid recurrence is observed, in others the disease does not recur, and the patient may escape altogether. They may live in comparative healthfulness and comfort for years, and ultimately die of some other disease.

With regard to the manner of proceeding to extirpate the rectum, I have, in nearly all the cases that have come under my observation, removed the whole circumference of the bowel. In commencing the operation, I make an incision in the median line, in the male, commencing behind the bulb of the urethra, and in the female, immediately behind the fourchette, extending it through the perineum, bisecting the anus and reaching the point of the coccyx. After this first incision, all bleeding vessels are picked up with the forceps and ligatured if necessary. If the anal opening is engaged in the disease, it must be removed by a semi-circular sweep of the knife on either side, cutting into the ischio-rectal fossæ. If, however, the anus is healthy, I think it of importance to save it. The surgeon can then proceed to free the rectum, and in doing this I have usually found the finger all that was necessary. The fibres of the levator ani soon come into view; these must be divided so as to get above that muscle. Having thoroughly separated the bowel all around from the contiguous structures, I then proceed to remove it. A small segment of the gut is transfixed with a needle threaded with stout silk or thread; the portion of the bowel between the points of entrance of the needle is then divided with the scissors,

and the thread drawn through the opening. I thus have two ligatures by which I can attach the divided end of the bowel to the anus if it is left, or to the margin of the skin if the anus has been removed. In this way I proceed cutting through a portion of the bowel and stitching it to skin until I have the entire mass removed. My ligatures are so arranged as to take in any bleeding points, but if any of the straight vessels give out, the bleeding can readily be controlled. After abation of the gut, a couple of drainage-tubes are introduced to the extreme depth of the wound, and the part dressed in the usual way. Of late I have been in the habit of dusting it over with iodoform and applying a dry pad of jute, kept in position by a T bandage. The wound is kept irrigated with very weak carbolized water once or twice a day, or oftener if necessary. This altogether depends on the amount of discharge or the passage of fæces. I think cleanliness is very important in these cases. The ligatures very rarely set up any irritation, not more so than those introduced in colotomy, and the subsequent results are, so far as I have observed, more satisfactory. It is of the greatest importance to save the anus, not on account of the superficial sphincter —although I suppose it would in time contribute in restoring the power of retention of the bowel contents—but on account of its forming an attachment to the ablated bowel, and subsequently more closely resembling the natural state of the parts. The operation seems more favorable in women than in men ; it is certainly more easy of performance in the former, and it is said that this disease is more frequently met with in women than men.

With reference to colotomy in rectal cancer, I do not think it called for, except in cases of obstruction. As a means of putting the parts engaged in the disease at rest, it may be attempted, but unless there is obstruction almost complete, it will not have this effect. So far as I can judge from my own observations, colotomy has not arrested the progress of the disease. It will render the service of relieving the patient of that distressing state in which symptoms of obstruction are advancing and becoming urgent. And, without doubt, it ought to be performed when such a state exists ; but I should expect the disease to advance with gradual and steady progress towards the end.

CASE I.—This was a case that came under my observation early in the year 1876. I was consulted by a medical gentleman of this city in reference to an ulcer situated on the left side of the anus, and extending up the bowel, engaging only the superficial sphinter. It was in a woman aged 58. On examination, the ulcer was about the size of a penny-piece, deeply excavated, with raised edges, the base of the sore being dry, and lacking healthy granulations. The gentleman whose case it was had regarded this as a syphilitic sore, and had made use of constitutional treatment and the application of black wash. It was very painful, and the tenesmus and straining almost constant. No benefit had followed the treatment, but rather an extension of the disease. I advised its removal with the knife. This was consented to by the patient, as her distress was very great. It was removed *in toto*, cutting wide of the disease, and going up the bowel for about $1\frac{1}{2}$ inches. There was considerable hemorrhage, but we tied the vessels as we went on, and in this way saved a considerable loss of blood. It was in the days when we had not at hand the surgical appliances of the present time. This woman made a fair recovery, and the disease had not recurred at the end of two years. The subsequent history I am unable to give.

CASE II.—*Cancer of the Rectum.*—Girl, aged 12 years, admitted into the hospital 7th January, 1876. From appearance, the disease was taken for syphilitic condylomata, very extensive; it presented a broad, flat, raised growth of the mucous membrane, with submucous infiltration. This condition extended up the bowel as far as the finger could reach, with intervals here and there of healthy membrane. Constitutional treatment was in this case followed up for some time, as, although there was no history of syphilis, yet the appearance of the growth was rather suggestive. The growth increased under anti-syphilitic remedies, and the entire circumference of the bowel was engaged. The discharge was constant, ichorous, and bloody. The alteratives were omitted and tonics and dieting carefully followed up. The discharge, however, continued, and produced excoriation of the anus. The disease appeared to be steadily on the increase, so that, with the view of setting the parts at rest, colotomy was performed. This gave apparent temporary relief, and before the child left the hospital all appearance of fæces had ceased to be passed per anum. The progress of the disease was not affected by the colotomy. The patient lived for some nine or ten months after leaving the hospital, and ultimately died from exhaustion or probably from organic implication. I was merely informed by

the mother that the little girl died some months after, within the year.

CASE III.—*No history of Cancer in his family.*—M. L., aged 62, a French-Canadian, admitted 7th Nov., 1877. This man had suffered from piles, and 12 years previously had been treated by the application of nitric acid. About the end of June of that year he had noticed severe lancinating pains in the rectum, which increased greatly on going to stool. The difficulty he experienced in relieving his bowels was great, and for the last two months he could alone procure relief by a tepid water injection. On examination, a large cancerous mass projected from the left side and completely filled the bowel. There was every likelihood of the bowel becoming completely obstructed, and as his general condition was favorable, the operation of colotomy was recommended. This was done on the following day, 8th November. There was great difficulty in finding the bowel, which was apparently very much fixed, believed to be from extension of the disease up the bowel, engaging the sigmoid flexure. The patient made a good recovery, and lasted in comparative comfort until some time during the following spring, when he died. No post-mortem examination could be obtained. In this case colotomy was perfectly successful, and gave comfort and relief to the patient, and I think we may admit that it prolonged his life, symptoms of obstruction had become quite urgent.

CASE IV., *July 22nd*, 1878.—Mrs. N., an old lady of 70 years, was reported to be suffering from dysentery. She informed me that a mass of the bowel was hanging down, which gave her great distress. There was continued and distressing tenesmus, with constant straining, and a sense of fulness and distension of the bowel. On examination, a fungous mass, ulcerated, with everted edges, was observed completely surrounding the anus. On exploration, I found the disease implicated about two inches of the anterior wall, but I could get well above the diseased tissue. I advised the operation of extirpation, and it was performed on the 6th August, 1878. The patient made a good recovery. Between three and four inches of the bowel was taken away, and the entire sphincter. The interest of this case consists in the after results. This old lady died in April of last year, 1885, having lived six years and eight months after the excision. The cancer never returned, and although she had lost the entire sphinter, yet she regained retentive power. She died, apparently in a faint, from supposed heart disease. No post-mortem examinaation was held.

CASE V.—Mr. A., a farmer, a tall, gaunt man, aged 56, consulted me in January, 1880. He had suffered from symptoms of what was supposed to be piles for some five months. After preparation, an examination was made, when it was found that the entire circumference of the bowel was engaged in cancerous ulceration, being more largely situated at the anterior part. The finger could be passed well above the diseased mass, where the mucous membrane felt healthy. Excision of the end of the bowel was recommended, and the operation performed in due course on Thursday, 22nd January, 1880. About 3½ inches of the bowel was extirpated in separating it from the bladder one seminal vesical was engaged apparently, and was removed. In this, as in the former case, the bowel was brought down after ablation of the disease, and stitched to the skin of the buttock, around where the anus had been. The man made a good recovery, and lived in comparative comfort for three years after. He came occasionally to Montreal to see and consult me, but ultimately the disease returned higher up, most likely engaging the liver, and he died, as I was informed by his physician, worn out, but with no difficulty in the bowel.

CASE VI.—An American, admitted into the General Hospital with cancer of the anterior wall of the rectum, and apparently infiltrating the urethra and upper part of the prostate gland. An attempt was made to relieve him of his difficulty, and the disease was removed, but the subsequent irritation of the bladder was such that he died from exhaustion several days after the operation.

CASE VII.—R M. D., aged 48, sent to me by my friend Dr. Alloway in Novem ber, 1883. The following history was elicited: The patient had been suffering for some months from pain and difficulty in evacuating the bowels. He stated that for upwards of six months he had not passed a satisfactory stool. There was a sense of continued fullness about the rectum. This would give rise to considerable straining, frequently repeated during the day, when a small evacuation would follow, sometimes liquid, but more often in small, hard, dry masses, always mixed with blood, and sometimes blood apparently pure, and in considerable quantity, would be passed. There was a dull, aching pain occasionally, but not constantly, and a continued discharge of slimy mucus. The day following his admission to the private hospital, or on the 25th November, 1883, an examination was made, the bowel having been previously well washed out, when the following condition was found to exist: Along the posterior wall, and

about two inches above the anus, the finger encountered a projecting growth, circular in form, and in size about that of a half dollar; there was a narrow constricted neck, and from the upper free surface there appeared to sprout a fungous, soft mass not unlike the head of a mushroom; a second growth, the same in character, but somewhat smaller in size, was noticed a short distance above, quite in reach of the finger; and beyond, the mucous membrane felt soft and healthy. The submucous tissue in the vicinity of these tumors seemed to be thickened and infiltrated; the fungus mass readily broke down and bled freely when roughly handled. On the following Tuesday, 27th November, I proceeded to remove these tumors in the following manner:— The patient having been previously prepared and placed under ether, he was tied in the usual lithotomy position. The anus appeared to be in a healthy state. An incision from its posterior margin was then carried backwards to the point of the coccyx, dividing the superficial and deep sphincter; a large-sized Sims' speculum was then introduced, and the front wall of the rectum raised and drawn forward; the entire mass of the disease was thus brought into view. The mucous membrane and submucous tissue was then slit up, cutting wide of the disease and going well above it. The entire mass, with the submucous tissue, was removed with the scissors. The hemorrhage was very considerable; the vessels appeared to be large, and could not be seized by the forceps, so that a needle, double-threaded with stout hempen thread, was passed beneath the base of the situation of the tumors and a ligature tied on both sides. This completely arrested the bleeding. The divided margin of the bowel above was then brought down and stitched to the margin of the divided anus. The posterior incision was left to granulate and contract. The patient made a good recovery, and as the tumor, on examination by an expert, was pronounced a villous growth and probably non-malignant, I had every hope that the relief would be permanent. Before the end of January the wound had quite closed, and he had control over the bowels and retentive power. This patient, however, consulted me again in January 1885, and on examination, the anal opening was found very much contracted and surrounded by several hard nodular masses which resisted the introduction of the finger. On getting well into the bowel, the front wall was found engaged in the disease; it did not appear to be very extensive, as healthy tissue $2\frac{1}{2}$ inches up could be readily reached. He was in great distress, as the symptoms of obstruction were marked. He was unable to get anything away except with a warm-water enema, and then the relief was

but temporary. These symptoms had but recently set in; up to the end of November he had enjoyed comparative comfort. In consultation with my colleague, Dr. Shepherd, we determined that one of two things had to be done,—either perform colotomy or remove the lower end of the rectum. As the disease appeared to be limited to the lower portion of the bowel, it was decided to recommend its removal, and if the disease returned, which in all likelihood it would, colotomy could subsequently be resorted to. The operation was performed on the 19th January, 1885, or about fourteen months after the first operation. On this occasion the entire circumference of the bowel was removed. The bowel freed from its attachments was brought well down, and after ablation the stump was stitched to the edge of the integument. He made a rapid recovery, and left the hospital at the end of three weeks. At this time he had partial retentive power, was sensible when the bowels were going to act, and could delay it sufficiently long to enable him to make suitable preparations for cleanliness.

I find, on reference to my note-book, that this patient returned in August suffering from symptoms of obstruction. He was greatly changed; from being a stout, robust man, he had become emaciated, and presented a well-marked cachectic appearance. The disease had returned, and had almost closed the outlet. Colotomy, as a palliative, was recommended, and performed on the 27th August. This gave him great relief, as before it the sense of distension was distressing; without doubt it prolonged his life in comparative ease, but he gradually sank and died on the 27th December following, or four months after the last operation.

Case VIII.—Mrs. C., aged 45, a tall, spare woman, consulted me on the 19th January, 1886. She gave me the following history: For several years she has been of a constipated habit, and had required the use of aperient remedies to obtain relief. Towards the end of July last she experienced great distress; she had no expulsive power, as there appeared to be something in the bowel which she could not get rid of. This feeling of fullness gave rise to straining and spasm, which was painful; occasionally she would pass blood in some quantity and sometimes small hard, dry masses, and occasionally had diarrhœa. Her physician had made an exploration with the finger, had pronounced it to be a case of internal piles, and had given her a sulphur and cream of tartar electuary, with some ointment to

be introduced into the bowel. This treatment gave her temporary relief. For the past two months she had not noticed anything like a natural stool; little, round hardened masses would come away, leaving behind a burning, smarting pain extending up the bowel and radiating down the thighs, which would persist for an hour or so after going to stool. There was a discharge of bloody mucus, which had somewhat increased of late.

