

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

THE

MONTREAL MEDICAL JOURNAL.

VOL. XXXII.

NOVEMBER, 1903.

No. 11.

THE MASTER-WORD IN MEDICINE.

AN ADDRESS TO MEDICAL STUDENTS ON THE OCCASION OF THE
OPENING OF THE NEW BUILDINGS OF THE MEDICAL FACULTY
OF THE UNIVERSITY OF TORONTO, OCTOBER 1st, 1903.

BY

WILLIAM OSLER, M.D., F.R.S.,

Professor of Medicine, Johns Hopkins University.

I.

Before proceeding to the pleasing duty of addressing the undergraduates, as a native of this province and as an old student of this school, I must say a few words on the momentous changes inaugurated with this session, the most important, perhaps, which have taken place in the history of the profession in Ontario. The splendid laboratories, which we saw opened this afternoon, a witness to the appreciation by the authorities of the needs of science in medicine, makes possible the highest standards of education in the subjects upon which our Art is based. They may do more. A liberal policy, with a due regard to the truth that the greatness of a school lies in brains not bricks, should build up a great scientific centre which will bring renown to this city and to our country. The men in charge of the departments are of the right stamp. See to it that you treat them in the right way by giving skilled assistance enough to ensure that the vitality of men who could work for the world is not sapped by the routine of teaching. One regret will, I know, be in the minds of many of my younger hearers. The removal of the departments of anatomy and physiology from the biological laboratory of the university breaks a connection which has had an important influence on medicine in this city. To Professor Ramsay Wright is due much of the inspiration which has made possible these fine new laboratories. For years he has encouraged in every way the cultivation of the scientific branches of medicine and has unselfishly devoted much time to promoting the best interests of the Medical Faculty. And in passing let me pay a tribute to the ability and zeal with which Dr. A. B. Maccallum has won for himself a world-wide reputation by intricate studies

which have carried the name of this University to every nook and corner of the globe where the science of physiology is cultivated. How much you owe to him in connection with the new buildings I need scarcely mention in this audience.

But the other event which we celebrate is of much greater importance. When the money is forthcoming it is an easy matter to join stone to stone in a stately edifice, but it is hard to find the market in which to buy the precious cement which can unite into an harmonious body the professors of medicine of two rival medical schools in the same city. That this has been accomplished so satisfactorily is a tribute to the good sense of the leaders of the two faculties, and tells of their recognition of the needs of the profession in the province. Is it too much to look forward to the absorption or affiliation of the Kingston and London schools into the Provincial University? The day has passed in which the small school without full endowment can live a life beneficial to the students, to the profession or to the public. I know well of the sacrifice of time and money which is freely made by the teachers of those schools; and they will not misunderstand my motives when I urge them to commit suicide, at least so far as to change their organizations into clinical schools in affiliation with the central university, as part, perhaps, of a widespread affiliation of the hospitals of the province. A school of the first rank in the world, such as this must become, should have ample clinical facilities under its own control. It is as much a necessity that the professors of medicine and surgery, etc., should have large hospital services under their control throughout the year, as it is that professors of pathology and physiology should have laboratories such as those in which we here meet. It should be an easy matter to arrange between the provincial authorities and the trustees of the Toronto General Hospital to replace the present antiquated system of multiple small services by modern well equipped clinics—three in medicine and three in surgery to begin with. The increased efficiency of the service would be a substantial *quid pro quo*, but there would have to be a self-denying ordinance on the part of many of the attending physicians. With the large number of students in the combined school no one Hospital can furnish in practical medicine, surgery and the specialties a training in the art an equivalent of that which the student will have in the sciences in the new laboratories. An affiliation should be sought with every hospital in the city and province of fifty beds and over, in each of which two or three extra-mural teachers could be recognized, who would receive for three or more months a number of students proportionate to the beds in the hospital. I need not mention names. We all know men in Ottawa, Kingston,

London, Hamilton, Guelph and Chatham, who could take charge of small groups of the senior students and make of them good practical doctors. I merely throw out the suggestion. There are difficulties in the way; but is there anything in this life worth struggling for which does not bristle with them?

Students of Medicine: May this day be to each one of you, as it was to me when I entered this school thirty-five years ago, the beginning of a happy life in a happy calling. Not one of you has come here with such a feeling of relief as that which I experienced at an escape from conic sections and logarithms and from Hooker and Pearson. The dry bones became clothed with interest, and I felt that I had at last got to work. Of the greater advantages with which you start I shall not speak. Why waste words on what you cannot understand. To those only of us who taught and studied in the dingy old building which stood near here is it given to feel to the full the change which the years have wrought, a change which my old teachers, whom I see here to-day—Dr. Richardson, Dr. Ogden, Dr. Thorburn and Dr. Oldright—must find hard to realize. One looks about in vain for some accustomed object on which to rest the eye in its backward glance—all, all are gone, the old familiar places. Even the landscape has altered, and the sense of loneliness and regret, the sort of homesickness one experiences on such occasions, is relieved by a feeling of thankfulness that at least some of the old familiar faces have been spared to see this day. To me at least the memory of those happy days is a perpetual benediction, and I look back upon the two years I spent at this school with the greatest delight. There were many things that might have been improved—and we can say the same of every medical school at that period—but I seem to have got much more out of it than our distinguished philosopher, J. Beattie Crozier, whose picture of the period seems rather hardly drawn. But, after all, as someone has remarked, instruction is often the least part of an education, and, as I recall them, our teachers in their life and doctrine set forth a true and lively word to the great enlightenment of our darkness. They stand out in the background of my memory as a group of men whose influence and example was most helpful. In William R. Beaumont and Edward Mulberry Hodder, we had before us the highest type of the cultivated English surgeon. In Henry H. Wright we saw the incarnation of faithful devotion to duty—too faithful, we thought, as we trudged up to the eight o'clock lecture in the morning. In W. T. Aikens a practical surgeon of remarkable skill and an ideal teacher for the general practitioner. How we wondered and delighted in the anatomical demonstrations of Dr. Richardson, whose infective enthu-

siasm did much to make anatomy the favourite subject among the students. I had the double advantage of attending the last course of Dr. Ogden and the first of Dr. Thorburn on materia medica and therapeutics. And Dr. Oldright had just begun his career of unselfish devotion to the cause of hygiene.

To one of my teachers I must pay in passing the tribute of filial affection. There are men here to-day who feel as I do about Dr. James Bovell—that he was one of those finer spirits, not uncommon in life, touched to finer issues only in a suitable environment. Would the Paul of evolution have been Thomas Henry Huxley had the Senate elected the young naturalist to a chair in this university in 1851? Only men of a certain metal rise superior to their surroundings, and while Dr. Bovell had that all-important combination of boundless ambition with energy and industry, he had that fatal fault of diffuseness, in which even genius is strangled. With a quadrilateral mind, which he kept spinning like a teetotum, one side was never kept uppermost for long at a time. Caught in the storm which shook the scientific world with the publication of the *Origin of Species*, instead of sailing before the wind, even were it with bare poles, he put about and sought a harbour of refuge in writing a work on Natural Theology, which you will find on the shelves of second-hand book shops in a company made respectable at least by the presence of Paley. He was an omnivorous reader and transmutor, he could talk pleasantly, even at times transcendently, upon anything in the science of the day, from protoplasm to evolution; but he lacked concentration and that scientific accuracy which only comes with a long training (sometimes indeed never comes), and which is the ballast of the boat. But the bent of his mind was devotional, and early swept into the Tractarian movement, he became an advanced Churchman, a good Anglican Catholic. As he chaffingly remarked one day to his friend, the Reverend Mr. Darling, he was like the waterman in *Pilgrim's Progress*, rowing one way, towards Rome, but looking steadfastly in the other direction, towards Lambeth. His "Steps to the Altar" and his "Lectures on the Advent" attest the earnestness of his convictions; and later in life, following the example of Linacre, he took orders and became another illustration of what Cotton Mather calls the angelical conjunction of medicine with divinity. Then, how well I recall the keen love with which he would engage in metaphysical discussions, and the ardour with which he studied Kant, Hamilton, Reed and Mill. At that day to the Rev. Prof. Bevan was intrusted the rare privilege of directing the minds of the thinking youths at the Provincial University into proper philosophical channels. It was ramoured that the hungry sheep looked up and were not fed.

I thought so at least, for certain of them, led by T. Wesley Mills, came over daily after Dr. Bovell's four o'clock lecture to reason high and long with him

“ On Providence, Foreknowledge, Will and Fate
Fixed Fate, Freewill, Foreknowledge absolute.”

Yet withal his main business in life was as a physician, much sought after for his skill in diagnosis, and much beloved for his loving heart. He had been brought up in the very best practical schools. A pupil of Bright and of Addison, a warm personal friend of Stokes and of Graves, he maintained loyally the traditions of Guy's and taught us to reverence his great masters. As a teacher he had grasped the fundamental truth announced by John Hunter of the unity of physiological and pathological processes, and, as became the occupant of the chair of the Institutes of Medicine, he would discourse on pathological processes in lectures on physiology, and illustrate the physiology of bioplasm in lectures on the pathology of tumours to the bewilderment of the students. When in September, 1870, he wrote to me that he did not intend to return from the West Indies I felt that I had lost a father and a friend; but in Robert Palmer Howard, of Montreal, I found a noble step-father, and to these two men and to my first teacher, the Rev. W. A. Johnson, of Weston, I owe my success in life—if success means getting what you want and being satisfied with it.

II.

Of the value of an introductory lecture I am not altogether certain. I do not remember to have derived any enduring benefit from the many that I have been called upon to hear, or from the not a few that I have inflicted in my day. On the whole I am in favour of abolishing the old custom, but as this is a very special occasion, with special addresses, I consider myself most happy to have been selected for this part of the programme. To the audience at large I fear that much of what I have to say will appear trite and commonplace, but bear with me, since, indeed, to most of you how good so ever the word, the season is long past in which it could be spoken to your edification. As I glance from face to face the most striking peculiarity is the extraordinary diversity that exists among you. Alike in that you are men and white, you are unlike in your features, very unlike in your minds and in your mental training, and your teachers will mourn the singular inequalities in your capacities. And so it is sad to think will be your careers; for one success, for another failure; one will tread the primrose path to the great bonfire, another the straight and narrow way to renown; some of the best of you will be stricken early on the road,

and will join that noble band of youthful martyrs who loved not their lives to the death; others, perhaps the most brilliant among you, like my old friend and comrade, Dick Zimmerman (how he would have rejoiced to see this day!), the Fates will overtake and whirl to destruction just as success seems assured. When the iniquity of oblivion has blindly scattered her poppy over us, some of you will be the trusted counsellors of this community, and the heads of departments in this Faculty; while for the large majority of you, let us hope, is reserved the happiest and most useful lot given to man—to become vigorous, whole-souled, intelligent general practitioners.

It seems a bounden duty on such an occasion to be honest and frank, so I propose to tell you the secret of my life as I have seen the game played, and as I have tried to play it myself. You remember in one of the Jungle Stories that when Mowgli wished to be avenged on the villagers he could only get the help of Hathi and his sons by sending them the master-word. This I propose to give you in the hope, yes, in the full assurance, that some of you at least will lay hold upon it to your profit. Though a little one, the master-word looms large in meaning. It is the open sesame to every portal, the great equalizer in the world, the true philosopher's stone which transmutes all the base metal of humanity into gold. The stupid man among you it will make bright, the bright man brilliant and the brilliant student steady. With the magic word in your heart all things are possible, and without it all study is vanity and vexation. The miracles of life are with it; the blind see by touch, the deaf hear with eyes, the dumb speak with fingers. To the youth it brings hope, to the middle-aged confidence, to the aged repose. True balm of hurt minds, in its presence the heart of the sorrowful is lightened and consoled. It is directly responsible for all advances in medicine during the past twenty-five centuries. Laying hold upon it Hippocrates made observation and science the warp and woof of our art. Galen so read its meaning that fifteen centuries stopped thinking and slept until awakened by the *De Fabrica* of Vesalius, which is the very incarnation of the master-word. With its inspiration Harvey gave an impulse to a larger circulation than he wot of, an impulse which we feel to-day. Hunter sounded all its heights and depths, and stands out in our history as one of the great exemplars of its virtues. With it Virchow smote the rock and the waters of progress gushed out; while in the hands of Pasteur it proved a very talisman to open to us a new heaven in medicine and a new earth in surgery. Not only has it been the touchstone of progress, but it is the measure of success in every-day life. Not a man before you but is beholden to it for his position here, while he who addresses you has that honour directly in consequence of having had it graven

on his heart when he was as you are to-day. And the Master-Word is *Work*, a little one, as I have said, but fraught with momentous sequences if you can but write it on the tables of your heart and bind it upon your foreheads. But there is a serious difficulty in getting you to understand the paramount importance of the work-habit as part of your organization. You are not far from the Tom Sawyer stage with its philosophy "that work consists of whatever a body is obliged to do and that play consists of whatever a body is not obliged to do."

A great many hard things may be said of the work-habit. For most of us it means a hard battle; the few take to it naturally; the many prefer idleness and never learn to love to labour. Listen to this: "Look at one of your industrious fellows for a moment, I beseech you," says Robert Louis Stevenson. "He sows hurry and reaps indigestion; he puts a vast deal of activity out to interest, and receives a large measure of nervous derangement in return. Either he absents himself entirely from all fellowship, and lives a recluse in a garret, with carpet slippers and a leaden inkpot; or he comes among people swiftly and bitterly, in a contraction of his whole nervous system, to discharge some temper before he returns to work. I do not care how much or how well he works, this fellow is an evil feature in other people's lives." These are the sentiments of an overworked, dejected man; let me quote the motto of his saner moments: "To travel hopefully is better than to arrive, and the true success is in labour." If you wish to learn of the miseries of scholars in order to avoid them, read Part I, Section 2, Member 3, Subsection XV of that immortal work, the *Anatomy of Melancholy*, and I am here to warn you against these evils, and to entreat you to form good habits in your student days.

At the outset appreciate clearly the aims and objects each one of you should have in view—a knowledge of disease and its cure, and a knowledge of yourselves. The one, a special education, will make you a practitioner of medicine; the other, an inner education, may make you a truly good man, four square and without a flaw. The one is extrinsic and is largely accomplished by teacher and tutor, by text and by tongue; the other is intrinsic and is the mental salvation to be wrought out by each one for himself. The first may be had without the second; any one of you may become an active practitioner, without ever having had sense enough to realize that through life you have been a fool; or you may have the second without the first, and, without knowing much of the art, you may have endowments of head and heart that make the little you do possess go very far in the community. With what I hope to infect you is a desire to have a due proportion of each.

So far as your professional education is concerned, what I shall say may make for each one of you an easy path easier. The multiplicity of the subjects to be studied is a difficulty, and it is hard for teacher and student to get a due sense of proportion in the work. We are in a transition stage in our methods of teachings, and have not everywhere got away from the idea of the examination as the "be-all and the end-all;" so that the student has constantly before his eyes the magical letters of the degree he seeks. And this is well, perhaps, if you will remember that having, in the old phrase, commenced Bachelor of Medicine, you have only reached a point from which you can begin a life-long process of education.

So many and varied are the aspects presented by this theme that I can only lay stress upon a few of the more essential. The very first step towards success in any occupation is to become interested in it. Locke put this in a very happy way when he said, give a pupil "a relish of knowledge" and you put life into his work. And there is nothing more certain than that you cannot study well if you are not interested in your profession. Your presence here is a warrant that in some way you have become attracted to the study of medicine, but the speculative possibilities so warmly cherished at the outset are apt to cool when in contact with the stern realities of the class-room. Most of you have already experienced the all-absorbing attraction of the scientific branches, and nowadays the practical method of presentation has given a zest which was usually lacking in the old theoretical teaching. The life has become more serious in consequence, and medical students have put away many of the childish tricks with which we used to keep up their bad name. Compare the picture of the "sawbones" of 1842, as given in the recent biography of Sir Henry Acland, with their representatives to-day, and it is evident a great revolution has been effected, and very largely by salutary influences of improved methods of education. It is possible now to fill out a day with practical work, varied enough to prevent monotony, and so arranged that the knowledge is picked out by the student himself, not thrust into him, willy-nilly, at the point of the tongue. He exercises his wits, and is no longer a passive Strassbourg goose, tied up and stuffed to repletion.

How can you take the greatest possible advantage of your capacities with the least possible strain? By cultivating system. I say cultivating advisedly, since some of you will find the acquisition of systematic habits very hard. There are minds congenitally systematic; others have a life-long fight against an inherited tendency to diffuseness and carelessness in work. A few brilliant fellows try to dispense with it altogether, but they are a burden to their brethren and a sore

trial to their intimates. I have heard it remarked that order is the badge of an ordinary mind. So it may be, but as practitioners of medicine we have to be thankful to get into this useful class. Let me entreat those of you who are here for the first time to lay to heart what I say on this matter. Forget all else, but take away this counsel of a man who has had to fight a hard battle, and not always a successful one, for the little order he has had in his life, take away with you a profound conviction of the value of system in your work. I appeal to the freshmen especially, because you to-day make a beginning, and your future career depends very much upon the habits you will form during this session. To follow the routine of the classes is easy enough, but to take routine into every part of your daily life is a hard task. Some of you will start out joyfully as did Christian and Hopeful, and for many days will journey safely towards the Delectable Mountains, dreaming of them and not thinking of disaster until you find yourselves in the strong captivity of Doubt and under the grinding tyranny of Despair. You have been over-confident. Begin again and more cautiously. No student escapes wholly from these perils and trials; be not disheartened, expect them. Let each hour of the day have its allotted duty, and cultivate that power of concentration which grows with its exercise, so that the attention neither flags nor wavers, but settles with a bull-dog tenacity on the subject before you. Constant repetition makes a good habit fit easily in your mind, and by the end of the session you may have gained that most precious of all knowledge—the power to work. Do not underestimate the difficulty you will have in wringing from your reluctant selves the stern determination to exact the uttermost minute on your schedule. Do not get too interested in one study at the expense of another, but so map out your day that due allowance is given to each. Only in this way can the average student get the best that he can out of his capacities. And it is worth all the pains and trouble he can possibly take for the ultimate gain—if he can reach his doctorate with system so ingrained that it has become an integral part of his being. The artistic sense of perfection in work is another much to be desired quality to be cultivated. No matter how trifling the matter on hand, do it with a feeling that it demands the best that is in you, and when done look it over with a critical eye, not sparing a strict judgment of yourself. This it is that makes anatomy a student's touch-stone. Take the man who does his "part" to perfection, who has got out all there is in it, who labours over the tags of connective tissue and who demonstrates Meckel's ganglion in his part—this is the fellow in after years who is apt in emergencies, who saves

a leg badly smashed in a railway accident, or fights out to the finish, never knowing when he is beaten, in a case of typhoid fever.

Learn to love the freedom of the student life, only too quickly to pass away; the absence of the coarser cares of after days, the joy in comradeship, the delight in new work, the happiness in knowing that you are making progress. Once only can you enjoy these pleasures. The seclusion of the student life is not always good for a man, particularly for those of you who will afterwards engage in general practice, since you miss that facility of intercourse upon which often the doctor's success depends. On the other hand sequestration is essential for those of you with high ambitions proportionate to your capacity. It was for such that St. Chrysostom gave his famous counsel, "Depart from the highways and transplant thyself into some enclosed ground, for it is hard for a tree that stands by the wayside to keep its fruit till it be ripe."

Has work no dangers connected with it? What of this bogie of overwork of which we hear so much? There are dangers, but they may readily be avoided with a little care. I can only mention two, one physical, one mental. The very best students are often not the strongest. Ill-health, the bridle of Theages, as Plato called it in the case of one of his friends whose mind had thriven at the expense of his body, may have been the diverting influence towards books or the profession. Among the good men who have studied with me there stand out in my remembrance many a young Lycidas, "dead ere his prime," sacrificed to carelessness in habits of living and neglect of ordinary sanitary laws. Medical students are much exposed to infection of all sorts, to combat which the body must be kept in first class condition. Grossteste, the great Bishop of Lincoln, remarked that there were three things necessary for temporal salvation—food, sleep and a cheerful disposition. Add to these suitable exercise and you have the means by which good health may be maintained. Not that health is to be a matter of perpetual solicitation but habits which favour the *corpus sanum* foster the *mens sana*, in which the joy of living and the joy of working are blended in one harmony. Let me read you a quotation from old Burton, the great authority on *morbi eruditorum*. There are "many reasons why students dote more often than others. The first is their negligence; other men look to their tools, a painter will wash his pencils, a smith will look to his hammer, anvil, forge; a husbandman will mend his plough-irons, and grind his hatchet, if it be dull; a falconer or huntsman will have an especial care of his hawks, hounds, horses, dogs, &c.; a musician will string and unstring his lute, &c.; only scholars neglect that instrument, their brain and spirits (I mean) which they daily use."*

* Quotatio: mainly from Marsilius Ficinus.