After due preparation, an examination was made under ether. The anus appeared quite healthy; there was no evidence of external hemorrhoids. On passing the finger into the bowel, the mucous membrane seemed to be quite healthy for an inch and a half above the verge of the anus; the finger then came upon a nodular surface, hard, resisting, and in ridges. The mucous surface felt raw and eroded. This was situated in the front wall, and could be felt distinctly through the vagina. The vaginal membrane appeared quite free, and did not seem to be implicated. With some little trouble the ulcerated mass was forced out through the anus and brought well into view; this aided materially the diagnosis. The finger could be passed well above the ulcerated mass, and the bowel felt quite healthy. There were two enlarged glands observed beneath the mucous membrane, but the finger could be passed well above, where the membrane felt quite soft and healthy. It was determined to recommend removal of the lower end of the bowel, and the operation was performed in the following manner on the 3rd of February, 1886:—The patient, being etherized, was placed on the table in the lithotomy position. The anus not being implicated, it was decided to save it. The incision was commenced immediately behind the fourchette, in the raphé, and carried backwards to the point of the coccyx. This incision bisected the anus, and on separating the flaps the extent of the disease outwards could be readily seen. The next incision divided the bowel on either side into the ischio rectal fossæ; this was carried well to the inside of the superficial sphincter, but wide of the diseased structure. This appeared to be of advantage, as no skin was sacrificed, and it aided materially the subsequent steps of the operation. The front wall of the rectum was now separated from the posterior vaginal wall its entire extent, until the serous fold was reached. This part of the operation was accomplished with the finger alone; the parts separated without much difficulty, but it had to be done with care, as the thin vaginal wall would readily tear. This, unfortunately, did occur, and had subsequently to be closed with catgut sutures. The posterior attachments were then separated, and the levator ani fibres

on either side were divided with the scissors. The bowel was now free and could be drawn down, and was divided with the scissors, and as divided it was attached to the skin of the anus by four sutures on either side. There was very little hemorrhage, as the vessels were picked up as divided and, when necessary, ligatured with fine catgut. The fold of the peritoneum, where it comes down between the rectum and vagina, was freely exposed, partly detached from its rectal surface, and pushed back. This was effected without damage to that membrane, as the loose connective tissue readily separated. Large-sized drainage-tubes were introduced both in front and behind to the full depth of the wound; two stitches were introduced in the perineum and brought the parts well together. The parts were well dusted with iodoform and dressed with dry lint and a pad of marine tow, the dressing held in position by a T bandage. The operation was tedious, as at certain stages great care had to be exercised. The separation of the bowel from its attachments was effected with the finger and a few snips of the scissors; fully four inches of the bowel was removed, extending well above the implicated surface.

Evening, 9 p.m.—Patient quite recovered from the ether; is comfortable; complains of slight smarting about the wound, but it is not distressing. Pulse 88; temperature 99°. The nurse was instructed to remove the urine with the catheter. Patient had taken a little iced milk, but did not care to take much; she was nervous, and not inclined to sleep, so that ¼ gr. of sulph. morphia was given hypodermically.

Feb. 4th.—Passed a good night, felt well and refreshed. Temperature 98°; pulse 76. The case progressed rapidly towards recovery. The temperature never rose above 99.4°; this was on the sixth day, and was apparently due to the irritation of the stitches, several of which were removed. The parts closed rapidly, and she left the hospital for her home on the eighteenth day after the operation. At that time she was aware when the bowels were going to act, and could make preparations.

I have since heard from this patient. She is improving in health and general condition. I shall watch the results with interest.

I have to acknowledge the kind assistance of my colleagues, Drs. Roddick, Shepherd and Bell, who were present and gave valuable aid and advice throughout this case.

AN ACCOUNT OF A CASE OF INTERMITTENT EPIDEMIC CEREBRO-SPINAL MENINGITIS.

By A. WORTHINGTON, M.D., of Clinton, Ont.

(*Read before the Canada Medical Association, at Chatham, Sept'r 3rd* 1885.)

Mr. President and Gentlemen:—It is with considerable hesitation that I venture to come before you with the report of a single case of disease. Cases of this kind appear to be exceedingly rare, as Niemeyer mentions having seen only one case in his large experience, and this one of the third form of Hirsch. The disease in question is classed by Niemeyer, Ziemssen, J. Netten Radcliffe and Williams as the *intermittent* form of epidemic cerebro-spinal meningitis. Williams, in his excellent work on continued fevers, very briefly reports one case from Ziemssen. It does not appear to me that the case which I am about to report belongs strictly to any of the forms mentioned. It is certainly not epidemic. There was spinal complication, but of a mild form. The length and completeness of the intermissions are unlike any historical account of the disease I have been able to find. Niemeyer says: "Lastly, I must mention the occasionally intermittent course of the disease. I have only seen one case. Hirsch distinguishes three forms of the intermittent course. In the first, it only occurs in the first stage; one or more attacks of evident premonitory symptoms pass away, but another follows, which is immediately succeeded by the outbreak of the disease. In the second form, there is a sudden remission of the symptoms; these again grow worse the next day, and occasionally this alternation occurs several times, usually with a more or less quotidian type. In the third form, which is by far the most frequent (to which my case belonged), perfect intermissions are seen during convalescence. The symptoms remaining after the disease, particularly headache and stiff neck, regularly increase very considerably for some time, usually with a quotidian type, while in the interval the patient feels quite comfortable." Ziemssen has seen more of this class of cases than probably any author mentioned. The following case, transcribed from his work by Williams, is so brief that a true view of the disease is scarcely obtained:

"CASE IV—*Intermittent form.*—Th. M., æt. 19 years, student. Prodromata for eight days. Access abrupt, with cephalalgia, vomiting, slight convulsions, unconsciousness. Neck somewhat stiff. No fever during the first few days. Exacerbation on the fourth day, with fever of short duration, followed by apyrexia and disappearance of the malaise. On the fifth, seventh and eighth days the exacerbations occurred, with marked spinal symptoms. Then followed daily exacerbations, but of less intensity and shorter duration. No eruption. Complete cessation of febrile attacks after the eighteenth day. Recovery. Duration of disease, six weeks; of convalescence, four weeks."

Dr. Williams then observes that "in these cases the thermometer by no means shows the regularity that characterizes malarial fevers or that a superficial study of the symptoms would indicate. True intermittence, in the sense that the term carries when applied to ague, does not belong to cerebro-spinal fever."

J. Netten Radcliffe says: "The course of the disease has also been complicated by the supervention of other maladies—intermittent fever or certain paroxysmal phenomena simulating malarious poisoning, a complication which has led to erroneous notions of the nature of the disease. In the outbreak on the Lower Vistula, cases were observed in which regular or irregular intermissions took place that could not be assigned to a malarious origin."

Other authors mention the intermittent form, but I have not been able to obtain an extended report except the brief one mentioned. The duration of the attack in the following case was such that too much of your time would be taken up if the notes of the case were given in full. I therefore abridge by dividing the report into weekly periods:

W. K., aged 41, very stout and exceedingly corpulent, weighing 225 lbs.; generally very healthy; family history good. No history of malaria. Occupation, dealer in lightning-rods and general trading in the winter. He was constantly on the road during the very cold and stormy weather of last winter, and wore only heavy woollen overclothing and cotton underwear. He came to my office on the 17th February very cold and so much exhausted that it was with great difficulty he could walk home, about half a mile. Found him next morning in great pain in his back and limbs, and general uneasiness. Pulse 80; temperature 100⅘°. *19th*, 9 *a.m.*—Pulse 86; temperature 101°.

Anticipating an attack of acute rheumatism, I prescribed salicylate of soda, which kept him perspiring profusely for two days. On examining his chest, considerable effusion had developed in the right pleural cavity. About 4 p.m. on the 20th he had a severe rigor, lasting nearly two hours, accompanied with violent pain in his head, extending to the neck. Pulse 94; temperature 102½°. Applied ice-water and gave aconite. 7 *p.m.*—Is more comfortable. 21*st*, 9 *a.m.*—Is worse. Pulse 98; temperature 102⅗°. Ice in a bladder applied last night, and the second bladder of ice put on to-day. The pain in his head he says is nearly unbearable. 22*nd*, 9 *a.m.*—Pulse 92; temperature 102⅖°. Had his hair closely cut yesterday. 23*rd*, 7 *p.m.*—Pulse 90; temperature 99⅘°. His head is his continual complaint, the pain being described as terrific—boring, bursting. 24*th*.—Had a rigor early this morning. His pulse ranged for the second week between 80 and 112 in the morning, and between 126 and 98 in the evening; temperature between 102⅘° and 97⅕° in the morning, and between 103⅗° and 100⅕° in the evening. His bowels were obstinately constipated throughout his sickness, and required constant attention. The intermittent and paroxysmal character of the disease began from the first and continued to the end. The paroxysms were very uniform in their approach and progress. The pain first began in his head and continued to increase for a variable period from one to three hours, when the cold stage commenced and continued from a few minutes to between seven and eight hours, then came the pyrexial stage, lasting from three to twelve hours, the pain, fever and pulse rate increasing until the acme was reached, when all declined together to near the normal condition. The temperature during the paroxysm was never so much affected as the pulse, except on two or three occasions, when it rose to 104. The pleuritic effusion gradually disappeared. There was no sweating stage connected with the paroxysms during the attack. Had a chill early on the morning of the 25th, and double vision on the 26th, and for several days after which it disappeared. On this morning there was great prostration, subsultus tendinum, and heart failure. Ordered half an ounce of brandy every three hours, with quinine every three hours, and plenty of nourishment. On the 28th, had a severe rigor, lasting three hours. Bottles of hot water were placed around him, while the bladders of ice were continued to his head to relieve the agonizing pain; these probably helped to prolong the chill. Blisters were early applied to the neck and spine, and continued at intervals throughout. His tongue, at first white, then a dirty white, began to clean slightly. Had a moderately cold spell on

the 1st March, and another on the 2nd, of three hours' duration. His intellect has been clear up to this time, except during the height of the paroxysms. I may remark here that after the occurrence of the cold stage, which is always followed by fever, there is an entire intermission, the pulse declining and temperature falling to usually below normal. During the fourth week, the pulse ranged from 74 to 100 in the morning and 84 to 90 in the evening, and temperature from 96⅕° to 100° in the morning and 97⅖° to 102⅕° in the evening. The highest and lowest pulse rate and temperature are given in each week. Began to get cold about 6 p.m. on the 4th, the paroxysm ending at midnight. *8th*, 9.30 *p.m.*—Pulse 78; temperature 97°. At 11.45, Dr. Williams saw him. Temperature 96⅕°; pulse 75. No pain in his head nor anywhere else, but feels very weak. Had a short cold stage, varied with flushings of heat, for two hours on the 8th, and another on the 9th, lasting between three and four hours, but at evening the paroxysm was over. Pulse 74; temperature 98⅖°. Slept well all night. At 7 next morning (10th) the cold stage began, and did not end till 11 a.m. Pulse 86; temperature 99½. At 12.30, pulse 115; temperature 103. At 1.30, pulse 112; temperature 102⅚°. Is exceedingly restless, turning from side to side. Terrific pain in his head; feels as if it would burst. 7 *p.m.*—Pulse 98; temperature 99⅕°. Some pain in the back of his head, also along the spine, yesterday and to-day. The day and night of the 11th were so severe that I continue the notes. He wished a change to hot applications to his head, thinking it might benefit him, and they were tried, with bad effects. 9.50 *a.m.*—Pulse 80; temperature 97⅖°. Passed a good night; took ¼-grain of morphia and slept well after the second dose; feels much refreshed this morning. 5.30 *p.m.*—Pulse 96; temperature 103⅖. Pain began about 1.30 p.m. and the cold stage at 2.30; bottles of hot water were placed all around him and his head bathed with tepid whiskey and water. At 5.30, began to apply hot water cloths to his head, and gave 10 grs. quinine; at 6.15 the chill ended. 6.30 *p.m.*—Pulse 110; temperature 103⅗°; his head feels a little better. 7.30 *p.m.*—Pulse 112; temperature 102⅕°; mind is wandering, but answers correctly. His hair has been closely cut to-day, and his head painted three times with Tr. Iod. Co. Is very restless, and thinks he cannot live; later, he became unconscious, and remained so until morning, tossing from side to side all night. When reason had returned, he thought he had passed a good night. Examined his urine; specific gravity 102-3, no albumen. Blood much changed; some of the red corpuscles appear large and flabby, others small and crenated; no rouleaux

found, but they aggregated into heaps and masses; to appearance, there was no marked diminution in number; there was some increase in the number of white corpuscles, and many were increased in size. *15th*, 7.30 *p.m.*—Pulse 72; temperature, 98⅖° ; has passed a good day, sleeping (probably some stupor) several hours. Is quiet, and answers correctly, but his mind wanders if left to himself. Ice-water reapplied. Chill on the 20th for two hours. Slight dilatation of the pupils. Temperature up to 104° on the 21st, at 8.45 p.m. Is taking ergot and pot. iodid. *23rd.*—Rigor for 4½ hours, the paroxysm ending at 7.30 p.m., and he passed a good night. No chill again till the 30th. The pulse has been for this week from 78 to 84 in the morning and 78 to 120 in the evening. No delirium since the 22nd. There was a slight cold spell on the 30th. The pulse and temperature are for the seventh week: Pulse 68 to 80 in the morning and 70 to 88 in the evening; temperature from 97 to 98⅕° in the morning and 97 to 100⅕° in the evening. On the 4th of April the following entry occurs: Noon, pulse 68; temperature 97⅖° ; has neither ache nor pain, and feels splendidly. Had a slight cold spell in the forenoon of the 7th, also the same in the afternoon. On the 5th (Sunday), contrary to orders, several parties were allowed to see and talk with him, since which he appeared gradually to relapse. He told me on the 12th that his sexual appetite for the last two weeks had been strong, and that he had several times had sexual intercourse with his wife. Was there a temporarily exalted condition of that portion of the brain governing that propensity? I once before had a patient with chronic trouble of the brain, in which the patient insisted on sexual intercourse every night for some weeks. These are the only cases of the kind I have ever seen. For the eighth week the pulse-rate and temperature are: Pulse 74 to 88 in the morning and 84 to 92 in the evening; temperature from 97⅕° to 98⅖° in the morning and 97⅖° to 100⅕° in the evening. Had a chill on the 9th, lasting four hours, the paroxysm ending at 8 a.m. on the 10th. *April 11th.*—The fever came on to-day without the usual cold stage, and at 11 p.m. the pain was so terrible that he thought his head would split open. The treatment thus far has been supporting, in the best possible manner—brandy and milk, egg-nogg, beef-tea, etc. The remedies have been quinine, arsenic, iodide and bromide of potass., mercury to touching the gums, opium and chloral hydrate. For the ninth week the pulse-rate and temperature are: Pulse 83 to 112 in the morning and 80 to 112 in the evening; temperature 97 to 102⅖° in the morning and 97⅗ to 102⅗° in the evening. A chill occurred on the 15th, lasting four hours; another on the 17th,