Much study is not only believed to be a weariness of the flesh, but also an active cause of ill-health of mind, in all grades and phases. I deny that work, legitimate work, has anything to do with this. It is that foul fiend Worry who is responsible for a large majority of the cases. The more carefully one looks into the causes of nervous breakdown in students, the less important is work *per se* as a factor. There are a few cases of genuine overwork, but they are not common. Of the causes of worry in the student life there are three of prime importance to which I may briefly refer.

An anticipatory attitude of mind, a perpetual forecasting, disturbs the even tenor of his way and leads to disaster. Years ago a sentence in one of Carlyle's essays made a lasting impression on me: "Our duty is not to *see* what lies dimly at a distance, but to *do* what lies clearly at hand." I have long maintained that the best motto for a student is, "take no thought for the morrow." Let the day's work suffice; live for it, regardless of what the future has in store, believing that to-morrow should take thought for the things of itself. There is no such safeguard against the morbid apprehensions about the future, the dread of examinations and the doubt of ultimate success. Nor is there any risk that such an attitude may breed carelessness. On the contrary, the absorption in the duty of the hour is in itself the best guarantee of ultimate success. "He that regardeth the wind shall not sow, and he that observeth the clouds shall not reap," which means you cannot work profitably with your mind set upon the future.

Another potent cause of worry is an idolatry by which many of you will be sore let and hindered. The mistress of your studies should be the heavenly Aphrodite, the motherless daughter of Uranus. Give her your whole heart, and she will be your protectress and friend. A jealous creature, brooking no second, if she finds you trifling and coquetting with her rival, the younger, earthly Aphrodite, daughter of Zeus and Dione, she will whistle you off and let you down the wind to be a prey, perhaps to the examiners, certainly to the worm regret. In plainer language, put your affections in cold storage for a few years, and you will take them out ripened, perhaps a bit mellow, but certainly less subject to those frequent changes which perplex so many young men. Only a grand passion, an all-absorbed devotion to the elder goddess can save the man with a congenital tendency to philandering, the flighty Lydgate who sports with Celia and Dorothea, and upon whom the judgment ultimately falls in a basil-plant of a wife like Rosamond.

And thirdly, one and all of you will have to face the ordeal of every student in this generation who sooner or later tries to mix the waters of science with the oil of faith. You can have a great deal of both if

you only keep them separate. The worry comes from the attempt at mixture. As general practitioners you will need all the faith you can carry, and while it may not always be of the conventional pattern, when expressed in your lives rather than your lips, the variety is not a bad one from the standpoint of St. James, and may help to counteract the common scandal alluded to in the celebrated diary of that gossipy old parson-doctor, the Rev. John Ward: "One told the Bishop of Gloucester that he imagined physicians of all other men the most competent judges of all others affairs of religion; and his reason was because they were wholly unconcerned with it."

III.

Professional work of any sort tends to narrow the mind, to limit the point of view and to put a hall-mark on a man of a most unmistakable kind. On one hand are the intense, ardent natures, absorbed in their studies and quickly losing interest in everything but their profession, while other faculties and interests "rust" unused. On the other hand are the bovine brethren, who think of nothing but the treadmill and the corn. From very different causes, the one from concentration, the other from apathy, both are apt to neglect those outside studies that widen the sympathies and help a man to get the best there is out of life. Like art, medicine is an exacting mistress, and in the pursuit of one of the scientific branches, sometimes, too, in practice, not a portion of a man's spirit may be left free for other distractions, but this does not often happen. On account of the intimate personal nature of his work, the medical man, perhaps more than any other man, needs that higher education of which Plato speaks,—“that education in virtue from youth upwards, which enables a man eagerly to pursue the ideal perfection.” It is not for all, nor can all attain to it, but there is comfort and help in the pursuit, even though the end is never reached. For a large majority the daily round and the common task furnish more than enough to satisfy their heart's desire, and there seems no room left for anything else. Like the good, easy man whom Milton scores in the *Arcopagitica*, whose religion was a “traffic so entangled that of all mysteries he could not skill to keep a stock going upon that trade” and handed it over with all the locks and keys to “a divine of note and estimation,” so is it with many of us in the matter of this higher education. No longer intrinsic, wrought in us and ingrained, it has become, in Milton phrase, a “dividual movable,” handed over nowadays to the daily press or to the hap-hazard instruction of the pulpit, the platform or the magazines. Like a good many other things, it comes in a better and more enduring form if not too consciously sought. The all-

important thing is to get a relish for the good company of the race in a daily intercourse with some of the great minds of all ages. Now, in the spring-time of life, pick your intimates among them, and begin a systematic cultivation of their works. Many of you will need a strong leaven to raise you above the level of the dough in which it will be your lot to labour. Uncongenial surroundings, an ever-present dissonance between the aspirations within and the actualities without, the oppressive discords of human society, the bitter tragedies of life, the *lacrymæ rerum*, beside the hidden springs of which we sit in sad despair—all these tend to foster in some natures a cynicism quite foreign to our vocation, and to which this inner education offers the best antidote. Personal contact with men of high purpose and character will help a man to make a start—to have the desire, at least, but in its fulness this culture—for that word best expresses it—has to be wrought out by each one for himself. Start at once a bed-side library and spend the last half hour of the day in communion with the saints of humanity. There are great lessons to be learned from Job and from David, from Isaiah and St. Paul. Taught by Shakespeare you may take your intellectual and moral measure with singular precision. Learn to love Epictetus and Marcus Aurelius. Should you be so fortunate as to be born a Platonist, Jowett will introduce you to the great master through whom alone we can think in certain levels, and whose perpetual modernness startles and delights. Montaigne will teach you moderation in all things, and to be “sealed of his tribe” is a special privilege. We have in the profession only a few great literary heroes of the first rank, the freindship and counsel of two of whom you cannot too earnestly seek. Sir Thomas Browne’s *Religio Medici* should be your pocket companion, while from the Breakfast Table Series of Oliver Wendell Holmes you can glean a philosophy of life peculiarly suited to the needs of a physician. There are at least a dozen or more works which would be helpful in getting that wisdom in life which only comes to those who earnestly seek it.

A conscientious pursuit of Plato’s ideal perfection may teach you the three great lessons of life. You may learn to consume your own smoke. The atmosphere of life is darkened by the murmurings and whimperings of men and women over the non-essentials, the trifles that are inevitably incident to the hurly burly of the day’s routine. Things cannot always go your way. Learn to accept in silence the minor aggravations, cultivate the gift of taciturnity and consume your own smoke with an extra draught of hard work, so that those about you may not be annoyed with the dust and soot of your complaints. More than any other the practitioner of medicine may illustrate the second great lesson, that we are here not to get all we can out of life for ourselves, but

to try to make the lives of others happier. This is the essence of that oft-repeated admonition of Christ. "He that findeth his life shall lose it, and he that loseth his life for my sake shall find it," on which hard saying if the children of this generation would only lay hold, there would be less misery and discontent in the world. It is not possible for any one to have better opportunities to live this lesson than you will enjoy. The practice of medicine is an art, not a trade, a calling, not a business, a calling in which your heart will be exercised equally with your head. Often the best part of your work will have nothing to do with potions and powders, but with the exercise of an influence of the strong upon the weak, of the righteous upon the wicked, of the wise upon the foolish. To you as the trusted family counsellor the father will come with his anxieties, the mother with her hidden grief, the daughter with her trials and the son with his follies. Fully one-third of the work you do will be entered in other books than yours. Courage and cheerfulness will not only carry you over the rough places of life, but will enable you to bring comfort and help to the weak-hearted and will console you in the sad hours when, like Uncle Toby, you have "to whistle that you may not weep."

And the third great lesson you may learn is the hardest of all—that the law of the higher life is only fulfilled by love of charity. Many a physician whose daily work is a round of beneficence will say hard things and will think hard thoughts of a colleague. No sin will so easily beset you as uncharitableness towards your brother practitioner. So strong is the personal element in the practice of medicine, and so many are the wagging tongues in every parish, that evil speaking, lying and slandering find a shining mark in the lapses and mistakes which are inevitable in our work. There is no reason for discord and disagreement, and the only way to avoid trouble is to have two plain rules. From the day you begin practice never under any circumstances listen to a tale told to the detriment of a brother practitioner. And when any dispute or trouble does arise, go frankly, ere sunset, and talk the matter over, in which way you may gain a brother and a friend. Very easy to carry out, you may think! Far from it; there is no harder battle to fight. Theoretically there seems to be no difficulty, but when the concrete wound is rankling and after Mrs. Jones has rubbed in the cayenne pepper by declaring that Dr. J. told her in confidence of your shocking bungling, your attitude of mind is that you would rather see him in purgatory than make advances towards reconciliation. Wait until the day of your trial comes and then remember my words.

And in closing may I say a few words to the younger practitioners in the audience whose activities will wax not wane with the growing

years of the century which opens so auspiciously for this school, for this city and for our country. You enter a noble heritage, made by no efforts of your own, but by the generations of men who have unselfishly sought to do the best they could for suffering mankind. Much has been done, much remains to do; a way has been opened, and to the possibilities in the scientific development of medicine there seems to be no limit. Except in its application, as general practitioners you will not have much to do with this. Yours is a higher and more sacred duty. Think not to light a light to shine before men that they may see your good works; contrariwise, you belong to the great army of quiet workers, physicians and priests, sisters and nurses, all over the world, the members of which strive not neither do they cry, nor are their voices heard in the streets, but to them is given the ministry of consolation in sorrow, need and sickness. Like the ideal wife of whom Plutarch speaks, the best doctor is often the one of whom the public hears least; but nowadays in the fierce light that beats upon the hearth it is increasingly difficult to live the secluded life in which our best work is done. To you the silent workers of the ranks, in villages and country districts, in the slums of our large cities, in the mining camps and factory towns, in the homes of the rich and in the hovels of the poor—to you is given the harder task of illustrating in your lives the old Hippocratic standards of Learning, of Sagacity, of Humanity and of Probity. Of learning that you may apply in your practice the best that is known in our art, and that with the increase in your knowledge there may be an increase in that priceless endowment of Sagacity, so that to all everywhere skilled succour may come in the hour of urgent need. Of a Humanity that will show in your daily life tenderness and consideration to the weak, infinite pity to the suffering and a broad charity to all. Of a Probity that will make you under all circumstances true to yourselves, true to your high calling and true to your fellow men.

TYPHOID FEVER: AN ANALYSIS OF 717 CASES.

BY

JOHN MCCRAE, B.A., M.B. (Tor.)

From the Pathological Laboratory of the Montreal General Hospital.

This series comprises all cases of typhoid fever in which the diagnosis is reasonably sure, admitted to the wards of the Montreal General Hospital, from January 1st, 1897, to December 31st, 1902; several cases admitted after perforation had occurred are included, as reasonable these must be included in a hospital death rate.

TIME OF INCIDENCE.—The minimum admissions occur in February, the number gradually increasing to the end of August, the latter month showing the maximum number. Despite the severity of the winter, the number existing up to the beginning of February is noteworthy: Per cent. of admissions—January, 4.9; February, 2.5; March, 2.6; April, 5.0; May, 7.3; June, 9.3; July, 10.8; August, 15.8; September, 12.2; October, 12.7; November, 9.4; December, 7.3.

MORTALITY.—The mortality was 66, or 9.2 per cent.; cases in the male sex were 65.3 per cent., in the female, 34.7 per cent. Of the deaths, 71.2 per cent. were males, 28.8 per cent. were females.

Age in Years.	No. of Cases.	Percentage of Cases.	No. of Deaths.	Percentage of Deaths. (approx.)	One Case Died in (approx.) every
1 to 5	7	.98	1	1.5	7
6 " 10	31	4.3	1	1.5	31
11 " 15	67	9.3	2	3.	33
16 " 20	160	22.4	12	18.	13
21 " 25	174	24.4	14	21.	12
26 " 30	117	16.3	10	15.	11
31 " 35	70	9.8	7	10.5	10
36 " 40	47	6.5	6	9.	8
41 " 45	20	2.8	5	7.5	4
46 " 50	15	2.1	5	7.5	3
51 " ..	6	.8	3	4.5	2

ETIOLOGY.—Previous attack of typhoid is described in 21 cases (2.96 per cent.); 1 case, one year before; 3 cases, three years before; 2 cases, four years before; 2 cases, seven years before; 2 cases, eight years before; 1 case, nine years before; 2 cases, ten years before; 1 case eleven years before; 1 case fourteen years before, and 1 case, twenty-one years before; in two the time is unstated. Four cases developed in the hospital; one patient developed the disease after thirty days in the hospital, two nurses and one hospital orderly contracted it whilst in attendance on typhoid patients.

DURATION.—Excluding fatal cases, and a small number in which the beginning of the disease could not be accurately determined, the average duration of the febrile period for 640 cases was 27.2 days. The length of illness and convalescence, measured from the day of onset to the day on which the patient was discharged, averaged for 619 cases 52.2 days.

DEGREE OF FEVER.—For purposes of classification, arbitrary divisions were made between high and moderate fever; fever which was below 104° was classed "moderate," 104° or over during four days

(or less) was classed "moderate with occasional high range," and "high" was used to describe fever which reached 104° on more than four days. Of 713 cases, 419, or 59 per cent. were moderate; 110, or 15 per cent. were moderate with occasional high range; 184, or 26 per cent. were high. As a rule fatal cases showed high temperature, although in 66 fatal cases the temperature was moderate in 21, or 32 per cent.

THE CARDINAL POINTS OF DIAGNOSIS.—The so-called Widal test was tried in 678 cases; it was positive in 629, or 92.77 per cent. of cases tried.

Ehrlich's test (Diazo reaction) was tried in 512 cases; it was positive in 344, or 67.2 per cent. of cases tried.

Rose spots were observed in 467 cases, equivalent to 65 per cent. of all cases.

The spleen was palpated in 341 cases, equivalent to 47.5 per cent. of all cases.

RELAPSE.—A true relapse was present in 64 cases, or 8.9 per cent.; six cases had two, and one case three relapses. In 51 cases the febrile period averaged 25 days, the interval of normal temperature, 6.3 days, and the relapse, 15.5 days; four second relapses averaged 12 days normal temperature, followed by 16 days relapse; a third relapse was preceded by 14 days normal temperature, and lasted 10 days. Intercurrent relapse occurred in 48 cases, or 66.8 per cent., in 46 of which the main febrile period averaged 25.9 days, the relapse, 18.8 days; many cases of long continued fever without remission are similar to intercurrent relapse, but none have been included save those which show a distinct relapse rising gradually from a well defined minimum point of the fever.

Recrudescence occurred in 61 cases, or 8.5 per cent.; "steeples" in 49, or 6.9 per cent., thrice, immediately after semi-solid food. It will be seen that roughly 31 per cent. of all cases suffered from a rise of temperature to a noticeable degree after the regular course was finished.

FREQUENT COMPLICATIONS occurred as follows:—

Bronchitis.....	192 cases	26.8 per cent.
Neuritis.....	26 "	3.5 "
Abscess.....	47 "	6.5 "
Phlebitis.....	25 "	3.4 "
Otitis Media.....	16 "	2.2 "

Neuritis, including tender toes, followed bath treatment in 19 cases, sponging in 1, and antipyretics in 4 cases. Abscesses were most frequent in the axillæ, affecting the rest of the body, limbs, and head in the order named. Staphylococcus was found in 7 cases, Eberth's bacillus, never. In 18 cases phlebitis affected the left side in 12 cases, the right in 3, both in 3; it never occurred before the middle of the third week, and often not until the sixth.

SYMPTOMS OF ONSET.—No note was made of complaint of anorexia; the following common signs of onset were noted:—

Weakness, definite complaint.....	55.	per cent. of 317 cases.
Headache.....	66.4	“ 717 “
Pain in back, limbs, etc.....	37.4	“ 717 “
Pain in abdomen.....	22.7	“ 717 “
Tenderness in abdomen upon pressure..	12.5	“ 400 “
Constipation.....	21.2	“ 717 “
*Diarrhoea.....	25.4	“ 717 “
Vomiting.....	20.6	“ 717 “
Epistaxis.....	15.	“ 717 “
Chill, definite rigor.....	8.6	“ 717 “
Sore throat.....	3.5	“ 717 “

SYMPTOMS OF THE COURSE.—The condition of the bowels was as follows: constipation marked the course of the disease in 345 cases, 48 per cent.; diarrhoea, in 118, 16.5 per cent.; the bowels were normal during the disease in 95 cases, 13 per cent. The symptoms so much complained of at onset rarely persisted, headache during the course being noted in but 38 cases, body-ache in 13; delirium was noted in 102, 14.2 per cent.; epistaxis was present during the course in 24 cases, 3.3 per cent.; vomiting in 72, 10 per cent.; chill in 36 cases, 5 per cent.; the last was frequently explicable by some complication which had supervened. Pain in the abdomen is an extremely frequent symptom of the course of typhoid fever; in this series it has been noted in only 22.7 per cent. of the cases, although it actually occurs in a much greater percentage of all cases; tenderness upon pressure is noted in 50, 12½ per cent. of 400 cases. Abdominal pain occurs at any period of the disease, and complaint of it will depend largely upon the character of the patient. Dirotism of the pulse was mentioned in 106 cases, 14.8 per cent.

INFREQUENT COMPLICATIONS.—The following are stated in numbers of cases:—

Integument, etc.	—Carbuncle.....	1
	Cellulitis.....	2
	Conjunctivitis.....	2
	Erysipelas.....	1
	Erythema.....	7
	Furuncle.....	6
	Herpes.....	3
	Tache cerebrale.....	6
	Ulcers.....	1
	Urticaria.....	1
	Alimentary system.—	Cholecystitis.....
Glossitis.....		3 (1 syphilitic)
Icterus.....		2
Parotitis.....		1
Stomatitis.....		4

*In 2.2 per cent. only of these is the diarrhoea stated to be the result of purgative medicine; this figure is probably far too small.

Respiratory system.—Empyema	2
Pharyngitis, etc	8
Pleuritis	13
Pneumonia	8
Osseous muscular system, etc.—Arthritis	1
Mastoiditis	1
Myositis	2
Osteomyelitis	5
Periostitis	4
Generative system.—Abortion	2
Mastitis	2
Urinary System.—Cystitis	9
Pyelitis	3
Nervous System.—*Paralysis	2
Post-typh. insanity	5
Tetany	2
Circulatory system.—Dilatation of heart	14
Pericarditis	1

The number of cases noted to have had cardiac dilatation is doubtless far from the true number, but slight differences of size of the heart, and transitory murmurs, indicating temporary dilatations are uncertain signs, and in the hands of house physicians of comparatively short experience are apt to be overlooked; so also many passing conditions of myocarditis of slight degree must escape notice.

ASSOCIATED CONDITIONS.—

Alcoholism	1	Orchitis	1
Arterio-sclerosis	1	Parasites
Cardiac valve lesions	16	Ascariæ	5
Chlorosis	3	Taenia	1
Diphtheria	1	†Pregnancy	5
Epilepsy	2	Rheumatism, acute	2
Gonorrhœa	4	Syphilis	3
Hysteria	4	Tuberculosis pul.	6
Neuritis, alcoholic	1		

HÆMORRHAGE: Hæmorrhage occurred in 72 cases, of which 26 proved fatal; in 11 cases hæmorrhage and perforation were associated. In 31 of these 72 cases, there are notes of the time at which food, other than purely liquid, was given; of these 31 cases, 12 had such food before hæmorrhage occurred. Although the notes are not absolutely explicit, it may be presumed that such diet was continued up to the time at which hæmorrhage occurred, and the space of time between the administration of such food and the occurrence of hæmorrhage varied from a few hours up to 29 days; the exact figures are as follows: immediately, 3 days, 5, 6, 7, 9, 9, 10, 11, 12, 12, 13, 26, 29.

* One case had the muscles of the face partially paralysed, the other the muscles of deglutition.

† In two cases abortion at 1st and 2nd month occurred; pregnancies of 5, 6½ and 7 months were uninterrupted.

Hæmorrhage occurred oftenest at the end of the second week, and at the middle of the third. By weeks it occurred as follows:—

1st week	1 case
2nd	“	22
3rd	“	20
4th	“	15
5th	“	4
6th	“	7
7th	“	1

By days it occurred as follows:—

4—7th day	1	25—28 day	10
8—12	“	10	29—31	“	2
11—14	“	12	32—35	“	2
15—17	“	8	36—38	“	2
18—21	“	12	39—42	“	5
22—24	“	5	43—45	“	1

The earliest initial hæmorrhage was upon the fifth day, the latest on the forty-fourth day. This complication occurred oftenest, proportionately, in cases treated by baths, and least often, proportionately, in those treated by antipyretics.