of three hours, and one again on the 18th, of two hours' duration. *There are, after nearly all the paroxysms, perfect freedom from fever and pain in the head for a variable period.* During the tenth week the pulse and temperature are: Pulse 78 to 108 in the morning and 76 to 100 in the evening; temperature 98 to 102⅘° in the morning and 97 to 102⅖° in the evening. A cold stage not amounting to a chill came on the 21st, remaining three hours; another on the 22nd, another on the 24th, and another on the 25th, of 4½ hours, and still another on the 27th, of one hour. There is considerable muscular tremor, and the voice is tremulous. To have 4-grain doses of quinine every four hours. There has been occasional vomiting up to the present, more frequent now, and his mind is wandering more or less. The pulse and temperature for the eleventh week are: Pulse 75 to 92 in the morning and 74 to 104 in the evening; temperature 97⅕ to 98⅘° in the morning and 96⅘ to 101⅗° in the evening. 28*th.*—A cold stage of 4½ hours came on to-day, and another of 7½ hours on the 30th. On the 2nd of May he had a mild paroxysm; mind wandering more or less, and during pyrexial excitement there is a good deal of stupor, and he is not cognizant of anything. Respiration is irregular, and the eyes open and close with each respiratory movement, and an occasional expiration is puffed out. For the past week there has been, with each paroxysm, more or less vomiting. Is more prostrated than at any previous time, but so far has been able to take nourishment sufficient to sustain him. The pulse and temperature for the twelfth week are: Pulse 70 to 98 in the morning and 72 to 108 in the evening; temperature 97 to 102° in the morning and 97⅖ to 101⅖° in the evening. On the 9th May, a cold stage lasting two hours came on, with vomiting; another, on the 11th, of an hour. Considerable delirium, but answers correctly when spoken to. There is much stupor, and it seems difficult for him to comprehend. Pulse and temperature for the 13th week are: Pulse 76 to 99 in the morning and 76 to 92 in the evening; temperature 97⅕ to 100⅕° in the morning and 97⅓ to 100⅕° in the evening. Had a short cold stage on the 13th, with such forcible efforts to vomit as to nearly bring on convulsions. After the 15th, the stupor seemed gradually to deepen. Had a cold spell on the 19th, from 6 a.m. to 7.20 a.m. Vomiting is very frequent and severe. Takes nourishment fairly. For the ten remaining days the pulse and temperature are as follows: Pulse 72 to 110 in the morning and 82 to 108 in the evening; temperature 97⅕ to 100⅗° in the morning and 91⅗ to 100° in the evening. The patient passed from my care on the 28th May,

and died comatose on the 31st. Duration of my attendance 100 days, and of his sickness 103 days. Perhaps the singular uniformity of the temperature in this case from beginning to end will be better understood by giving the average temperature during each week, both morning and evening. I have omitted the first week :

		Morn.	*Eve.*			*Morn.*	*Eve.*
2nd	Week....	101⅜°	99¼°	9th	Week....	99½°	100½°
3rd	"	99½°	101¼°	10th	"	99°	100°
4th	"	98⅜°	100⅝°	11th	"	97¼°	99½°
5th	"	98 1/10°	100°	12th	"	98½°	99°
6th	"	98⅛°	98⅜°	13th	"	99°	98⅜°
7th	"	97⅞°	98⅝°	14th	"	98⅛°	99°
8th	"	98½°	99½°				

Etiology.—W. T. Grimshaw, an able writer on this subject, states that this disease (epidemic-cerebro-spinal-meningitis) is very rare after 40 years of age. In this case it cannot be called epidemic, as no other cases have occurred, and the cause may, I think, without question, be traced to exposure. He was a very energetic and determined man in his business, and he allowed no condition of the weather to stop him. No post-mortem was made, which in this case is a calamity to the progress of medical science, and an opportunity lost which may not again occur for many years. If a careful anatomical and histological examination of the brain and meninges could have been made, some light might have been thrown upon this rare form of meningeal inflammation, and it is just possible that a thorough use of the microscope might have given a clue to the condition of the brain producing intermittence, if examined to that end.

THE CARTWRIGHT LECTURES.

Abstract of Three Lectures on "Certain Problems in the Physiology of the Blood,"

Delivered before the Alumni Association of the College of Physicians and Surgeons, New York, on 23rd, 27th, and 30th March, 1886.

By WILLIAM OSLER, M.D.,
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Lecture I.—The so-called Third Corpuscle; the Blood-plate of Bizzozero, the Hæmatoblast of Hayem.

Among the problems which are yet open to physiologists, there are interesting ones still which center aroand the blood-corpuscles. In no department of physiology has so much time and labor been expended, and with so little positive result, as upon the origin and life-history of the corpuscles. The work of the last few years has been occupied largely in two directions: 1. To prove or disprove the existence of a third corpuscle. 2. Upon the degeneration or regeneration of corpuscles.

The present lecture is to be occupied with certain statements concerning the third corpuscle—the so-called corpuscle of Hayem. This body has received various names, having been called *elementary corpuscles* by Zimmerman, *hæmtoblast* by Hayem, and *blood-plate* or *plaque* by Bizzozero. The term *disklet* has also been suggested. Blood-plate and blood-plaque are now accepted, however, by the greater number of investigators, notably by Kemp and Martin, who have offered the most recent contribution to the subject, and those names are likely to be constant. The body in question is a colorless plotoplasmic disc measuring from 1·5 to 3·5 micro-millimetres; in exceptional cases it has been found as large as 5·0 or 6·0 micro-millimetres in diameter. Its ratio to the red corpuscles is 1 to 18 or 20, and, when withdrawn, the individual corpuscles quickly adhere or *conglutinate* (as it has been technically termed) in large numbers, thus forming the well-known granule-masses of Schultze, which are altogether too large to pass through capillary vessels. Norris has maintained that these bodies are identical with the *invisible discs* which were described by him. This is denied, and the opinion is advanced that the *invisible discs* are only decolorized red corpuscles. If the blood-plaques are studied without the use of reagents, no satisfactory results will be obtained, for they will quickly coalesce and disintegrate. They may be seen, however, as small grayish granule-masses, with projections of fibrin filaments in some cases, the masses being of from ten to fifteen times the size of the red corpuscle. The masses are made up of small bodies of uniform size which, when seen in face, have a discoid or ovoid appearance, but in profile resemble a straight rod, which is sometimes clubbed at both ends. These masses are not seen within the vessel, but only in blood which has been withdrawn. The corpuscles are best studied in a one-per-cent. solution of osmic acid, or in Pacini's fluid. The method of preparing the specimen is to place one drop of the osmic acid solution, or the Pacini fluid, upon the fingertip, then plunge the finger through the solution, allowing a small drop of blood to mix with it, and then place the specimen upon the slide. Bizzozero uses the common saline solution of the laboratory, adding a

small quantity of methyl violet as a stain. If the investigation is carried on in the living animal, it (the animal) should be under the influence of chloral, and with a slow blood-current. The vessels of the omentum in very young animals may then be studied, and the vessels in the subcutaneous connective tissue of the tail of a rat one or two days old are specially recommended as furnishing excellent opportunities for this purpose. The subject may also be satisfactorily investigated in the tissue from human beings, and in tissue which is removed from dead bodies, if taken very soon after death.

The corpuscle is a homogeneous, structureless mass of protoplasm, without distinction of center and periphery, without color or nucleus. Sometimes one sees a dark peripheral portion, like a thickening of that part, but, when viewed from other points, this peculiarity is found to be only apparent. A marked peculiarity of these bodies is their tendency to cohere immediately after the blood is drawn, thus forming Schultze's *granule-masses*, and this process is analogous to the nummulation of the red corpuscles. Another noteworthy fact is that the corpuscles sometimes remain isolated, instead of cohering, such a condition having been observed in blood which has been drawn from patients with malignant fevers, smallpox, etc. This fact also has its analogue in the less positive nummulation which obtains with the red corpuscles during the same diseases.

The plaques may also become crenated, a change which is believed to be physical and not amœboid. This phenomenon will be seen most satisfactorily if fresh-blood serum is added to the specimen. The number of these bodies is difficult to ascertain. Hayem has placed it at 250,000 to 300,000 to the cubic millimetre, and in conditions of disease, as well as in the blood of the new-born, it may be 500,000 or more. The methods of estimation are believed to be, as yet, inexact, and hence all statements as to the number must be taken as merely approximate. The chief cause of difficulty in numerical estimations lies in the fact of the tendency of the bodies to collect and cohere at the sides of the vessels and upon any substance which may be interposed. The plaques are much more abundant, as already stated, in a diseased than in a healthy organism. They have been found specially abundant in cancer and other diseases in which there is a marked cachexia, and in the latter stages of pulmonary consumption. So noticeable is their presence in the last-mentioned disease that they were for a while supposed by some investigators to be a peculiar product of that disease. On the other hand, they are not increased in number during acute pyrexia, but during convalescence the increase is quite noticeable.

As to their presence, it is believed that it is constant in mammals, especially in the young. In oviparous vertebrates an analogous body has been found, but it is nucleated. The opinion has been advanced that they are not independent and original bodies, but are due to the disintegration of white corpuscles. Objections to such an opinion are: 1. I have never found that the white corpuscles disintegrate with such rapidity as to form bodies like these. 2. They can be demonstrated and fixed by the osmic acid method. 3. They have been repeatedly seen in the circulation of the living animal—in the omentum of the guinea-pig, etc.

The history of this body is comprised in three periods. The first includes the time previous to 1877-78, in which observations were made by Donné, Zimmerman, Erb, and others. In 1874 I called attention to the fact that the *grannle-masses* of Schultze did not assume that form until after the blood had been withdrawn. The second period

was in 1877-78, when Hayem demonstrated that a third corpuscle, which he termed *hæmatoblast*, did exist, but his work excited little attention either in Germany, in England, or in America. The third period began in 1882, when Bizzozero published his paper confirming Hayem's statements as the result of his investigations. Since that time about twenty different articles upon this subject have appeared and confirmed the account which was given by Hayem. Schmidt and his followers, of Dorpat, are the only notable dissenters from those views.

Lecture II.—Degeneration and Regeneration of the Corpuscles.

Much labor has been spent in the past ten years in investigations concerning the degeneration and regeneration of the blood-corpuscles. These changes may be due to the increased destruction of the corpuscles from fever, poison, hæmorrhage, etc.; or to primary changes in the blood-forming glands; or as the secondary effect of imperfect nutrition.

The anæmia which is the result of hæmorrhage furnishes an interesting study concerning the degeneration of the corpuscles. The most important change in the corpuscles which occurs after profuse hæmorrhage, whether in man or in animals, is a change in their size. This change does not occur solely after hæmorrhage, but may proceed from a variety of causes. The normal size of the red corpuscle in the adult human being averages 7·5 mmm. in diameter. According to Hayem, normal corpuscles (red) should be divided, with reference to their size, into three grades—those which are under 7 mmm. in diameter, including about 12 per cent. of the entire number; those which are about 7 mmm. in diameter, including about 75 per cent.; and those which are larger than the ones just mentioned, and which include the remainder. In anæmia one finds many very small and some very large corpuscles, the size varying between 2·5 mmm. and 12 to 15 mmm. This subject of the variation in size of these bodies is termed by Quincke *poikilocytosis*, and has been elaborated by him under that term. The very small corpuscles are termed microcytes, and may be found in abundance in the dog a few hours after induced loss of one quarter or one third of the total blood-supply. They are also found as a rule in all cases of profound anæmia, exceptions occurring in certain cases of cancer and pulmonary consumption. It is now known, however, that they are not distinctive of pernicious anæmia, as was held by certain writers in 1876, on account of their almost constant presence in that condition. They vary in number in the different forms of anæmia, being most abundant in idiopathic or pernicious anæmia. The question naturally occurs, Are these microcytes bodies which are in the course of development or regeneration, or are they fragments of bodies which are undergoing degeneration? According to Hayem, they are one step in advance of the *blood-plaque*, but it may be considered more probable that they are fragments, which have become separated as the corpuscles become irregular and crenated, and are afterward discovered in the field of the microscope.

Very large corpuscles, or megalocytes, are also found in splenic and idiopathic anæmia, especially if the anæmia follows hæmorrhage. They may be 12 or 14 mmm. in diameter, are usually neither spherical nor bi-concave, but flatter and more irregular than in the normal condition. Their outlines vary very much, being very irregular, while normal corpuscles are very regular in outline. The opinion is advanced that the changes may be due to changes in the serum, and the use of Pacini's fluid may produce such an effect. In animals from which a large quantity of blood has been taken it has been

observed that there is also an increase in the number of white corpuscles, though no particular changes have been noted. In induced anæmia the blood-plaques are also increased in number and in size. In anæmia, too, nucleated red corpuscles are found (which are normal, though rare, in the blood of the embryo and new-born child, and even as late as the fourth or fifth year of life). They are identical with the nucleated red corpuscles which are normal in the bone-marrow. In leukæmia they are more abundant than in any other condition. Exceptionally one finds in the blood large bodies into which red corpuscles have worked their way, or at any rate in which they are present.

Concerning the regeneration of the corpuscles, the details have been studied particularly in the spleen and the bone-marrow, especially in the child and the embryo. The corpuscles in the bone-marrow have feeble amœboid movements. Their protoplasm is also less granular than it is in the larger marrow-cells. They resemble, as to size, the colorless corpuscles. In a figure shown there are elements which resembles free nuclei, which are called lymphoid corpuscles, and which are found in the spleen and bone-marrow. These elements seem to be concerned in the question of the regeneration of the corpuscles. Some of them have a narrow rim of protoplasm, which is revealed by the use of proper reagents. Nucleated red corpuscles are found in the bone-marrow at all periods of life. They vary much in size and as to the condition of their nuclei. The specimens should be examined when quite fresh, and without the use of any reagents. The gradation which I have observed in the development of these bodies is as follows:

1. A solid homogeneous nucleus is observed.

2. A nucleus with a rim of homogeneous protoplasm.

3. A solid nucleus with a rim of protoplasm, but colored, and now, in fact, a completed nucleated red corpuscle.

This process of development has been studied and observed already in the guinea-pig and in the rabbit. The further change into ordinary non-nucleated corpuscles occurs gradually by the disappearance and disintegration of the nuclei. Neumann and others have also observed this series of changes. Rindfleisch has advanced a different theory in regard to the development of the corpuscles, and he believes that the nucleated corpuscle becomes non-nucleated by emigration of the nuclei. It may be considered that changes of this character are post-mortem changes, fresh marrow showing few corpuscles with nuclei at their peripheries suggesting emigration.