PERFORATION.—As stated above, perforation occurred 43 times; 23 cases were operated upon, of which 6 recovered. These six were operated upon at various times (from 1½ to 15 hours) after perforation had occurred.

Perforation was accompanied by sudden pain in 21 cases, rigidity was present almost immediately in 7 cases, but it was noted that it was absent or occurred after a lapse of ten hours in 7 cases; decided drop in temperature was noted in only 4 cases; a rise of temperature was the earliest sign in 5 cases; rise in pulse is noticed as being marked in 5 cases.

These figures do not represent the frequency of the various signs at all properly, but they do indicate the relative importance of sudden pain, and the fact that rigidity cannot be depended upon as a diagnostic sign.

There is no symptom or group of symptoms that may be depended upon to indicate that perforation has occurred; the sudden abdominal pain is the most frequently present; it may often be masked by the apathetic condition of the patient, and may pass off rapidly. Due weight must be given to any reports of the nurse that the patient has cried out with pain, and it must be remembered that such sudden pain often occurs without perforation.

The large number of perforations in this series, and the fortunate outcome of six of the operated cases excuses a short digression upon

the question of operation. Here the exploratory laparotomy occupies its most honorable place; the hope in the far-off future of saving any large percentage of perforation cases rests in the earliest possible recognition and operation; the early certain recognition is not possible, and the surgeon must operate not when he knows there is perforation, but often when he only suspects it; he must set behind his back his "record" and remember that it requires more courage to operate upon an uncertain than upon a certain case. We must teach on all hands that to open the abdomen when perforation has been suspected and has not occurred, is to be counted no mistaken judgment on his part, but an indication of honorable zeal—a clear subordination of his own interests to those of the patient. Let it not be replied to this that it is impracticable in "private practice;" naturally it is, but it need not be so in the twenty-first century if the seeds be sown to-day; nor let it be said that if one waits one often finds that the sudden pain and the other symptoms were misleading and the "masterly inactivity" was justified; such an argument is plausible and misleading. Perhaps there are none of us to-day who are ready to advise operation in all such cases, but it is our duty to teach the triviality of the abdominal section compared with the chances incurred without it.

THE WIDAL TEST.—The requirements demanded for a positive result have always been strict; a positive reaction requires cessation of movement, and clumping, the time limit being from twenty to thirty minutes, the dilution approximately 1 in 20 to 1 in 40.

As stated above, the test was present in 92.77 per cent. of all cases tried; in the cases where it was found negative at first and repeated until positive, the reaction was found in 213 cases to appear upon the 14.7th day of the disease. The earliest day on which it was found present was the 4th day; it did not appear earlier in children than in adults. It appeared in 28 cases out of 678 on the 7th day, and in 29 cases, earlier.

THE URINE.—Records of the urinary examination are to hand in 575 cases, of which 264, 46 per cent., showed albumen at sometime during the course of the disease; casts were present in 162, 28.2 per cent., and both together were found in 136 cases, 23.6 per cent., of those examined. The co-existence of these two indicate the presence of a parenchymatous nephritis, but its slightness of degree often does not warrant the use of the term acute nephritis in the sense in which that term is generally understood.

The Ehrlich (Diazo-reaction) was tried in 512 cases, and was present in 344, 67.2 per cent.; unfortunately, it was not tried day by day as a routine, but the average of 340 cases shows that it was present on the

11.8th day. It was noticed to have disappeared in 132, on an average of 9.7 days after it was first observed. It reappeared in 7 cases, and was present yet a third time in one case.

THE DISEASE IN CHILDREN.—Up to the age of 15 years, 105 cases occurred. Under the age of 2 years there was only one case, a child of 13 months, in which the diagnosis was confirmed by autopsy.

DURATION.—Excluding fatal and complicated cases, as well as those where intercurrent relapse was present, the duration of the disease was as follows:—

26 cases from 1 to 9 years averaged 20 days.
56 cases from 10 to 14 years “ 21 “

Stated more particularly the figures are:—

Average of 7 cases from 1—5 years.....	20.3 days.
19 “ “ 6—10 “	20 “
6 aged 10 years	21 “
9 “ 11 “	19 “
10 “ 12 “	22 “
17 “ 13 “	23.4 “
14 “ 14 “	18.8 “

DEGREE:—Of 31 cases in children up to 10 years of age, 27 ran a fever of moderate course, 87 per cent.; of 64 cases from 10 to 14 years, the fever was moderate in 54, 84 per cent.

SYMPTOMS, ETC.—Of 30 cases under 10 years of age, the following were observed:—

Rose spots	14	Recrudescence	3
Diarrhœa, onset 5, course.	7	Hæmorrhage	1
Delirium	3	Perforation	1
Bronchitis	8	Albumen in urine.....	6
Epistaxis	3	Casts in urine.....	4
Relapsc.....	5		

Of 66 cases from 10 to 14 years, inclusive, the following were noted:—

Rose spots	36	Recrudescence	9
Diarrhœa, onset 17, course.	6	Hæmorrhage.....	2
Bronchitis	11	Perforation	1
Delirium	12	Albumen in urine.....	8
Epistaxis	14	Casts in urine.....	4
Relapse.....	6		

Compared with the whole series, the following occurred less often in children: rose spots, hæmorrhage, perforation, bronchitis, and albumen and casts in the urine. The following were found oftener in children: delirium, relapse, and recrudescence; it is to be noted that the diarrhœa and epistaxis were found in children in about the same percentage as throughout the series. A moderate degree of fever is the rule and the duration is shorter in children.

TREATMENT.—Three courses of treatment have been followed during the period covered by this series; 36 patients received no treatment, 439 cold baths, 94 cold water or alcohol spongings, and 148 antipyretics.

The routine procedure of the baths has been the administration of the first bath at 90° or 85°, second bath 10° lower, third and all succeeding baths at 70° or 75°, always with ice; duration 10 minutes; cold kept upon the head; bath administered by two persons rubbing or sponging; whiskey given after the bath if indicated. The bath is given every four hours if temperature is over 102 $\frac{2}{5}$ °

Spongings last twenty minutes, are given between blankets, alcohol or blocks of ice being used.

The antipyretic treatment consists of phenacetin, grs. V, alternating with salol, grs. V; one or the other is given every four hours, unless contraindicated; to this a tepid sponging once or twice daily is added.

It must be understood that these courses of treatment have necessarily varied according to the individual practice of physicians in whose services the cases have been; and that each one may vary his practice from time to time, but a general and concise statement has been attempted.

A brief comparison is made, I.—stated in number of cases:

	Cases.	Deaths.	Hæmorrhages.	Perforation.	Delirium.	Bronchitis
Baths	439	48	54	24	67	103
Antipyretics.	148	14	9	10	21	56
Spongings...	94	4	8	4	11	22

II.—Percentages.

	Percent. of Cases.	Percent. of Deaths.	Percent. of Hæm.	Percent. of Perfor.	Percent. of Delir.	Percent. of Bronch.
Baths.....	64.4	72.6	76.	63.1	67.6	56.9
Antipyretics	21.7	21.	12.7	26.3	21.2	30.9
Spongings	13.8	6.4	11.3	10.5	11.1	12.1

The deduction that the "sponging" treatment is the best of the above is nullified by the fact that the least severe cases are treated by this method; on the other hand, the high percentage of hæmorrhages and perforations credited to the "bath treatment" is to be considered along with the fact that this method was used in nearly two-thirds of all cases, and that the number of very severe cases falling to it would consequently be proportionately great. The small number of hæmorrhages referable to the antipyretic treatment, and the large number referable to the baths, are indications of the relative height of circulatory strength in a depressant and stimulant treatment, respectively. The relatively high number of cases of delirium in the bath treatment

is due, doubtless, to the severity of some cases included; and it is to be remembered that the delirium of to-day is generally little more than mental wandering. The series makes, therefore, no marked distinction in favor of any form of treatment, save that in the bath treatment there are more cases of hæmorrhage and neuritis, and fewer of bronchitis, whereas, in the antipyretic treatment, hæmorrhage is comparatively infrequent, and bronchitis moderately frequent. It is difficult to understand why any course of treatment should predispose to bronchitis, and it is likely that the differences are due to season and climate.

DIET.—In those cases strictly liquid diet is given, though in a considerable number of cases, custard, poached egg, and other semi-solids are given even from the first week of the disease. The day on which this kind of food was earliest given is noted in 381 cases. In 73 this was after five weeks, and in 92 it was after defervescence, leaving 216 in which semi-solids were given during the disease before normal temperature was reached. In these 216 cases, there occurred at different times the following:—

Hæmorrhage.....	12 times (once immediately after ingestion.)
Perforation	7 “
Relapse	9 “
Intercurrent relapse	11 “
Recrudescence	20 “

These figures are all less than the proportionate numbers in the whole series, but it is to be remembered that the slighter cases only are allowed semi-solids. The following facts, too, must be regarded before a decision is made. Of 72 cases in which hæmorrhage occurred, the time of giving semi-solids was noted in 31; in 12 of these, semi-solid food was given previous to the occurrence of hæmorrhages. In 43 perforations the day of giving semi-solids is noted in 7; in all 7 it was given before perforation.

ITS EFFECT UPON THE DURATION OF DISEASE.—The average duration of 185 moderately uncomplicated cases was 23.6 days; semi-solid food was given in the first fourteen days and in 125 cases, of which 40 ran a course of twenty-one days or less, 47 ran from twenty-one to twenty-eight days, and 36 over twenty-eight days. Sixty-three cases in which semi-solids were given in the first 9 days averaged 27 days. When observing the results of semi-solid food it must not be forgotten that milk, if it becomes curdled in the stomach, is practically a semi-solid.

The question of food is a vexed one and no rule will apply to all cases; it may be said that any food which reaches the seat of disease in any other than perfectly fluid form is bad.

A BRAIN CONTAINING GAS CYSTS OF MICROBIC ORIGIN.

BY

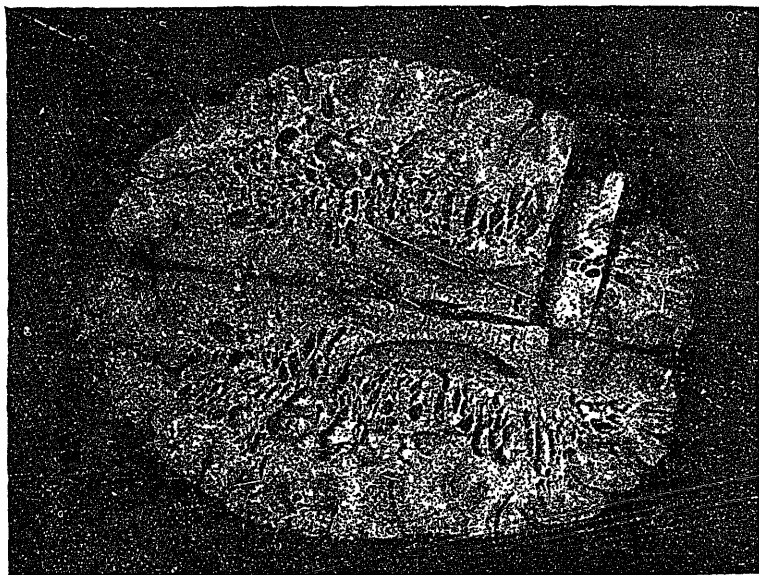
MALCOLM MACKAY, B.A., M.D.

This brain was obtained from a case of typhoid fever which died at the Royal Victoria Hospital in April, 1903, of hæmorrhage and perforation. The autopsy was performed 24 hours after death, and the following conditions were found.

The contents of the thorax were fairly normal, although the heart was large and fatty, and its muscle somewhat cloudy. The abdominal walls appeared to be very tense, and the abdomen prominent, and on opening the peritoneum there was a rapid escape of gas, which burned with a pale blue flame on being ignited. The intestines, which contained a considerable quantity of blood, were distended, and the Peyer's patches markedly inflamed. About 30 cm. above the ileo-cæcal valve, a pin-hole perforation was found, and close beside it an eroded blood-vessel,—evidently the source of the hæmorrhage. The liver was flabby, pale, and friable, and section showed that it was a typical "foaming liver" with bubbles and small cavities upon the cut surface. A portion taken from the centre of this organ floated in water, and microscopical examination revealed bacilli in the walls of the cavities. When the brain was removed, nothing abnormal could be seen in the meninges, hemispheres, convolutions, or basal vessels, and it was at once placed in a ten per cent. formalin solution, without being cut. Sections were made three weeks later, and the peculiar 'Gruyère cheese' appearance was noticed for the first time. Cavities varying in size from a bean to a pin's head were seen scattered throughout the brain. None of these air spaces were nearer than 1 cm. to the external surface, and they became larger and more numerous towards the centre of the hemispheres, where the brain tissue assumed the appearance and consistence of a sponge. In the region of the internal capsule the cavities were particularly numerous, being separated only by very thin walls of brain substance. The cerebellum showed similar though less marked changes, while the mid brain, pons and medulla, were intact. No softening or signs of inflammation could be detected anywhere.

This curious appearance at once suggested the cause, and a smear from the inside of one of the cysts showed a stout bacillus with rounded ends, found singly, or in pairs, chains or clumps, and taking all the ordinary stains as well as Gram's iodine stain. Cultures of course could not be made, but a bacillus having the above mentioned morphological and staining characteristics, which at the time produces gas, is in all probability the *Bacillus Aerogenes Capsulatus*, or, according to the more modern terminology, the *Bacillus Welchii*.

A section through the affected area stained with hæmatoxylin and eosin, when examined under the microscope, shows that the smooth cyst wall is formed by the surrounding brain substance, without a lining or limiting membrane of any description. Here and there a slight roughness, with a narrow band of diffusely staining hyaline material can be made out, showing degeneration of tissue, but as a rule the nerve elements are intact and take the stain perfectly, no small celled infiltration is to be seen, nor can any inflammatory action, or attempt at repair, be detected. With an oil immersion, or even a number seven lens, groups of bacteria are found in the cyst walls, and most of the capillaries are



positively choked with them, while some of the larger vessels with thick walls also contain vast numbers.

In regard to the period of time at which the changes took place, I think that there can be little hesitation in saying that they occurred post mortem, and continued after the brain was placed in formalin. For in the first place, this would account for the lesions being found only in the more central parts of the brain, as the formalin would soon penetrate the pons and medulla, while an appreciable time would elapse before it reached the centre of the hemispheres. Again, absence of inflammatory reaction throughout the nervous system and lack of evidence of a general ante mortem infection would point to the same conclusion. The characters of the bacillus still further emphasize this view, for as W. Welch¹ says in speaking of such conditions: "In the

1. Johns Hopkins Bulletin 1899 and 1900.

great majority of the instances in which gas bubbles are found in the blood and internal organs at autopsy, the evidence is in support of the view that the development of the gas is a purely post mortem phenomenon. Certainly, the greatest caution should be exercised in the interpretation of any such cases as vital processes, even in early autopsies without ordinary putrefaction."

Reuling and Herring² first reported a case of emphysema of the brain due to bacteria, and W. T. Howard³ followed with four others, in two of which he obtained cultures. These authors point out that similar lesions of the brain have been described before, but that an explanation of the process has either not been attempted, or has been put down to some other cause, such as shrinkage from the hardening fluid, rarefying encephalitis, absorption of nerve tissue by pressure. The probability is, that in a large number of these instances the cysts were produced by bacteria, as the descriptions fit in so accurately with the findings in those cases in which bacilli have been unquestionably the cause.

It seems that one of the chief reasons for the lack of examples of this condition, is that a post mortem examination of the brain is the exception rather than the rule, and doubtless the number of cases reported will be multiplied as complete autopsies become more common.

TWO CASES OF GONORRHOEAL CONJUNCTIVITIS TREATED WITH ARGYROL.

BY

S. H. MCKEE, B.A., M.D..

(From the Eye and Ear Clinic of the Royal Victoria Hospital.)

At the present time when the substitutes of silver nitrate are being given such extensive trial in the treatment of gonorrhoeal conjunctivitis it is advisable to report all cases of this kind for statistical purposes. Only by an analysis of a large number of reports can a proper value be placed upon the efficacy of a given remedy. For purposes of comparison the statistics of Mr. Holmes Spicer in Vol. xiii., p. 211 of the R. O. H. Reports, will be found of great value. Mr. Spicer's analysis of 215 cases, 81 per cent. of which had been treated by a 4 per cent. solution of silver nitrate, gave the following results:—

Complete recovery in.....	84
Cornea slightly damaged in.....	26
Cornea seriously damaged in.....	74
Eye Lost in.....	30
Returned with ulcer of cornea.....	1
Total	215

2. Journal of Medical Research, 1901.

3. Journal of Experimental Medicine, 1901.

It will be seen from these figures that the number of cases of gonorrhoeal conjunctivitis which recovered with the nitrate of silver treatment is greater than is generally believed. While, therefore, it is undoubtedly advisable, especially on account of their painlessness and power of penetrating the tissues deeply, to make trial of the new substitutes, we shall do well to subject them to most careful analysis before discarding the old salt which has served ophthalmology so well in the past.

The following two cases, treated with argyrol, are of interest, also as regards the modes of infection:—

Case I: J. L., a Russian Jew, was seen on March 25th, 1903, by Dr. Buller, who placed a protective shield on the right eye and sent the patient to the hospital. On admission the following history was given: One week ago his left eye felt as if something were in it, and, as was his custom, he washed it with some of his urine. Unfortunately for him he had had a chronic gleet for some three or four months, and on the following Sunday, four days later, his left eyelids were a little swollen and the eye felt sore. On Monday the swelling had increased, and a dirty watery discharge was coming from between the lids. Next day the eye was freely discharging pus.

Present condition: The patient is an illiterate Russian Jew, whose right eye is normal and protected by Dr. Buller's shield.

Left Eye: Lids hot, red and swollen, and not easy to separate or evert; pus of a thick, yellowish character wells up from between the lids. There is intense chemosis of the bulbar conjunctiva so that the periphery of the cornea is hardly seen but the centre of the cornea is as yet uninvolved. The pre-auricular gland is slightly swollen and there is slight fever. A number of smears from the eye show innumerable gonococci.

The patient was immediately put to bed with irrigations of hot boracic solution every half hour, cold compresses of bichloride solution, 1-10,000, in the intervals, vaseline smearings upon the lid margins and argyrol, 25 per cent., freely applied to the conjunctiva once daily.

The next day the eye looked somewhat better, but the day following there were seen some infiltration of the cornea at the lower corneo-sclerotic margin, and four days later the cornea perforated at this point. The small piece of iris which prolapsed was punctured with a Knapp's needle.

From this on, the eye continued to improve, and on May 21st the following note was taken: Left eye now quiet; no discharge; the ulcer which involved the lower quarter of the cornea has healed nicely, the

cornea above this clear and bright; T.=N., V.=fingers at four to six feet. After leaving the ward the patient was seen a number of times at the out-patient department and his eye remained as above.

Case II: A young married man came to the out-patient department on April 7th, 1903, with a purulent discharge from the left eye and gave the following history: Three nights previous the patient first noticed his left eye slightly irritable as if something were in it, though it was not at all red. The following morning the eye felt better, but there was some watery discharge coming from it. During the day the lids became quite swollen, though towards night he was able to open them freely and the vision of the eye was noted to be good. Bread poultice applied. Two days later he was unable to open the lids and there was free discharge of pus from the eye. The following afternoon (about 68 hours after the onset of the illness) he entered the hospital for treatment.

Present condition: Patient, a young French Canadian, 28 years of age, well-nourished, healthy-looking muscular man, complaining of inflammation in and discharge of pus from the left eye. He denies all history of gonorrhœa and examination of the urethra is entirely negative. He attributes his illness to the towels which were used in the barber's shop on the evening of the onset of his trouble.

Left Eye: Great swelling and redness of the lids; the palpebral conjunctiva reddened and swollen; the bulbar conjunctiva markedly chemotic; profuse purulent discharge welling up from between the lids; cornea intact. The pre-auricular gland a little enlarged and there is slight rise of temperature. Pus from the eye shows typical gonococci.

Diary and treatment: April 7th, was sent to the ward and Dr. Buller's shield put over the right eye; irrigations of boracic acid solution every half hour; applications of argyrol, 25 per cent., to the conjunctiva daily and vaseline warmed and dropped into the conjunctival sac.

April 8th, left eye about the same.