Neumann and Bizzozero are in accord in the belief that the nuclei disappear gradually. Bizzozero holds that the nucleated red corpuscles are developed by fission, and maintains that he has seen the process occur in the course of fifteen minutes. The opinion of Hayem, that the red corpuscles are derived from the blood-plaques, is not yet accepted by all. His arguments in support of his position are: 1. The similar disc-like and bi-concave shapes of both bodies. 2. The gradations in the size of both bodies. 3. The plaques becoming tinted gradually, absorbing or accumulating hæmoglobin. To this I may object that I have never seen the blood-plaques other than colorless, and they are also without the cup-like depressions of the microcytes, which, as already stated, I consider an intermediate form in the development of the red corpuscle.

4. The blood-plaques are seen under just the conditions which would seem to call for an increase in number—*e.g.*, after hæmorrhages and fevers.

5. In the germinative area of the mesoblast (the *parablast* of His) small plaques are seen in the so-called *blood-islands*. With certain probabilities in favor of Hayem's theories, there are gaps yet to be filled, and there are statements which have not yet been corroborated by other observers.

As a possible source of development may be mentioned the lymphoid cells, in which several corpuscles are sometimes found. These are frequently found in embryos and very young animals, and have been considered as indicating a process of degeneration. While this may be a fact, the question also arises whether it is not possible that similar phenomena will be found to indicate also a process of regeneration, the non-nucleated corpuscles arising, or appearing to arise, in the protoplasm.

Lecture III.—The Relation of the Corpuscles to the Process of Coagulation.

Buchanan was the first to assert that the colorless corpuscles played an important part in the formation of the blood-clot. His investigations were made between 1830 and 1840 upon what is termed the *washed blood-clot*, and the conclusion which he reached was that coagulation was attributable to the white corpuscles, which acted as a ferment or which contained a ferment, their action being analogous to that of rennet. His (Buchanan's) views were taken up and elaborated by Schmidt, of Dorpat, and his pupils, who consider that the white corpuscles disintegrate and thus furnish two elements, fibrinogen and fibrinoplastin, which remain in solution in the blood-plasma until conditions which favor their union arise, when they produce fibrin, which, acting after the manner of a ferment, results in the formation of a clot. This theory was elaborated largely from investigations which were made upon the blood of the horse, which abounds in white corpuscles. After the plasma had been subjected to the operation of whipping, it was found that seventy per cent. of the white corpuscles had been destroyed, or, in other words, instead of fifteen thousand white corpuscles to the cubic millimetre which existed previous to the whipping, there were not more than four thousand after the fibrin had been extracted, the rest having been destroyed, apparently, to form fibrinoplastin and fibrin ferment.

Investigations upon this subject have also been made by Woolridge. He obtained leucocytes in abundance from the lymph-glands, and, having mixed equal volumes of these bodies and a ten per cent. solution of chloride of sodium, he obtained a substance which resembled fibrin. He also injected peptone plasma into the circulation of a dog, and then witt drew some of the blood, which did not coagulate, but, upon the addition of leucocytes, coagulation occurred, and the quantity of fibrin which it contained was proportional to the volume of leucocytes which was added. In other words, the weight of the fibrin was the same as that of the leucocytes. His (Woolridge's) investigations also led him to the conclusion that the leucocytes had undergone disintegration.

Concerning the experiments which have been made upon the blood of the horse, it appears that after coagulation the plasma still contains white corpuscles, or leucocytes. The theory was, therefore, advanced by Schmidt and his followers that there were two varieties of leucocytes—the α, or those which are destroyed, and the β, or those which remain and are not disintegrated.

In my opinion, no evidence of a histological character has yet been offered which proves the disintegration of the white corpuscles, as

alleged by Schmidt and Woolridge, by examination of a blood drop either upon a slide or in the moist chamber.

If the blood is examined under the microscope, the filaments of fibrin will begin to appear in a period which will vary between ten seconds and two or three minutes. Before coagulation begins, the red corpuscles and the blood-plaques are plainly seen, without any apparent change, and the white corpuscles as well, without any apparent signs of disintegration or dissolution. In fact, the amœboid movements of the white corpuscles can be made out long after the filaments of fibrin have made their appearance. Even in the blood of the horse, as studied under the microscope, in a very fine glass tube, the steps of coagulation have appeared to be the same, according to my observation, as in blood from other sources. The clot forms very gradually, and afterward the white corpuscles can be seen working or squeezing their way out of it into the serum, with no appearance of anything like disintegration. It is possible that erroneous conclusions concerning the disintegration of the leucocytes have been reached on account of mistakes in regarding the blood-plaques as disintegrated leucocytes.

Concerning the relation of the red corpuscles to coagulation, investigations have been made and their results published by Landois. He observed, in frogs and rabbits, that when their blood was drawn the red corpuscles aggregated in lumps, the hæmoglobin was lost, filaments of fibrin appeared, and the red corpuscles broke down. These observations were made ten years ago and have been confirmed, but it is still uncertain whether the red corpuscles are converted into fibrin.

The subject of the relation of the blood-plaques to coagulation is a new one. Filaments of fibrin can be readily seen projecting from the *granule-masses* of the hæmatoblasts, and Schultze and Ranvier have thought that they became centers for coagulation. The fibrin sets or forms in a thick network about the granule-masses, but it is also found, independently of the plaques, in the serum, resembling fine crystalline bodies. That the blood-plaques are centers for coagulation appears to be demonstrated by the introduction of a small piece of thread into the active circulation (*e.g.*, into the femoral vein of a dog). After it has been left there for some minutes, it is found on withdrawing it that the blood-plaques have collected upon it. Red and white corpuscles are also found upon the thread, but the plaques are much more conspicuous, and if the thread is placed in a coagulable solution, after the red and the white corpuscles have been washed away, clotting will promptly take place, and the more abundant the plaques the firmer will be the clot. The objection has been advanced that the thread has absorbed fibrin ferment, in addition to collecting the plaques, and that it is this, and not the plaques, which produces the clot in the coagulable solution. This is possible, but it has not yet been absolutely demonstrated. Eberth's investigations showed that the plaques were the first elements from the blood which settled upon the wounded portion of a vessel, and hence were the first elements in the formation of a thrombus. Eberth, Hayem, and Bizzozero have also shown that if a needle is passed over a vessel, detaining or retarding the blood-current, the blood-plaques are the first elements which collect upon the wall of the vessel, forming masses which consttute the chief element in the white thrombi. In the active circulation the plaques are seen with the red corpuscles near the center of the vessel, a few of them being at the periphery or in the *still layer* of the blood-current, with the white corpuscles. On the other hand, when the blood-current is slow the plaques are scattered irregularly among the

red and white corpuscles, both centrally and peripherally, and therefore are in a favorable situation for detention upon the wall of the vessel. It is when the current is slow that the white thrombi are formed, and I was the first to observe, in 1881, that in the most superficial part of the white thrombi the blood-plaques were present. They resembled white corpuscles and also reticulated fibrin, but were proved to be blood-plaques by the tests with osmic acid, Pacini's fluid, and salt solution. The conclusion is therefore reached that the blood-plaque exists as a separate element in the blood, and also as an important factor in the formation of a thrombus.

Correspondence.

NEW YORK, April 19, 1886.

The last regular stated meeting of the Academy of Medicine was devoted chiefly to the delivery of memorials to recently deceased members. As intimated in a former letter, the President, Dr. A. Jacobi, as a mark of the highest respect from the Academy to the late Dr. Flint, nominated himself to memorialize the late distinguished Fellow and ex-President of the Academy. It was also stated in the same communication the warm approbation of those present with which the nomination was received. Owing to a misinterpretation of some remarks that Dr. Jacobi had made at the time of Dr. Flint's tendered resignation to the Academy, Mrs. Flint sent a note of request to Dr. Jacobi that no memorial address of her late husband should be delivered before that body. The writer of this letter happened to be present the night on which the resignation was tendered. It was received with great reluctance, as was manifested by the long interval that elapsed before one of the Fellows proposed that it should be accepted. The presiding officer, Dr. Jacobi, then said that no one more than himself appreciated the labors and personal worth of Dr. Flint, and regretted that he saw fit to take such a step. For, said he, the Academy of Medicine had a great future, and to hold a position of honor in it would be as high an honor as the profession could bestow. These remarks were interpreted and even reported as saying that the Academy could get along without Dr. Flint, if he could get along without the Academy. Various considerations, but, doubtless, principally in view of the fact that the late Dr. Flint had bequeathed to the Academy the whole of his library, with the exception of such books as his family might wish to retain, induced Dr. Jacobi to carry out the original arrangement. Accordingly, before a large audience of physicians, Dr. Jacobi prefaced an eloquent and eulogistic oration by the following remarks:—"His membership in the Academy ceased a few days before the 13th of March, on which he breathed his last. You

remember the universal reluctance on the part of those present to accept his resignation, and the silence with which the remarks of the presiding officer were listened to. Malevolence only could misconstrue, and has misconstrued, into their opposite his words of appreciation and regret. His (Dr. Flint's) good-will toward the Academy is best established by his staying so long as he did under rather peculiar circumstances, and forever we shall know by the gift of his library, which he bequeathed to the Academy, that the latter was dear to his heart. For the Academy not to speak words of praise and remembrance to his memory in this hall, which he graced and in which he taught, in spite of suggestions and even demands to the contrary of a personal character, not to keep his memory green among us, is an impossibility. As it is for us, so is it for the medical men of this country. His name and reputation are part of the history of our profession, and this Academy means to honor its dead who have gone into history."

A strong reaction against the operation of öophorectomy has been making itself evident in this city of late. Quite recently a lively and sharp discussion on this subject took place at the Academy. The discussion was evoked by an able paper read by Dr. H. C. Coe, entitled "*Is Disease of the Uterine Appendages as frequent as it has been represented.*" The writer of the paper stated that he did not think that slight changes in the shape and structure of the ovary was sufficient guarantee of its removal. Slight changes in the cortex of the ovary might take place without affecting the functions of the ovary. A few small cysts, the size of peas, on the surface of the ovaries could not be considered as likely to eventuate in cystic degeneration, forming what is known as ovarian cyst. Dr. Coe thought Mr. Tait's statement too sweeping when he asserted that in chronic ovarian disease the tubes were invariably involved. The reader of the paper then asked—"What constitutes disease of the tubes"? Nothing was plainer than a plain case of pyo-salpinx, but terms had multiplied without being grounded on any pathological basis. A healthy fallopian tube was capable of increase in size. He had sought for evidence of catarrh of the tubal mucous membrane, but had not been successful, and the condition which he had found in the so-called cases of catarrhal salpingitis were such as he had been unable to distinguish from the normal. During two years Dr. Coe had examined, microscopically, every specimen which came within his reach, and these included a large proportion of the cases in which the operation had been performed in this city, and he had found that in no more than one-fifth of the cases was pyo-salpinx or hydro-salpinx present, that

hypertrophy of the muscular coat existed in a less number, and that hæmoto-salpinx had been extremely rare. The symptoms were not due to the ovaries and tubes so much as to localized peritonitis and to neuralgia pure and simple; that he did not believe that these symptoms were removed by extirpation of the uterine appendages. It would not be proven that a cure had been effected until it could be shown that the patient was well at the end of six years after the operation. Recovery from the operation did not mean recovery from the affection for which the operation was instituted.

Dr. Lusk, the first speaker after the reader of the paper, said he was not an enemy of the operation commonly known as Tait's operation, but he had seen ovaries removed which were said to be examples of cystic degeneration, but which, in all respects, were similar to those he was in the habit of exhibiting as specimens of normal ovaries when he taught physiology. The great advance in abdominal surgery had brought evils with it. The temptation of opening the abdomen was too great, and when opened, few men had the moral courage to desist from removing the ovaries whether they were diseased or not. He thought that even in cases of pyo-salpinx other measures might be devised to effect a cure. He thought it was possible to reach these tubes by some such instrument as that devised by Dr. Mundé, and and thus be able to treat the cases successfully in that way.

Dr. W. Gil Wylie, who is well known as a bold and successful öophorectomist, said that he might have, in his lifetime, removed normal ovaries, but that he did not wish to defend the removal of such ovaries. He rarely now performed the operation, except for pyo-salpinx, and not then, unless the symptoms plainly indicated the operation and the woman wished to have it performed. When the patient was unable to perform her work, suffered from pain in the side almost constantly, or was bedridden, and there was pyo-salpinx, he believed that the removal of the uterine appendages was justifiable, and the only means of cure. Aspiration in such cases he regarded merely as temporizing. He avoided now operating in the hysterical or hystero-epileptic cases, notwithstanding that the tubes and ovaries were involved in all these cases.

Dr. Polk, who is considerable of an orator as well as a successful laparotomist, accompanied his remarks by not a little rhetorical display. He said that the disease of the tubes was not a new disease, but known under a new name. Before, it had been described in the text-books as cellulitis. These cases were successfully treated by rest in bed, poultices, and opium. The bellies of the women were not cut open, the appendages were

not removed, and the women afterward had babies. Still he believed that there was a minimum number of cases of pyo-salpinx pure and simple, in which laparotomy for the removal of the tubes and ovaries was a justifiable procedure.

Dr. Paul F. Mundé did not agree with Polk and Wylie as to the pathology of salpingitis, and did not think that disease of the uterine appendages was quite as frequent as was generally supposed. With regard to operative interference, the symptoms must be the guide, and if they were such as would not yield to other measures, and the woman wished to have it performed, he regarded laparotomy for the removal of the uterine appendages as a justifiable operation.

Dr. E. Noeggerath, the veteran gynæcologist of this city and the Ricord of pelvic pathology, was the last speaker. The old doctor does not enjoy good health, and is seldom seen at society meetings. His remarks, which were delivered with a decided foreign accent, were listened to with great attention. He said that he still adhered to the views which he expressed eleven years ago, that the large majority of peri-uterine affections are of peritonitic origin, but that cases of cellulitis and parametritis occurred from other causes. He did not think that endometritis was more frequent than peritonitis and salpingitis. He had become convined that it was possible to relieve, by careful and rational treatment, a great many who were operated upon for removal of the uterine appendages. However, he had seen several specimens which had been removed by Dr. Wylie, and in every case the specimen showed that the operation was justifiable.

The honor of delivering the Cartwright lectures this year was extended to Dr. William Osler. The course consisted of three lectures, and the subject chosen was "Certain Problems in the Physiology of the Blood." In spite of very bad weather, the lectures were extremely well attended, and the audience included most of the leading members of the profession in the city. The lecturer was particularly at home in the subject he had chosen, and it was a surprise to many present to notice how little he referred to his manuscript. Dr. Osler seems already to be admired and respected by the American medical profession to the same extent as he is by his confrères in his native land. Canada may well feel proud of her son, and McGill University in particular—of the student that sat upon her benches and the professor that lectured within the walls of her college.

Another munificent gift has been made by the Vanderbilt family to the College of Physicians and Surgeons. The four sons of Vanderbilt—Cornelius, William K., Frederick W. and

George W.—have each contributed the sum of $62,500, making a total of $250,000, with which they propose the erection of a building on the grounds on the corner of Sixtieth street and Tenth avenue—given to the college by the father—to be known as the "Vanderbilt Clinic" of the College of Physicians and Surgeons. The building, which the sons intend to be a memorial to their father, will be used for the purpose of clinical teaching exclusively. The building will be 75 feet by 100, and the style of architecture will conform with that of the new college and the new Sloan Maternity Buildings, all of which will be on the ground presented by Mr. Wm. H. Vanderbilt to the College. The corner-stone of this building will be laid on Saturday, the 24th inst., at 3 p.m., by Mr. George W. Vanderbilt, and an address delivered by Mr. Chauncey M. Depew.

A death from chloroform inhalation has recently occurred in a renowned private surgical hospital in this city. A patient was admitted with a gluteal abscess, and the surgeon requested his assistant to administer chloroform prior to the operation of opening the abscess. The patient struggled a great deal, and forcibly grasped the administrator. To release himself from the vice-like grip the assistant had to call the nurse. Almost immediately after this struggle was over the patient ceased to breathe. The surgeon just came into the operating-room then, and in spite of everything that could be done, the patient could not be resuscitated. A coroner's inquest was held, and a jury empanelled consisting of twelve of the leading surgeons of this city. The jury naturally exonerated the surgeon and his assistant from all blame, though there is a strong feeling among the profession here against the use of chloroform for anæsthesia.

Reviews and Notices of Books.

The Principles and Practice of Surgery.—By JOHN ASHURST, Jr., M.D., Professor of Clinical Surgery in the University of Pennsylvania, Senior Surgeon to the Children's Hospital, &c. Fourth edition, enlarged and thoroughly revised, with 497 illustrations. Philadelphia: Lea Brothers & Co. 1885.

Professor Ashurst must be an indefatigable worker. While superintending the issuance of those ponderous volumes comprising the Encyclopædia of Surgery, and at the same time contributing not a little to their subject matter, he finds time to bring

out a fourth edition of his original work on the Principles and Practice of Surgery. What would we not give for the secret whereby some men overtake an amount of mental labor which, under ordinary circumstances, it takes three to accomplish?

The edition before us has been carefully revised and so much new material introduced as to require the addition of more than fifty pages. In looking over the book, we notice, with some feeling of regret, that the author disposes of the important subject of wound-dressing in a single page. He is evidently very conservative in this regard, having seen no reason to adopt Lister's method or any of its modifications. We fear they have not had a fair trial, or we venture to think the verdict would have been very different. In the hands of such an able surgeon as Prof. Ashurst, the "modern antiseptic methods" would be certain to bring glorious results. Otherwise, there is nothing in the book requiring special notice. The articles which appear for the first time have reference chiefly to the surgery of the stomach, intestines, kidney and spleen. Many of the illustrations are original and unique. The arrangement of the matter is good and the printing excellent. We have no doubt the work will continue to be highly appreciated, especially by American practitioners. As a text-book it has much to commend it.

A Manual of Operative Surgery.—By LEWIS A. STIMSON, B.A., M.D., Surgeon to the Presbyterian and Bellevue Hospitals, Professor of Clinical Surgery, University of New York, &c. Second edition, With 342 illustrations. Philadelphia: Lea Brothers & Co. 1885.

This manual is, indeed, a *multum in parvo* of operative surgery. For comprehensiveness, we have seldom seen it excelled. Almost every known operation is described at sufficient length to make it well understood. Much space is given to plastic surgery and congenital deformities, while the everyday surgery of the eye and genito-urinary apparatus receives a fair modicum of attention. Even that mysterious subject, modern gynæcology, has not been entirely overlooked by our author, although, like all general surgeons, he has much to learn in this department. For instance, he does not even mention that fascinating opera-

tion, Alexander's, whereby the slack of the round ligaments is hauled in and braced up in true nautical fashion, nor the "one-stitch" perineorraphy" of Alloway, which all gynæcologically-bred women yearn after next to their first-born. We earnestly venture to hope that the last operation at any rate, which is rapidly becoming fashionable, will be fully described, with plates furnished by the originator himself, in the next edition of this work. We are pleased to notice that so much space has been devoted to a description of that operation to which gynæcologists have given the unpronounecable name of kolpokleisis. This being interpreted, simply means closure of the vagina, and for obvious reasons is barely mentioned in text-books on diseases of women. No well-trained gynæcologist naturally likes to close up a good paying business in that abrupt fashion. Of course he has another and much more potent reason for not advocating kolpokleisis, and herein we admire his philanthropy, namely, that the operation is almost certain to cause connubial embarrassment of the most serious kind. In our humble opinion, and we base it on the above premises, this operation should never be performed in females under seventy years of age.

In fine, we congratulate Dr. Stimson on the admirable work on operative surgery which he has given to the profession, and will have much pleasure in recommending it to those whose choice of surgical literature it is our privilege constantly to influence.

Practical Surgery: Including Surgical Dressings, Bandaging, Fractures, Dislocations, Ligature of Arteries, Amputations, and Excisions of Bones and Joints.—By J. EWING MEARS, M.D., Lecturer on Practical Surgery, and Demonstrator of Surgery in Jefferson Medical College, &c. With 490 illustrations. Philadelphia: P. Blackiston, Son & Co.

This edition of Dr. Mears' work is far in advance of that published in 1878. We notice that the author has dedicated it, *in memoriam*, to the late Dr. S. D. Gross—a fitting tribute to the memory of his old and esteemed teacher.

This edition is a vast improvement on the last in comprehensiveness, arrangement of contents, and general get-up. In other words, it is very complete as far as it goes, but still, in our

opinion, it stops short of what it should be to deserve the title of a Practical Surgery. Doubtless it will answer the purpose of students of medicine, who naturally prefer a concise description of amputations, excisions, and the ligature of vessels, but to the general practitioner, whose everyday surgery is of the minor type, the book will be almost useless. We would venture a hint to the author that in his next edition he should add a chapter describing the operations for talipes, nævus, harelip, fistula of various kinds, hemorrhoids, removal of breast, castration, etc., a knowledge of such being always required by student no less than practitioner, and which would add materially to the value of the book.

As we before intimated, however, as far as it goes it is very complete, and we have much pleasure in recommending it especially to the student.

Coca, Cocaine, and its Salts. Their History, Medical and Economic Uses, and Medicinal Preparations.—By W. MARTINDALE, F.C.S., joint author of the "Extra Pharmacopœia." London: H. K. Lewis. 1886.

The greater part of this little work is devoted to a description of what old travellers have said about the properties of coca. The manner of cultivating the plant is fully described. Practical hints are given on choosing the leaves. There is a fairly full description of the more important uses of the drug, but, with the exception of a short account of the local action, the pharmacology is almost entirely ignored. With this exception, the work tells us all that is known about this drug and its alkaloid.

Local Anæsthesia in General Medicine and Surgery. By J. LEONARD CORNING, M.D. New York: D. Appleton & Co. 1886.

The above work is divided into two parts. The first being taken up with a description of the oft-repeated story of anæsthesia, does not add to the value of the work. The second part is an account of how best to prolong the local anæsthetization induced by cocaine. This, the author claims, can be best effected by the application of Esmarch's bandage to the limb previous to

injecting the cocaine hypodermically. For the details of the author's process we must refer our readers to the work itself, but, at the same time, we must say that it is a pity that he should have considered it necessary to write a work of one hundred pages on a subject that could be readily told in one short journal article.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, March 5th, 1886.

T. G. RODDICK, M.D., PRESIDENT, IN THE CHAIR.

Unusual Ovarian Tumor.—DR. WM. GARDNER exhibited an ovarian tumor, and briefly narrated the case. The woman, aged 48, long married, sterile, consulted him six years previous for a moderately large cystic tumor, with solid nodules in the pelvis. Menstruation was increased. She was advised against operation, but saw another surgeon, who explored through abdominal incision, but apparently did not otherwise interfere, as she appeared sometime afterwards unchanged in her condition, except for the scar, with a ventral hernia. Dr. Gardner then lost sight of her till two months ago, when she was admitted to the Montreal General Hospital and he was asked to take charge of her. She then related that a few months after the exploration she began to enlarge rapidly, and pressure symptoms became so distressing as to induce another surgeon to tap. This was necessary many times, but four months previous to admission the tumor ceased to enlarge. The lower part of the abdominal walls and lower limbs were œdematous. The whole abdomen, except the upper part, was elastic, indistinctly fluctuating, and dull on percussion. The hypochondriac and epigastric regions were tympanitic, but gave distinct wave-fluctuation. Menstruation had ceased eight months previous. Patient was eager for operation, although made fully to realize its serious character, and it was decided to give her the chance, though small. There was universal very firm adhesions to parietes, intestines, bladder and everything in the pelvis. The bladder was adherent and drawn up at least six inches over the tumor. It was separated without difficulty. Intestine was wounded twice during the operation, but promptly sutured. Above the tumor was an encysted collection of peritoneal fluid, with the intestine floating on it. Under this lay a large, very thin, translucent cyst attached to the tumor. Hemorrhage, although not excessive, was free enough, when aided by the long severe operation,

to so exhaust that it soon became apparent that the patient's chances were almost nil. The base of the tumor contained the uterus and a large mass of calcareous matter and myomatous nodules. It was included in a Tait's wire clamp, constricted, and then amputated. Bleeding being nearly arrested, the abdomen was closed, with a drainage-tube inserted. The woman died half an hour after being put to bed. The tumor was a multilocular cystoma, the large cysts containing large masses of papilloma, nodules of which were also found on the parietes of the abdomen. The mass of calcareous matter measured $3\frac{1}{2} \times 2 \times 1$ inches.

Small fragments of transparent rock-crystal removed from the Cornea.—DR. BULLER exhibited the crystals and related the case. They consisted of three small fragments of rock-crystal. The largest of the three is of a triangular or conical shape, about $1\frac{1}{2}$ millimetres in length; the others are of smaller size. He removed them from the cornea of a marble worker, where they had been lodged for several days. They had been projected into the eye from the chisel of another workman as the young man who received the injury was passing by. He came to him about an hour later, and he found two small incised wonnds of the cornea lying parallel to each other, about one millimetre apart, and nearly opposite the lower margin of the pupil. After a careful scrutiny with focal illumination, he failed to find any foreign body, but prescribed a solution of atropine and cold water compresses. The patient returned for inspection from day to day, but despite the treatment the eye became more and more inflamed. The other one he had lost by a penetrating wound of the eyeball some months previously, so that he was led to explore the little wounds with a fine cataract needle. By this means the steel point coming in contact with the gritty particles instantly gave unmistakeable evidence of their presence, though wholly invisible to ocular inspection. On moving one of the particles some aqueous humor escaped, showing conclusively that it had penetrated partly into the anterior chamber, and from being invisible, would be extremely liable to be pushed into the anterior chamber during any attempt at extraction. The eye was then put under the influence of cocaine, and the blade of a broad needle was passed through the cornea (of course penetrating the anterior chamber) in such a way that the part containing the foreign bodies rested upon the flat surface of the transferring blade. It was an easy matter then to remove the particles with a fine cutting needle, and without the slightest chance of their being pushed into the anterior chamber, a mishap which would have led to disastrous consequences if it had

been permitted to occur. The eye, once freed from the source of irritation, made a rapid and satisfactory recovery.

DR. JOHNSTON exhibited the following specimens:—

Sacculated Kidney from Renal Calculus, removed from a patient who died of heart disease, with thrombosis of right middle cerebral artery. Symptoms of blood and pus in urine observed before death. Right kidney enlarged to double usual size, distended by fluid, renal tissue destroyed, and organ converted into series of cysts containing fœtid ammoniacal fluid, tissue debris and uric acid granules. At inferior, extremely small parts of renal substance remaining; in calices, several small uric acid calculi. This portion of kidney alone communicated with ureter.

Gunshot Wound of Brain.—Patient, aged 43, admitted to General Hospital under Dr. Fenwick, committed suicide by shooting himself with a revolver (No. 32). External wound in right temporal region 1½ inches above zygoma, and half an inch behind external angle of orbit. Temporal bone shewed small round perforation, lying just within which was a small spiculi of lead and a small blood-clot. Course of bullet lay through dura mater, entering cerebrum at posterior extremity of the third right frontal convolution, thence through right hemisphere, falx cerebri and left frontal lobe to posterior part of first left frontal convolution, where dura mater was again wounded and inner surface of skull slightly indented. From this point a furrow extending downwards and backwards through the cortex cerebri, the bullet being found lying in postero-inferior aspect of left ascending frontal convolution, within a small spot of softening. The track of the bullet was marked everywhere by extensive hemorrhagic softening; the bullet itself was cylindrical, having one side flattened. There was extensive meningeal hemorrhage in longitudinal fissure, and a little at the base. Ganglia and ventricles uninjured. Acute double tuberculaa pleurisy also present, with an old caseous nodule at right apex. Patient had lived eight days after the injury, apparently conscious, and understood questions till two days before death, but never spoke. Slow flexion and extension of right arm constantly noticed; left leg often crossed to right side and raised. No tremors, spasm or obvious paralysis.

Fatty Degeneration of Heart—Aneurysm of left ventricle perforating into Pericardium—Aneurysm of Abdominal Aorta.—Patient was 75 years old. At autopsy, pericardium contained eight ounces of fluid. A small amount of firm clot adherent to anterior surface of heart on dissection. Valves healthy; substance showed extensive fatty degeneration. In left ventricle,

a pouched sac size of walnut found in wall of septum, bulging towards left ventricle. This communicated directly through a small opening 2 mm. in diameter, with lacerated external opening of large size in septum, the orifice situated to right side of anterior coronary artery. Sinus about orifice infiltrated with extravasated blood; and in same patient, extensive atheroma of aorta, and in abdominal aorta, just above bifurcation, a fusiform sacculated aneurysm rising from right side of vessel; extensive fatty change of intima at this point, with formation of cholesterine. The sac contains a soft dark-clot, non-adherent.