April 9th, still copious discharge of pus; lids not so thickened; tiny spot at inner border of cornea which looks like beginning corneal infiltration, spot well touched with argyrol, 25 per cent.

April 10th, discharge less, can open eyes.

April 15th, eye to-day shows very great improvement, only very slight discharge, which still contains gonococci, and lids open easily; chemosis less, no involvement of cornea.

April 25th, gonococci still present; eye has yet an angry look.

April 23th, gonococci not found; shield removed; conjunctiva quiet, no discharge, swelling and chemosis gone; V.=N. Discharged cured after 21 days.

Acknowledgment is due to Dr. Byers for kind assistance in the preparation of this report.

ON APPETITE JUICE AND THE ETHICS OF EATING.

BY

J. G. ADAMI, M.A., M.D.

Neat napery, food so served that its very look attracts, surroundings such that the mind is diverted for the nonce from the cares of the every day world,—cheer that, however simple, is before all things inviting,—this is the epitomized philosophy of Professor Pawlow,* of St. Petersburg, and by this philosophy would he teach us to exorcise the demon of dyspepsia. “Now, good digestion wait on appetite and health on both,” he would say, had he known his Shakespeare, for what he insists upon is that good health depends upon good digestion and good digestion depends essentially upon appetite so that, for the preservation of health, appetite is to be cultivated. And upon appetite he has much to say.

His philosophy, let it be confessed, smacks of the epicurean. In these days of stress and strain, we are apt in the rush and turmoil of things, to make a virtue of necessity and taking no thought of what we eat or what we drink, impute this unto ourselves for righteousness. Far from emperlatising our entrails we are apt to glory in our neglect of creature needs. Whether we be strenuous or but merely neurotic, we are impatient that the flesh should and must obtrude; that it must obtrude is, we are inclined to hold, beneath our dignity as Men and Women. On the other hand, says Pawlow—we render his doctrine broadly:—“Take no thought for your food” is sound advice to those leading right and natural lives. The exercise of regular bodily labour and an out-of-doors existence, with an equable mind and a brain not overworked, conduce to hunger, and hunger is the best sauce. A genuinely hungry man can triumph over the matutinal hot roll and can accomplish the boarding house steak without serious after affects. An indoor existence, on the contrary, with little exercise and with food eaten as a matter of routine rather than in answer to the calls of hunger, and then with the mind occupied, not with the fare, but with the concerns of business, tends inevitably to dyspepsia. Under these conditions health can only be preserved if thought be taken of the food and if appetite be stimulated. And he proves this by a remarkable series of experiments.

* Pronounced, by-the-way, Pavloff, the *a* as in ‘far.’

Twenty years ago Pawlow was already embarked upon his studies on digestion. It is, I am almost shocked to think, verging upon that number of years since it was my good fortune to be a fellow worker with him at Breslau under the late Professor Heidenhain, in his time the foremost investigator upon secretion and the work of the digestive organs. Heidenhain was a master-mind and upon him Pawlow has built. Even then he was a marked man, serious, earnest, and quietly enthusiastic. Oddly, my most vivid memory of him is dietetic, for in their kindness towards the new comer in the laboratory, he and Madame Pawlow invited me to their celebration of old New Year's Eve, introducing me then to the Samovar and to Russian tea taken flavoured with rum and a slice of lemon,—a most delectable beverage on a winter's night, and the Silisian winter resembles the Canadian. But a few years later he was appointed Professor of Physiology in the Imperial Military Academy at St. Petersburg, and later was given, in addition, the directorship of the physiological department of the Institute for Experimental Medicine, an institute founded, magnificently appointed and endowed by Prince Alexander of Oldenburg, and there he possesses what is in every respect a model research laboratory. Steadily and without remission Pawlow has continued his studies upon the digestive system and, as the work has developed, he has attracted to himself a band of capable assistants—Chigin, Hanicke, Katschowski, Kuwschinski, Kudrewski, Lobassow, Mdme. Shumow-Simanowski, Rjasanzew, Sokolow, Ssamoilow, Damaskin, Schepowalnikow, Wolkowitsch, Walther, Soborow, and a dozen others—who, under his direction, have undertaken an ordered succession of studies upon the different portions of the alimentary tract and its associated glandular organisms. The power that he has manifested to keep to one subject over this long period of time and of directing those under him in such a way that, without haste and without waste, the whole ground is gradually being covered, is remarkable. Remembering the similar year-long series of studies upon phagocytosis by Metchnikoff and his pupils, one wonders whether here we encounter a national Russian characteristic.

While through these investigations Pawlow's fame as a physiologist has as steadily increased, it has to be admitted that the medical world is only now beginning to recognize as it ought the great value of his work. In part, no doubt, this is due to the language in which many of the most important papers have been published; the Russian language is, for very many reasons, outside the pale. In part, however, it must be acknowledged, as physiology is becoming more and more specialised, that, as a body,—of course there are exceptions—physiologists nowadays pursue their science for science sake, without regard to its bearing as a

branch of medical study, and as a result not one practitioner in a thousand subscribes to, or keeps himself posted regarding the contents of, the physiological journals. The greater number of the articles contained in those journals have little or no direct bearing upon the problems which immediately interest the ordinary medical man.

But Pawlow has throughout recognized the importance of his researches from a medical standpoint and, in 1897, he gave in St. Petersburg a series of lectures to medical men in which he brought together in a simple and entertaining form the outcome of the investigations made by him and his pupils. In 1902 he gave other lectures bringing the account of his work up to date. Translated into French and German, these lectures have had an immediate success. Now it is possible to read them in our own language, retranslated from the German by Professor Thompson, of Dublin.*

It is only a small book of less than 200 pages, but of these not a single one is uninteresting. So important is the work, so full of fact and thought and suggestion, that it should be in the hands, not only of every specialist upon digestive disorders, but of every physician. There has been nothing so valuable, nothing so fundamental upon the subject since Beaumont published his studies upon Alexis St. Martin. Upon these researches must be based the dietetics of the future.

Simply as a study in the experimental surgery of the digestive tract, the work is of importance. As a primary requisite for exact enquiry into the work of the different organs, it was essential to elaborate a technique whereby each gland or collection of glands could be isolated and its secretion obtained in a pure state over long periods of time and under varying conditions of experiment. It is unnecessary here to tell of the means whereby Pawlow and his co-workers successfully accomplished this in case after case; as an indication of the triumph over operative difficulties it may be stated that dogs have been kept for months in good health with the pancreatic duct opening upon the abdominal wall, that it has been found possible to keep dogs in relative health for many weeks when one vagus nerve after the other has been cut in the lower cervical region (thus cutting off the vagus innervation of the abdominal viscera), and that accessory stomachs have been moulded from the main organ, separated wholly from this as regards their contents while remaining still in vascular and nervous connection with the same. Such miniature stomachs secrete their juice *pari passu* with the main organ, so that samples of gastric juice secreted under different condi-

* The Work of the Digestive Glands. Lectures by Professor J. P. Pawlow, translated into English by W. H. Thompson, M.D., King's Professor of the Institutes of Medicine, Trinity College, Dublin. London: Charles Griffin & Co., Limited. Philadelphia: J. B. Lippincott Company. 1902.

tions are to be obtained and analysed free from admixture with the food undergoing digestion in the latter.

With this perfected technique singularly accurate and constant results have been obtained. I shall not attempt to epitomize by any means all of them. Returning to my main thesis, I would take up the one subject of "appetite juice."

That there is a salivary appetite juice, is a well known and universal experience, the mouth watering in anticipation of food. That there is similar gastric and even pancreatic juice has not previously been accepted. If seen by experimenters, as for instance by those well known old observers, Bidder and Schmidt, it was noted to be inconstant; the laws governing the flow were neither suspected nor determined.

Employing œsophagotomised dogs, with gastric fistulæ and accessory stomachs, Pawlow has been able to show that several factors are at work determining the extent to which gastric juice is poured out in the act of digestion.

Take an œsophagotomised dog and mechanically irritate the mucous membrane of the mouth and throat, or feed it with smooth stones, the stones dropping out of the upper end of the œsophagus so soon as they are swallowed, and under these conditions, the stomach remains dry, not a drop of juice is excreted. Obviously the mere mechanical act of eating or of irritation of the throat does not reflexly induce an outflow of the gastric juice.

Make a gastric fistula in this dog and let it be hungry, with an empty stomach: not a drop of juice is present in the viscus; the mucosa is dry. This, it may be noted, was Beaumont's experience in the case of his French-Canadian voyageur. Nor does mechanical irritation, as with a feather, or even distension of the organ by means of a collapsible rubber ball lead to any secretion. The mere presence of matter filling the organ does not in itself excite the outflow of the gastric juice.

Take the same dog in a fairly hungry condition and begin to prepare and chop up meat before it in such a way that it does not imagine that it is being hoaxed, but anticipates the meal, then, in *five minutes'* time, there starts a rapid and relatively abundant flow of gastric juice.

Or give the œsophagotomised dog raw meat to eat; it gulps it down voraciously and, although never a particle reaches the stomach, five minutes again from the beginning of the meal there is a copious secretion of gastric juice, and this continues so long as the process of feeding is kept up.

In place of raw, give boiled meat; and the flow is not so extensive. If the animal has been fed only a few hours previously the flow may be

sight. In short the amount of flow differs with different animals according to their state of hunger, according to the nature of the food, and according to personal idiosyncrasy. Some dogs have a stronger flow of juice, rich in pepsin, with raw meat than they have with bread, the meat is the more attractive. Others prefer bread to meat and, with it, have the more active secretion; some are phlegmatic and under all conditions give little of this appetite juice; others are sanguine and have generally an active flow.

Now, as a further exercise, take a dog having a gastric fistula and while it is asleep or while being awake, its attention is diverted, cautiously introduce into the stomach some pounded up raw flesh. Five, ten, fifteen, twenty minutes elapse and there is absolutely not a drop of juice discharged. It may be even an hour before there is any sign of secretion. More usually it begins in from twenty to thirty minutes. And here a long series of observations upon different food stuffs in animals with miniature stomachs and gastric fistulæ has proved that the different food stuffs act very differently as *direct* excitants of the gastric secretion. The results, in fact, are largely unexpected. Simple proteids like white of egg or like meat that has been boiled for days to remove all extractive matters, are wholly inert. They may lie in the stomach for hours (when directly introduced) without there being any outflow. Starches are likewise inert. Sodium bicarbonate and common salt are found, contrary to all previous teaching, when given with other substances, to lessen the outflow. Fats also have an inhibitory effect, but water in fair quantities directly incites a flow and so do meat broths and various extracts of meat.