DR. GEO. ROSS said this patient had been suffering from cellulitis of the arm, and alarming symptoms coming on, he was asked to see her. She had become suddenly pallid. On examination, he found her almost pulseless and extremely feeble. A systolic murmur was to be heard over the lower sternal region, also over the tricuspid area. The murmur could be heard over the apex, but not at the base. The house physician said she had had no murmurs before. Dr. Ross said that it was remarkable the time she lived after the grave symptoms set in—from 2 a.m. till 9 p.m. It was no doubt due to the small amount being poured into the pericardium. He believed the bruit to be caused by the current in the aneurismal sac containing clot.

DR. WILKINS said it might be due to the blood poured out with each systole through the rent.

DR. ROWELL exhibited the *Lumbar Vertebræ* of a patient, the immediate cause of whose death was *Miliary Tuberculosis*.—The following is the history of the case: Mrs. A., aged 46, married, admitted to the Western Hospital under the care of Dr. Armstrong, complaining of intense pelvic and lumbar pain. The patient was comparatively easy if quiet, but the pain was much exaggerated on walking. On examination, found fixation of the lumbar vertebræ, which would remain curved strongly forwards (lardosis) in any position in which she was placed. A plaster-of-paris jacket was applied, which gave her perfect relief for some weeks, when she began to complain of chilly sensations, accompanied by a high temperature, going up to 104° and 105°, without, however, any distinct rigors or profuse sweating. Moist sounds were heard over both lungs, back and front. She now became hectic, suffering from anorexia, with rapid emaciation, and finally died about three months after admission into hospital. At the post-mortem, found both lungs completely filled with miliary tubercles throughout their entire extent. The spleen and kidneys also contained a large number of miliary tubercles, especially the spleen, which was completely studded with them. The heart

and liver were fatty. The 2nd, 3rd and 4th lumbar vertebræ were removed, and found softened by an inflammatory process in their cancellous tissue, where there were small pus cavities. The cancellous tissue of the 3rd lumbar vertebra was broken down to a considerable extent, and there was pus found between the dnra mater of the cord and the bone in the spinal canal of that vertebra. It was noted that the intervertebral substances were healthy, the disease being confined to the cancellous tissue of the bodies of the vertebræ.

DRS. PERRIGO and TRENHOLME, under whose care this patient had been at different times, also made some remarks.

DR. ROWELL also showed—

Ovarian Tumors from a case of Double Ovariotomy.—Mrs. G., aged 27 ; family history negative ; married three years ago, never pregnant. For the last two and a half years has suffered a great deal from abdominal pain, not particularly exaggerated at the menstrual periods, which occurred regularly once in 24 days. She was not herself aware that she had any localized enlargements. The operation was performed in the month of February last by Dr. Armstrong, in the Western Hospital. The cyst on the right side was found to be unilocular, about the size of a fœtal head, and containing serum. Its walls were strongly adherent to the brim of the true pelvis by their under and posterior surfaces, which made its removal very difficult, and it was followed by a considerable oozing of blood, which, however, was controlled by hot sponges. The cyst on the left side was about the same size, also unilocular, and contained serum. It was slightly adherent to the omentum, but was removed with much less difficulty than its fellow. The patient recovered without a bad symptom.

CHATHAM MEDICAL AND SURGICAL SOCIETY.

Stated Meeting, April 2nd, 1886.

THE PRESIDENT, DR. BRAY, IN THE CHAIR.

Adenoma of the Breast.—DR. RUTHERFORD exhibited this specimen and DR. BACKUS a microscopical section of the same. The patient, aged 52, fell six months previously and injured her left breast. It was sore for some weeks after the accident, which, however, entirely disappeared. Three months after the injury a hard nodule was felt, and grew rapidly, causing great anxiety on the part of the patient. Dr. R. advised its removal, which was consented to. The tumor, with adjacent skin, nipple and a portion of the gland were removed. The A.C.E. mixture

was the anæsthetic used, and proved satisfactory. The wound united perfectly in ten days, dry dressing being used.

DR. HOLMES quite concurred in the wisdom of the operation, but suggested that it would have been judicious to have removed the whole gland, taking into consideration the age of the patient and the uncertainty of the diagnosis before operating.

The PRESIDENT agreed with the remarks made by Dr. Holmes.

Extraction of the after-coming head, with history of a case.—DR. MCKEOUGH reported a case of midwifery, with special reference to the delivery of the after-coming head. Mrs. B, æt. 42, was married when quite young and had two children, both labors being normal and not difficult. Shortly after the birth of her second child she became a widow, and remained so until she was 38 years old, when she again married. A year subsequently she gave birth to a child, which was delivered instrumentally by Dr. Holmes, great difficulty being experienced in bringing the head through the brim of the pelvis. Dr. Holmes thought the cause of the obstruction was either a small exostosis or enchondroma growing from the promitory of the sacrum. Two years later she was taken in labor for the fourth time. When Dr. McKeough was called she had been in labor about eighteen or twenty hours. The vagina was hot and dry, the amniotic fluid having escaped several hours previously. Pulse quick and rapid. The os was fully dilated, but the head had not entered the brim, which seemed narrowed in its antero-posterior diameter. The forceps were at once applied, but all attempts at extraction were ineffectual. Assistance was obtained. Ether was administered and the child turned. The body of the child was delivered with some difficulty, but the head could not be extracted by the ordinary methods of expression and traction. The woman's condition being critical, it was resolved to perforate at once, which being accomplished, delivery was soon completed. Apart from the cause of the obstruction, which was apparently progressive in its nature, the interest of the case lay in the extraction of the after-coming head. Referring to the literature of the subject, some diversity of opinion exists. In ordinary cases delivery can be accomplished by manipulation, which undoubtedly is the preferable mode. When this cannot be accomplished, the question arises whether perforation or the forceps are indicated. Koppe and Schröder regard it as a useless procedure to apply the forceps to an after-coming head, and maintain that perforation is the best and safest measure to adopt; whilst Credé (quoted in *American Lancet*, March 1866) and Lomer (quoted in *Amer. Jour. Med. Sciences*, April 1886) assert that in certain cases

this application of the forceps is a useful and successful procedure, and may be the means of saving the life of the child, both authorities reporting cases to that effect. Koppe describes a manual method which may be of service in some cases, namely, empty the bladder, bring the antero-posterior diameter of the head into the transverse diameter of the pelvis, place the hand just above the symphisis, and firmly press the head of the child against the last lumbar vertebra. The bones of the head glide over one another, diminishing the bi-parietal diameter. As soon as the head is felt to glide into the pelvis, traction is used, and delivery completed.—(*Amer. Jour. Med. Sc.*, April 1886.)

Amputation of the Thigh.—The PRESIDENT read the history of a case of amputation of the thigh. When called to the patient he found an oblique fracture of the femur, about two inches above the knee, the result of an accident which had occurred nineteen days previous. There was no union, and the leg, as far as the knee, was gangrenous; the gangrene having commenced at the knee and progressed downwards. The man was also suffering from blood-poisoning. Temperature 104$\frac{3}{4}$°; pulse 140, and general condition very grave. He advised amputation, but endeavored to improve his general state. Tr. Ferri Mur. 30 m. and Quinine Sulph. grs. iii every three hours were ordered, together with beef tea, oysters, milk and brandy. Two days later the condition of the man had so much improved that he resolved to operate at once; his temperature being at the time of the operation 101$\frac{1}{2}$°, and his pulse 90. The circular operation was performed, the leg being removed about the middle of the thigh, four inches above the fracture, and at that distance the muscles as well as the integument showed signs of bruising. Gangrene attacked the flaps the day after the operation, and they sloughed away to the extent of three inches or more, probably due to the bruised condition of the parts. Granulations, however, were rapidly covering the exposed bone and the general condition of the man at present, four weeks after the operation, was most favorable, and there was every prospect of a good stump.

Multiple Neuritis.—DR. HOLMES read the history of the following case: Miss E. W, aged 36, has a good family history. Always well until 4$\frac{1}{2}$ years ago, when inability to recognize sensations of heat and cold affected the outer side of the left foot and rapidly extended to the entire limb, which was also affected with slight intermittent muscular twitchings. These symptoms have undergone but little change since. Three years ago she

had an attack of inflammatory rheumatism, from which she had a slow convalescence, but gradually regained her former health, until about two years ago, when she was seized with great sacral pain, which continued for several months, but finally disappeared. A year ago the right arm and shoulder lost the power of distinguishing between heat and cold, but gave little inconvenience for three months, when distressing burning and stinging sensations were felt in the arm, shoulder and adjacent thoracic region. There was but little change in these symptoms when she consulted Dr. Holmes. The arm is easily fatigued and quite useless. The hand is glossy and puffy, and shows spots of slight purplish discolorations. Feels pricking and pinching equally well in each arm and hand. Her general health is good. Uterine functions normal. She is not nervous or hysterical, and looks well. She had had electricity, both faradic and constant currents, applied for a length of time, and had taken the iodides in large doses for a long period, with much benefit to her general health, but without much improvement to the local symptoms. Thinking this to be a case of multiple neuritis, in which the lesion continued after the original cause had been removed, and that the existing state was one of chronic passive congestion of interstitial nerve elements, with probably pressure from inflammatory effusion, Dr. Holmes resolved to try the Paquelin thermo-cautery. This was applied pretty extensively to the hand, arm, shoulder and thoracic region, and also along the right side of the spine, in the inter-scapular region, to the extent of producing slight vesication. In all, there were sixteen applications during the course of two months treatment. There was constant radical improvement from the commencement of the treatment, and at its cessation she could use her arm in household duties quite well, and the burning and stinging had about disappeared.

—Hopeine is a substance which is claimed to be the alkaloid of hops. The *Pharmaceutical Journal* of London says the alkaloid is now being tested.

—Dr. Bochefontaine, Chief of the Laboratory of the Faculty of Medicine of Paris, died recently. He was an active opponent of the microbic theories of Pasteur and Koch, and swallowed a dose of cholera bacilli during the epidemic last year in order to prove their innocuousness.

CANADA

Medical and Surgical Journal.

MONTREAL, MAY, 1886.

NEW THEORIES OF FAT ABSORPTION.

Till recently, while it was well known that most of the fat entered the blood by the lacteals and not through the portal system, it was nevertheless a matter of dispute as to how the fat reached the central lacteal of the intestinal villus. There were two views maintained: the one that the minute fatty particles passed between the epithelial cells covering the villus; the other, that they passed directly through the cells themselves, some even believing that the striated border of these cells owed its peculiar appearance to the presence of pores through which the molecular fat passed.

This subject of fat absorption has for some time received very careful investigation at the hands of an unusually cautious observer, Professor Schäfer of University College, London. His observations were made on frogs and various mammals during the process of actual fat absorption. His procedure was briefly as follows: After a meal rich in fat, portions of the mucous membrane of the intestine were snipped off and either hardened in osmic acid or at once teased up in serum or aqueous humor. Portions of the osmic preparations were stained and cut into sections. As is well known, osmic acid colors fat dark. Professor Schäfer feels justified in now drawing the following conclusions, which are deserving of the greater confidence, as they have had independent confirmation by another observer, Prof. Zawarykin:

1. There are no pores in the striated border of the columnar epithelium covering the basement membrane of the villus.

2. There are no protoplasmic processes extending from these cells into the corium of the villus, and there are no such processes between the epithelial cells.

3. The main tissue of the villus is more of the nature of areolar than of adenoid tissue, with flattened and branched cells, connective tissue fibres in variable amount, according to the kind of animal and the part of the intestine under examination, a large proportion of soft ground-substance, and a considerable, but variable, number of cells which are quite like the white corpuscles of the blood.

4. The protoplasm of the covering epithelium of the villi is very soft and easily indented.

5. The amæboid corpuscles are most abundant in the villus during fat absorption. They may be derived from three sources: the blood-vessels, the covering epithelium of the villi, and from self-division. The latter is by far the most abundant and best established mode of origin.

6. The amæboid corpuscles may pass *between* the epithelium almost, if not quite, out to the intestinal contents, or they may pass *into* the epithelium.

7. In any case they take up a load of fat, return with it within the tissue of the villus, enter the central lacteal, and break up in the lymph within it.

These amæboid cells have been, by reagents, actually fixed in the act of passing through the central lacteal.

8. Though this is the chief mode of fat absorption, it is not the only one.

9. Fat is found abundantly in the epithelium, and though the striated border is probably specially suited for its absorption, Schäfer has never seen it actually passing through.

It is certain that fat can be further comminuted in these cells, and they can probably also exert some chemical influence over the constituents absorbed.

It is possible that they can construct fats from their constituents, glycerine and fatty acids, into which they had been resolved in the intestine.

10. Absorption is also effected to a considerable extent by the

tissues of the mucous membrane other than those referred to above; but it is not a process of simple filtration or osmosis, for when the cells are removed there may be a flow in the opposite direction—*i.e.*, towards the intestinal contents (Hoppe-Seyler).

11. It is highly probable that the amæboid cells are actively concerned in promoting the absorption of alimentary substances of all kinds, and they also may have a chemical action on the same.

Metschnikoff has shown that the tail of the batrachiam larva is absorbed by these amæboid cells. The investigations of many observers shows that among invertebrates, especially the cœlenterates, there is intra-cellular absorption and digestion of food; in fact, with many it must almost necessarily be the only method. It is likely that these amæboid cells play a very important part in the resorption of pathological products.

While Schäfer's investigations have placed the whole matter of fat absorption on a better basis, his work is chiefly valuable and original in that it shows clearly, for the first time, the great part played in the process by the amæboid cells.

Taken in connection with Landwehr's discovery of the fat-digesting powers of the bile, referred to in a former number of this JOURNAL, it is clear that a great advance has been made in our knowledge of the whole matter of the introduction of fat into the economy.

CONDITIONS ALLIED TO RENAL CIRRHOSIS.

This subject, which has lain fallow for some time past, has been recently re-opened by Dr. A. L. Loomis. While Dr. Loomis has neither introduced any new facts, nor any novel interpretation of the old ones, still, the opinion held by so eminent a physician is worthy of close attention. In his paper upon arterio-capillary fibrosis, he states that his own observations convince him of the correctness of Gull and Sutton's views, that this lesion may occur throughout the system independent of any cirrhotic change in the kidneys, and believes that the old theory that such change is induced through spasm of the arterioles in consequence of the circulation of impure blood. He emphatically characterizes

renal cirrhosis as being primarily a blood disease, and not a local affection of the kidneys.

Apropos of this, Sir Wm. Gull has just published (*American Jour. Med. Sciences*, April '86) a restatement of his views upon this subject. He regards cirrhotic changes, whether in the kidneys or elsewhere, as of a degenerative nature, and not inflammatory in character; and while assured that fibrosis of the systemic arterioles can induce renal cirrhosis, he is sceptical as to whether primary renal cirrhosis causes fibroid change throughout the system. He lays stress on the value of persistent excess of arterial tension as being the dominant symptom in either case, and considers it of more uniform occurrence and clearer significance than even albuminuria.

These views, while being, as far as they go, interesting and plausible enough in themselves, do not appear to satisfactorily cover the whole ground, and when we consider that lately Prof. Bouchard, in a lecture on *Uræmia*, pronounces in favor of ptomaines and biliary products constituting the real *nova*, one is inclined to wonder "what's in a name"? and to feel dimly conscious that the theory of Bright's diseasse is becoming uncomfortably vague and promiscuous.

LYMPHODERMIA PERNICIOSA.

Under the name *lymphodermia perniciosa*, Kaposi describes a new form of skin disease. The only example with which he has met occurred in a woman 40 years old. The disease at first bore a close resemblance to a chronic universal eczema, but it soon afterwards presented characters entirely distinctive. In addition to great doughy swelling of the whole skin, there was marked thickening of the integument in irregular patches, and also hard nodules, ranging from the size of a pea to a pigeon's egg, were found scattered throughout the subcutaneous cellular tissue, especially that of the forearms, mammæ and abdomen. Some of these nodules spontaneously discharged a small quantity of yellow, creamy fluid. The condition of the patient remained unchanged for several months. Finally she became very anæmic. The red cells were much diminished in number, while

there was an absolute increase in the number of the white—3,800,000 red to 125,000 white. The spleen became much enlarged, also did the lymphatic glands. On microscopic examination, the subcutaneous nodules were found to be made up of a fine stroma, in the meshes of which were found lymphoid cells. After death, changes were found in the spleen, lymphatic glands and bone marrow closely corresponding to those seen in ordinary cases of leukæmia. Numerous nodules were also found in the lungs having the same structure as those in the skin. This is the first recorded example of a true leukæmia of the skin.

CANADIAN MEDICAL ASSOCIATION.

The nineteenth annual meeting of the Canadian Medical Association will be held in the city of Quebec on Wednesday and Thursday, the 18th and 19th of August next. There are good prospects of a more than usual successful gathering. A number of the prominent physicians and surgeons of the leading medical centres of the United States will be present.

McGILL UNIVERSITY.

Convocation Day of the Faculty of Medicine.

The annual convocation of McGill University for conferring the degrees in medicine was held on the 29th of March, in the William Molson Hall. There was a very large attendance of professors, students and ladies.

At three o'clock the Hon. Chancellor Ferrier took the chair. There were present on the platform: Sir Wm. Dawson, Principal; Rev. Canon Norman, M.A., D.C.L.; J. R. Dougall, M.A.; R. P. Howard, M.D., Dean of the Faculty of Medicine; A. A. Browne, M.D.; Wm. Gardner, M.D.; Rev. Geo. Cornish, M.A., LL.D.; Prof. Penhallow, B.Sc.; R. A. Ramsay, M.A., B.C.L.; W. C. McDonald; Rev. Dr. Wilkes, LL.D.; J. Stewart, M.D.; Hon. Judges Mackay and Torrance; C. E. Moyse, B.A.; Rev. Principal MacVicar; W. C. Baynes, B.A., secretary; J. W. Brakenridge, B.C.L.; Hon. J. S. C. Wurtele, D.C.L.; G. P. Girdwood, M.D.; H. T. Bovey, M.A., C.E.; R. L. MacDonnell,

M.D.; Rev. D. Coussirat, B.A.; Alex. Proudfoot, M.D.; John S. Hall, B.A., B.C.L.; D. L. Robertson, M.D.; Rev. Professor Scrimger, M A.; T. Wesley Mills, M.D.: Geo. Ross, M.D.; J. Ralfe Murray, B.A.; Jeffrey H. Burland, B.A.Sc.; J. H. Fulton, M.D.; M. W. Taylor, librarian; Geo. Wilkins, M.D.; C. H. McLeod, M.A.; Prof. Margrave; Alex. Johnson, M.A., LL.D.; Dr. Fenwick, Dr. R. J. B. Howard, Dr. Shepherd, Dr. Ruttan, and Rev. W. J. Dey.

The total number of students enregistered in this Faculty during the past year was 237, of whom there were from Ontario, 113; Quebec, 64; Nova Scotia, 19; New Brunswick, 18; United States, 9; Prince Edward Island, 6; Newfoundland, 2; British Columbia, 1; Manitoba, 1; England, 1; Asia Minor, 1; West Indies, 1; and South America, 1.

The following gentlemen, 53 in number, have passed their Primary Examination on the following subjects: Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology, Histology and Botany :—

Boyd, J., Vankleek Hill, O.
Berry, R. P., Lindsay, O.
Bradley, W. I., B.A., Ottawa, O.
Cameron, K., Montreal.
Christie, W., B.A., Lachute, Q.
Clouston, J. R., Leeds, Q.
Conroy, C. P., Martintown, Q.
De-mond, F. J., Newcastle, N.B.
Donald, W. M., Seaforth, O.
Easton, C. L., Easton's Corners, O.
Edgar, C. J., Napierville, O.
Fritz, H. D., B.A., St. John, N.B.
Gunne, N. D., Ailsa Craig, O.
Græham, J., Carp, O.
Hall, A. G., Franklin Centre, Q.
Hewitt, J., Quebec, Q.
Hoare, C. W., Strathroy, O.
Hopkins, H. J., Cookshire, O.
Hubbard, O. H., Gilsam, N.H.
Kennedy, J. H., Lindsay, O.
Kenney, F. L., B.A., St. John, N.B.
Kincaid, R. M., Clarenceville, O.
Kirkpatrick, E. A., Kentville, N.S.
Long, C. H, Keswick Bridge, N.S.
McKinnon, H., Alexandria, O.
McDonnell, AE. J., B.A., Morrisb'g.
McCarthy, J. G., Sorel, Q.
McDonald, Geo., Renfrew, O.
McDonald, A. D., Wickham, N.B.
McKay, H. H., Plainfield, N.S.
McFarlane, M., Arnprior, O.
McLennan, D., Dunvegan, O.
McMartin, D. R., Martintown, O.
McDougall, D. S., Russell, O.
Morrow, C., Russell, O.
Murray, D., Plainfield, N.S.
Orr, A. E., Cookshire, Q.
Orr, J. E., Mount Elgin, O.
Orton, T. H., Hamilton, O.
Park, P. C., Durham, O.
Potts, J. M., Belleville, O.
Pothier, J. C., Woonsocket, R.I.
Pearman, H. V., Halifax, N.S.
Robertson, A. G., Iroquois, O.
Schmidt, A. F., Montreal.
Stewart, A. D., Arundel, Q.
Springle, J. A., Montreal.
Thomas, W. R., Elkhart, Man.
Thompson, J. H., Gananoque, O.
Weagant, R. A., Hoasic, O.
Wetmore, F. H., Bloomfield, N.B.
Wilkins, H. P., Toronto.
Wylde, C. F., Halifax, N.S.

The following gentlemen, 46 in number, have fulfilled all the

requirements to entitle them to the degree of M.D., C.M. from the University. In addition to the primary subjects mentioned, they have passed a satisfactory examination, both written and oral, on the following subjects: Principles and Practice of Surgery, Tneory and Practice of Medicine, Obstetrics and Diseases of Women and Children, Medical Jurisprudence, Pathology and Hygiene, and also Clinical Examinations in Medicine und Surgery conducted at the bedside in the Hospital :—

Armitage, J. H., Newmarket, O.
Aylen, P., Aylmer, Q.
Birkett, H. S., Hamilton, O.
Boggs, C. W., Wolfville, N.S.
Campbell, A. W., Montreal.
Cattanach, W. S., Glenwater, O.
Clarke, J. L., Waterloo, Q.
Craig, M. A., Glenwater, O.
Crockett, W. C., B.A., Fredericton,
Decow, D. McG., Iona, O. [N.B.
Gardner, T. M., Bayfield, O.
Gibson, J. B., Cowansville, Q.
Gladman, G. J., Lindsay, O.
Graham, J., Carp, O.
Grant, J. H. Y., Ottawa, O.
Groves, W., Carp, O.
Haythorne, T. J., B.A., Charlottet'n,
Hughes, P. H., Strathroy, O. [P.E.I.
Kennedy, R. A., B.A., Cumming's
Kinloch, J. A., Montreal. [Bridge, O.
Kirkpatrick, R. C., B.A., Montreal.
Murray, D., Plainfield, N.S.
McCollum, E. P., Duart, O.
McCuaig, W. J., Vankleek Hill. O.
McGannon, T. G., Prescott, O.
McKay, J. M., River John, N.S.
Orton, T. H., Hamilton, O.
Osborne, A. B., Hamilton, O.
Poole, Alf., Wakefield, O.
Pomeroy, L. E. Mc., B.A., Tweed, O.
Pringle, W. R., Cornwall, O.
Raymond, Alf, Moulinette, Q. [N.B.
Raymond, G. H., B.A., Springfield,
Robertson, F. D., B.A., Lennoxville,
Ross, L. F., B.A., Montreal. [Q.
Rowat, W. M., Manotick, O.
Schmidt, A. F., Montreal.
Schmidt, A. J., Fairbault, Minn.
Seery, F. J., Fredericton, N.B.
Thomas, W. R., Elkhart, Man.
Turnbull, R., Russell, O.
White, F. J., Greenspond, Nfld.
White, W. W., M.A., St. John, M.B.
Williams, J. F., Barrie, O.
Wilson, C. W., Cumberland, O.
Worthington, A. N., Sherbrooke, Q.

The following have passed in Anatomy :—

Bell, J. H.
Berry, J. A.
Beaudry, J. S.
Castleman, A. L.
Chalmers, W. W.
Lafferty, A. M.
McKinnon, G. W.
Metcalfe, F. T.
Porter, J. A.
Young, H. E.

The following have passed in Chemistry :—

Baer, D. C.
Cameron, J. J.
Campbell, G. G.
Castleman, A. H.
Cresor, J. A.
Dewar, C. P.
Hall, A. G.
Hubert, P. T. H.
Kerr, Norman
McPhail, J. A.
Moffatt, Robert
Patton, H. A.
Slater, H.
Taylor, W. B.
Wheeler, C. L.

The following have passed in Practical Chemistry :—

Baer, D. C.
Bayne, C. P.
Beaudry, J. S.
Creasor, J. A.
Dewar, C. P.
Ellard, J.
Esson, F. G.
Goodwin, W. W.
Greene, T. J.
Hamilton, A.
Hubert, P. T. H.
Irwin, W. T.
Kemp, H. D.
Kerr, Norman
Long, W. M.

McCallum, O. H.
McDonald, A. L.
McKinnon, G. W.
Metcalfe, F. T.
Moffatt, R.
Mowatt, M. M.
Slater, H.
Stewart, W. G.
Walker, S. L.
Wheeler, C. L.

The following have passed in Materia Medica and Therapeutics :—

Aylen, J. P.
Berry, J. A.
Cameron, K.
Cameron, J. J.
Dewar, C. P.
Donald, W. M.
Hall, A. G.
Quirk, E. L.
Young, H. E.

The following have passed in Physiology :—

Baer, D. C.
Bayne, C. W.
Beaudry, J. S.
Davis, A. H.
Goodwin, W. W.
Greene, T. J.
Hubert, P. T. H.
Kemp, H. D.
Kerr, Norman.
Long, M. W.
McKinnon, G. W.
Metcalfe, F. T.
Moffatt, M. Mc.
Quirk, E. L.
Stewart, W. G.

The following have passed in Medical Jurisprudence :—

Aborn, W. H.
Brunette, T. J.
Boone, S. W.
Blackader, E. H. P.,
Berry, J. A. [B.A.
Boggs, G. W.
Boyd, Jay.
Brown, V. D.
Christie, W.
Cowie, A. M.
Cameron, K.
Davis, A. H.
Easton, C. L.
Ellis, W. E.
Edgar, C. I.
Evans, E.
Flagg, J. D.
Ferguson, W. D.
Fillmore, E. W.
Fraser, J. M.
Hamer, A. L.
Hall, W.
Haentschel, C. W.
Haythorne, T. J.
Johnson, J. W.
Kennedy, R. A., B.A.
Kirkpatrick, R. C., B.A.
Kelly, J. A. A.
Lafleur, H. A., B.A.
Loucks, W. F.
Leslie, A. C.
Lafferty, A. M.
McDonald, D. D.
MacDonald, A. D.
McKinnon, H.
Mackay, Eugene
Murray, D.
McDonald, A. L.
Norman, T. J.
Parker, W. D.
Pearman, H. V.
Pothier, J. C.
Pomeroy, L. E. Mc.
Richardson, G. C.
Reavely, E.
Ross, D. L.
Ross, L. F., B.A.
Scully, D. J.
Scott, J. M.
Springle, J. A.
Thomas, W. R.
Warneford, P. H.
Williams, E. P.
Woodruff, L. A.
Young, A. A.

The following have passed in Hygiene :—

Aborn, W. H.
Boone, S. W.
Brunette, J. T.
Blackader, E. H. P.,
Berry, J. A. [B.A.
Boyd, Jay
Cameron, K.
Davis, A. H.
Desmond, F. J.
Easton, C. L.
Edgar, C. J.
Evans, E. J.
Ellis, W. E.
Ellard, J.
Fraser, J. M.
Ferguson, W. D.
Hall, Wm.
Haentschell, C. W.
Hewitt, J.
Hall, A. G.
Johnson, J. W.
Kelly, J. A. A.
Kerr, N.
Lafferty, A. M.
Leslie, A. C.
Long, C. H.
Loucks, W. F.
Lafleur, H. A.
McKinnon, H.
McRae, J. C.
Moffatt, R.
Murray, D.
McCarthy, J. G.
Metcalfe, F. J.
Norman, T. J.
Pearman, H. V.
Pothier, J. C.
Potts, J. M.
Parker, W. D.
Richardson, G. G.
Ross, D. L.
Scott, J. M.
Scully, D. J.
Springle, J. M.
Thomas, W. R.
Warneford, P. H.
Williams, E. P.
Woodruff, T. A.
Young, A. A.

The following have passed in Pathology :—

Aborn, W. H.
Blackader, E. H. P.
Boone, S. W.
Boyd, Jay
Christie, W.
Cowie, A. M.
Dickson, J. A.
Evans, E.
Easton, C. L.
Edgar, C. J.
Ellis, W. E.
Flagg, J. D.
Fillmore, E. W.
Fraser, J. M.
Gardner, A. W.
Hall, W.
Haentschell, C. W.
Hamer, A. L.
Haythorne, T. J.
Johnson, J. W.
Kelly, J. A. A.
Leslie, A. C.
Lafferty, A. M.
Loucks, W. F.
McDonald, A. D.
McKinnon, H.
McDonald, A. L.
Murray, D.
McDonald, D. D.
Norman, T. J.
Pearman, H. V.
Pothier, J. C.
Parker, W. D.
Reavely, E.
Richardson, G. C.
Ross, D. L.
Scully, D. J.
Thomas, W. R.
Warneford, P. H.
Williams, E. P.
Young, A. A.

The following have passed in Physics :—

Bayne, C. W.
Beaudry, J. S.
Brunette, J. T.
Cameron, J. J.
Ellard, J.
Hamilton, A.
Kerr, Norman
McGregor, J. G.
Quirk, E. L.

The following have passed in Botany :—

Aylen, W. W.
Booth, J. S.
Brown, G. A.
Campbell, G. G.
Delaney, W. J.
England, W. S.
Esson, F. G.
Fulton, C.
Garrow, A. E.
Gemmill, E. W.
Hamilton, A.
Holmes, A. D.
Hopkins, T. A.
Irwin, W T.
Jayet, A. C.
Low, D.
McCallum, O. F.
McCurdy, T.
McDonald, H.
McDonald, A.
McDonald, P. A.
McEwen, H.
McIntosh, D. H.
McKinnon, H.
McKinnon, T. H.
McLellan, A. A.
Martin, J. M.
Morehouse, O. E.
Mowat, M. M.
Muirhead, D. A.
Murray, D. A.
Philip, W. S.
Silver, H. J.
Shanks, A. L.
Smithson, R. H.
Taylor, W. B.
Travers, J. B.
Vipond, A. E.
Walker, S. L.
Whyte, J. J.
Young, J.

The following have passed in Histology —

Aylen, W. W.
Becket, G. G.
Beaudry, J. S.
Brown, G. A.
Brunette J. T.
Campbell, G. G.
Creasor, J. A.
Delaney, W. J.
Dewar, C. P.
Edgland, W. S.
Esson, F. G.
Fulton, C.
Garrow, A. E.
Gemmill, E. W.
Greene, T. J.
Hill, R.
Hopkins, T. A.
Holmes, A. D.
Jayet, A. C.
Kemp, H.
Low, D.
McKercher, H.
Murray, D. A.
McIntosh, D. H.
McCurdy, T.
McKinnon, T. H.
Martin, D. S.
Muirhead, D. A.
McDonald, P. A.
McEwen, H.
McDonald, A.
McPhail, J. A.
Metcalfe, F. J.
McLellan, A. A.
McDonald, H. N.
McRae, J. C.
Philip, W. S.
Quirk, E. L.
Stewart, W. G.
Slater, H. A.
Shanks, A. L.
Smithson, R. H.
Taylor, W. B.
Vipond, A. E.
Walker, S. L.
Whyte, J. J.
Wheeler, C. L.

The Holmes Gold Medal for the best Examination in the Primary and Final Branches is awarded to Herbert S. Birkett, of Hamilton, Ont.

The prize for the best Final Examination is awarded to Walter W. White, B.A., of St. John, N.B.

The prize for the best Primary Examination is awarded to Wm. I. Bradley, B.A., of Ottawa.

The Sutherland Gold Medal is awarded to Wm. I. Bradley, B.A., of Ottawa.

The following gentlemen, arranged in order of merit, deserve honorable mention :—

Primary Examination—H. D. Fritz, B.A., N. D. Gunne, F. L. Kenney, B.A., J. R. Clouston, D. McLennan, R. M. Kincaid, A. D. McDonald, A. D. Stewart, B.A., A. E. Orr, O. H. Hubbard, A. E. Kirkpatrick, J. E. Orr, P. C. Park, and J. H. Kennedy.

Final Examination.—R. A. Kennedy, B.A., E. P. McCollum, F. D. Robertson, B.A., R. C. Kirkpatrick, B.A., T. J. Haythorne, B.A., W. C. Crockett, B.A., A. W. Campbell, J. B. Gibson, J. A. Kinloch, W. M. Rowatt, R. Turnbull, F. J. Seery, C. W. Wilson, Alf. Raymond, P. H. Hughes, J. F. Williams, J. R. Pringle, W. J. McCuaig, J. H. Y. Grant, T. M. Gairdner, A. N. Worthington.

PROFESSOR'S PRIZES.

Botany—Prize, G. G. Campbell.

Practical Anatomy—Demonstrator's Prizes: 2nd year, H. D. Fritz; 1st year, H. Slater.

Clinical Medicine—Junior Class, E. H. P. Blackader.

Obstetrics—H. S. Birkett, Hamilton, Ont.

A telegram was read from Professor Osler of Philadelphia, congratulating his students of Class '86.

The list was read out by Dr. R. P. Howard, and the ceremony of "swearing and capping" the newly-fledged doctors was then proceeded with. Principal Dawson and Dr. Stewart officiated.

The ceremony ended, Mr. W. C. CROCKET, B.A., of Fredericton, N.B., delivered the valedictory address to the college on behalf of the retiring students. In the course of the address he said :—"This occasion, so long awaited with happy expectation, brings with it mingled feelings of pleasure and regret. We feel a joyous satisfaction in completing a difficult though voluntary task and in obtaining from a school eminent in her sphere a recognition of our work. We feel as well, profound regret at

severing the association which, during our sojourn here, we have formed, and at bidding farewell to an Alma Mater who has been so watchful and so kind. In looking back over our course, we recall many pleasing incidents and many happy days. Alas! we recall, too, events which bring sadness to our hearts. We shall not soon forget the genial smile and kindly bearing of him who so endeared himself to us, who so often cheered us on and lured us to our work. Whatever assistance the late Professor Scott could render us was as pleasant to him as it was beneficial to us; seldom, indeed, were our interests absent from his mind. By his death we lost a faithful teacher and a warm-hdarted, loving friend. Though late to pay a tribute to the teacher whom we loved, we cannot allow the present occasion to pass without saying, at least, a word to his memory. Mr. Wilkinson, who has also passed from amongst us, had distinguished himself in another University, where he received that culture and discipline which he brought to bear upon his work while in our midst. A fact which has impressed us during our pupilage here has been the progressive character of the school. Every year has witnessed her advancement, while the past year has been an epoch in her history. But these recent improvements and incressed facilities are, we believe, only the beginning of that expansion which awaits her. The pathological department we shall watch with interest, confident that from its laboratory shall come forth even richer discoveries than the old and less equipped department has yet given to the world. To our clinical instructors we are especially indebted for much of the practical knowledge we have acquired. The recent concessions made by McGill to graduates in arts have been highly appreciated. They manifest a desire on her part to elevate the standing of her students by practically encouraging to her halls men who have enjoyed the advantages of a college training. In spite of much that was once seriously and humorousiy urged against it, the life of a medical student is not an unenviable one. The medical student can share in the delights as well as the sorrows of his fellow-men. He can live in another atmosphere than that which continually surrounds him. Opinions with regard to him have undergone a change. His surroundings were looked upon as tending to harden his nature and vitiate his mind to prevent the growth of the finer feelings and to limit his regard to his own peculiar sphere. McGill has done her duty toward us, may we never bring discredit upon her. We shall many a time, I doubt not, when in anxiety and perplexity, recall the years just passed when free from care we sallied jocund through those college halls, and wish for a return of these happy days. Even happier days than we have enjoyed may yet mayhap await the men who shall come after us to pursue the path that we have trod. Who can tell but future years may give to them fair companions in their work? Who can tell but songs now sung in base discordant notes shall be attuned with sweet soprano sounds? Who can tell but from this desk a tender voice shall speak a last farewell? Who can tell but from those chairs now ably filled a woman shall discourse? But drop the scene—a woman's sphere is in her home. In

taking leave of our professors, we have to remember their many acts of kindness. To the citizens of Montreal we are grateful for many favors." (Applause.)

DR. GARDNER then, on behalf of the Faculty, addressed the graduates. (See page 577.)

The HON. SENATOR FERRIER, Chancellor, then delivered the following address:—"To one who, like myself, has been connected with this University for 41 years, the present occasion is one that invites to a retrospect of the history and growth of the Medical Faculty, whose report, presented at this meeting of convocation, and the 46 candidates for the degree whom it has brought up to-day, show that as it was our first faculty in the early history of the University, it is also our strongest and most vigorous up to this time. It is to be observed here that from the first the curriculum of the Faculty was based on the highest standards in the universities of the mother country, in which in consequence, our Faculty of Medicine has always enjoyed a full recognition for its students and graduates. In 1824 the medical institution of Montreal was founded by Drs. Stephanson, Holmes, Robertson and Caldwell, and in 1829 it became the Medical Faculty of McGill University. In that year the Medical Faculty was constituted with four professors, and the Faculty of Arts with two. The wise action of the Board of Governors at that time, in adopting the young and vigorous medical school, gave to the University at once a nucleus of educational work, and enabled it to carry on its operations through a long period of early struggle. The growth of the Medical Faculty, with the exception of the years of political disturbance, from 1833 to 1839, has steadily advanced, and its progress has been as marked within the few last years as ever before. More especially the liberal endowment contributed by the Hon. D. A Smith and by other citizens of Montreal, and the new buildings completed last year, with the extension thereby given to the practical work of the Faculty, have placed it on a vantage ground which appears to ensure a long career of increased usefulness. As an illustration of the growth of this Faculty, I may mention that the copy of the annual announcement issued in 1853 was a very modest pamphlet of ten small pages. It contained a list of about fifty students and the names of six graduates who had taken their degrees at the previous convocation. Yet even this old announcement contains the names of ten professors, besides that of the present Dean, who was then the demonstrator of anatomy. The instructing officers of that time have all passed away, with the exception of the two juniors. The professors then were Holmes, Campbell, Hall, McCulloch, Bruneau, Crawford, Scott, Fraser, Sutherland and Wright. Of these men, the two seniors, Holmes and Campbell, long presided over the faculty as deans, and all the other names earned a well deserved reputation as academical and professional instructors. Such men, and the eminent men who have preceded them, have given strength and character to the Faculty and to the University itself. The calendar of the present year presents a strong

contrast to that of which I have just spoken—for it is a pamphlet of some ninety-four pages, and shows the growth of this department of McGill, from its small beginning to its present magnificent status. The present dean and the staff of professors associated with him are the worthy successors of the founders and early professors of the Faculty, and we hope to recognize this fact at the April meeting of the convocation by conferring the degree of Doctor of Laws on Dr. Howard."

Sir William Dawson then extended the congratulations of the other Faculties to the gentlemen on whom the degrees had just been conferred. Especially did he congratulate the men who had taken an arts course in addition to the medical. He trusted that the old students would always maintain feelings of love for their old University, and the professors in return would always be ready to do what they could for them. (Applause.)

Medical Items.

—Sir William Jenner has been re-elected President of the Royal College of Physicians.

—A proposition to establish a Post-Graduate School in London, Eng., is being agitated.

—Dr. E. G. Janeway has been appointed to succeed the late Dr. Flint in the chair of Medicine of Bellevue Medical College.

—The Contagious Diseases Acts of Great Britain, by which prostitution was regulated in a number of the garrison and seaport towns, have been repealed by a vote of 245 to 131. The *Lancet* expresses regret at the repeal, and says that henceforth "disease and immorality in their most revolting forms are to riot in the midst of our garrison towns."

—Dr. McWilliam, the Assistant Professor of Physiology in University College, London, has been appointed Professor of the Institutes of Medicine in the University of Aberdeen, *vice* Professor Stirling, who has accepted the chair of Physiology in the Victoria University. Dr. McWilliam has published numerous researches on the functions of the heart in various animals, which are of great importance.

—The Carlyle Memorial Tablet, recently set up in Cheyne Row, Chelsea, could not be placed on the house so long inhabited by the Scotch sage. It was found impossible to obtain the neces-

sary permission. It is remarked as not a little curious that the house of this great denouncer of quacks should now be the property of the proprietor of a quack medicine. Perhaps the reason for the refusal grew out of the quack proprietor, after buying the house, taking to reading Carlyle's works for the first time from simple curiosity, and suddenly coming upon the Cagliostro essay, or some other work in which quacks are lashed with fury.

A Man of Many Talents.—One of the most versatile of medical men of the present day is Sir Henry Thompson. He attained eminence many years ago in his own profession, specially distinguishing himself in the field of urethral surgery. He is also well known as an artist, having frequently been an exhibitor at the Royal Academy. He is not unknown as a writer and speaker, having on several occasions championed the cause of temperance reform. He is now busy with a new novel, and bids fair to attain equal renown in the field of romance.

Poisonous Wall-Papers.—A bill has been submitted to the Massachusetts Legislature prohibiting the manufacture and sale of wall-papers containing more than one-fourth of a grain of arsenic to the square yard. Dr. Edward S. Wood claims that arsenic is sometimes put into paste to prevent its souring. It seems that a law permitting the use of arsenic to the extent of one-half grain to the square yard, as required by English law, would answer the case. In Germany, Sweden and Bavaria the law forbids the sale of arsenical wall-papers.

—Messrs. Wyeth & Bro. claim for their Liquid Malt Extract superiority over any other in the market. The small percentage of alcohol it contains renders it a safe and effectual preparation when given to the most delicate infant or invalid.

—Wm. H. Day, M.D., M.R.C.P., M.R.C.S., &c., 10 Manchester Square, London, W., says:—I like the preparation Bromidia. In the cases in which I have prescribed it, it has had the effect of tranquillizing the nervous system and inviting calm sleep.