We have, that is, to deal with two tides of secretion of the gastric juice; the psychic tide, set up by the sight of food, by the taste of the same, and by hunger, and the juice of this tide—the appetite juice—is relatively abundant, flows for a considerable period, and has strong digestive powers. And secondly, the chemical tide, set up at a later period by the direct effect of the food stuffs upon the gastric mucous membrane. The former is brought into activity by the higher centres. Cut through the vagus nerves and it is wholly stopped. The latter has also, according to Pawlow, a nervous origin being brought about by the simple reflex from irritation or chemical stimulation of the gastric mucosa. Taking everything into consideration, the former tide, of “appetite juice,” is by far the more important. I may here quote one of Pawlow’s own experiments amply proving this statement.

“I carried out the following procedures upon two dogs both of which had ordinary gastric fistulæ and were besides œsophagotomised. Into the stomach of the one, while its attention was distracted by patting

and speaking kindly to it in order to avoid arousing any thoughts of feeding, a definite number of pieces of flesh were introduced through the fistula. The morsels were threaded on a string, the free end of which was fastened to the fistular cannula by inserting a cork. The dog was then brought into a separate room and left to itself. A like number of pieces was introduced into the stomach of the other dog in the same way, but during the process, a vigorous sham feeding was kept up, the animal being afterwards left alone. Each dog received 100 grms. of flesh. Since then an hour and a half have elapsed, and now we may draw the pieces of flesh out by means of the thread and weigh them. The loss of weight, and consequently the amount of flesh digested, is very different in the two cases. In that of the dog without sham feeding, the loss of weight amounts to merely 6 grms., while the flesh withdrawn from the stomach of the other dog weighs only 70 grms., that is to say, has been reduced by 30 grms. This, therefore, represents the digestive value of the passage of food through the mouth, the value of an eager desire for food; the value of an appetite."

"A good appetite in eating is equivalent from the outset to a vigorous secretion of the strongest juice; where there is no appetite this juice is also absent. To restore appetite to a man means to secure him a large stock of gastric juice wherewith to begin the digestion of the meal."

The morals are many which we may draw from this striking series of experiments. First and foremost, we have to learn that, in dieting either the well or the ill, the absolute quantity of the food stuffs we give and the number of calories these quantities represent, is far from being everything. A simple food stuff like white of egg, if given alone, will take a long time for its digestion, whereas a simple broth or extract of meat, whose direct value as a food is absolutely nil, may be of distinct value in directly stimulating the flow of the gastric juice and thus aiding the digestion of food stuffs which follow. Plain undiluted water has a like affect. Food eaten without relish and without appetite, although in itself most nutritious, may lie for hours within the stomach undigested. So again, food eaten while the mind is diverted to other things, may stay for long unacted upon, nay more, under such conditions, is liable to undergo decomposition and, irritating the mucous membrane, may lower its condition. Here, in short, appears to be the basis of the dyspepsia so common here as to be *the* "American disease: I do not mean to say that bad cooking, iced drinks and creams, hot rolls, and so on, do not play their part, but even granting all these things, if we are to accept the abundant experiments of Pawlow and his

co-workers, the conditions under which the food is eaten are the main causes of the disorder. "The old and empirical requirement that food should be eaten with interest and enjoyment is the most imperatively emphasized and strengthened of all." And if dyspepsia is to be warded off, the food should be taken under such conditions that everything is directed on the one hand to remove the thoughts from the cares of daily life and, on the other hand, to make the repast appetising so that the palate may be tickled and the flow of appetite juice excited. No matter how good the food, if presented, as is too often the case in our hotels, our public institutions, our hospitals and even in our homes, in an unattractive form, then, the appetite is not awakened, the appetite juice flows but poorly, and the digestive process is delayed to the detriment of the organism and of the individual, and of his mental and moral tone.

There is thus a philosophical basis for the customs of the table and for the decent carrying forward of the meal. Even, as Pawlow indicates, a good word has to be said for the preliminary cocktail, or glass of sherry and bitters. For, where food has to be taken and the individual is not absolutely anhungered, the bitters act as stimulating the appetite, that is, as preparing the organism to be attracted by food. Wholly apart from the question of the food value of alcohol, he is apt to consider that, at times, a little wine with the meal is a benefit in that it produces a mild narcosis of the highest centres and so distracts the mind from its cares while not acting upon the higher centres of the second order which determine appetite. The *hors d'œuvre*, it is to be noted, formed of highly seasoned fish or fish paste or the like, and rich in extractives, both stimulates the appetite and has a direct affect upon the gastric mucosa. Soup again, having a basis of stock or meat broth, comes well at the beginning of the meal in that the extractives it contains and the water directly stimulate the flow of the gastric juice and so prepare the stomach for the more solid foods that follow. While "the repast begun with pleasure consequent upon the pressing need for food, must also, notwithstanding the stilling of hunger, be terminated with an agreeable sensation. At the same time the digestive canal must not be burdened with work at this stage. It is only the gustatory nerves which should be agreeably excited; hence the logic of ending with something sweet."

It must ever be kept in mind that "what is meat for one is poison for another," that the same diet, found nutritious for one, is eminently unlikely to be serviceable for every individual, but that, on the contrary, in dieting, the personal equation must be carefully studied and those dishes be given which the patient enjoys, even if the food value, as

reckoned outside the body, of some of the ingredients, be far from approaching that of the constituents of other foods for which the patient has no appetite. And, remembering what has already been said concerning the pouring out of appetite juice, it is clear that if we wish to feed up a patient with a weak digestion, it is better not to give large meals but smaller meals at shorter intervals, for, with each meal, the flow of appetite juice is called into activity.

But for other points here touched upon and their explanation, reference has to be made to Pawlow's own work. There is one matter which I do not see touched upon by Professor Pawlow, namely, how far we are justified in drawing deductions from these experiments upon the dog regarding what occurs in man. If, as Pawlow puts it, this flow of appetite juice is brought about primarily by the intervention of higher functions such as judgment, will, desire, and if, by the establishment of this passionate desire for eating, unerring and untiring nature has linked the seeking and finding of food with the commencement of the work of digestion, then it has to be realized that the desire for special forms of food in a carnivorous animal must differ from the desire and choice of an omnivorous animal. So that, while flesh, more particularly, excites the dog, it may be that bread and other starchy foods and even sweet stuffs have in man an even stronger stimulating affect. To this extent we must be prepared to find differences in details in the working of the human as compared with the canine stomach.

Can we go any further? I think it will have to be admitted that we can, and that there are other differences between the flow in man and in the dog. I have just, as a matter of interest, been reading that which was the first great American contribution to medical science, William Beaumont's "Experiments and Observations on the Gastric Juice and the Physiology of Digestion," of which the first edition, which, along with the second, we are fortunate in having in our library at McGill, was printed in "Plattsburgh" in 1833. You all know the main points of the story of the French Canadian, Alexis St. Martin, how in his youth he was accidentally shot through the body, leaving a permanent gastric fistula which, nevertheless, caused him so little eventual serious disturbance that he lived to be eighty-one, and you know how, on and off for very many years, Beaumont, the army surgeon, made observations upon him. If you wish to refresh your memories as to the details of this most interesting history, I need but refer you to Dr. Osler's paper in the *Journal of the American Medical Association* of November the 15th, 1902.

Reading the original, one is immediately struck with a very marked difference between Pawlow's results upon the dog and Beaumont's upon

St. Martin. You will remember that the former found that mere mechanical stimulation of the gastric mucosa did not, in itself, call forth any flow of the gastric juice. Beaumont, on the contrary, employed this method of mechanical stimulation as a routine practice in order to obtain the pure juice. His method of gaining such juice, indeed, was simply the introduction of a gum elastic tube of the size of a large quill through the fistula into the stomach. "In health," he says, "and when free from food the stomach is usually entirely empty and contracted upon itself. On introducing a tube, the fluid soon begins to flow, first in drops then in an interrupted, and sometimes in a short continuous stream. Moving the tube up and down, or backwards and forwards, increases the discharge." Now this conclusion was not reached as the result of an occasional observation. There are, I have counted, some three score observations detailed in which studies were made with juice so gained from the fasting stomach. Nor was it a mere watery mucoid discharge that was gained by this means; it was a typical gastric juice, capable of acting upon various meats, milk, white of egg, and a host of other substances; it was strong enough to act upon bone; it was analyzed and hydrochloric acid was found present. It is true that ten, fifteen, or more minutes were necessary to collect even one and a half ounces of juice by this mode of irritation of the healthy, fasting stomach, so that the flow so induced was not found very active, true also that, occasionally no fluid was obtained by this means. But Beaumont suggests, what is at least a reasonable explanation, namely, that the irritation so induced is localised and not general, so the amount of secretion was not great. As Beaumont calls to mind, Spallanzani and others had, before him, excited the discharge of the gastric juice by the introduction of such inert substances as sponge, tubes, pebbles, etc., into the stomach *per os*. I do not see, therefore, how we can possibly accept Pawlow's generalization that the human stomach is not stimulated to secrete juice by mechanical irritation. There is a difference between man and his more highly organized nervous system and the dog. The human stomach is the more sensitive. Admitting this, we obtain an explanation of an apparent paradox which Pawlow points out and attempts imperfectly to explain. He gives an instance from his own personal experience in which, after an illness accompanied by a transient high fever, he had lost all desire for food and had a complete indifference towards eating. Fearing collapse, on the second or the third day, he endeavoured to create an appetite by swallowing a mouthful of wine. He felt it quite distinctly pass along the oesophagus and into the stomach and literally, at that moment, perceived the onset of a strong

appetite. He admits, therefore, that the tactile sensation of the stomach is, in man, sufficiently developed to be, at times, recognized by the psychical centres and, if he admits this, then it appears to me that he must go one step further and admit that, in the human being, such sensation is capable of starting the reflex which leads to a secretion of the juice. So far as they go, the facts here recorded seem to establish the distinction between man and the dog. One possibility remains, namely, that St. Martin knew what was expected of him and that the flow was stimulated from the higher centres and was not a simple mechanical reflex. Beaumont never tried the effect of introducing substances when the attention was diverted, and his observations show that in the middle of the experiments when his subject had become accustomed to the procedure, the flow was often very small, only a drachm or two and that, rarely, it was completely wanting. Granting this, I cannot but think that the evidence is in favour of the human stomach recognizing the existence of a mechanical load and secreting accordingly. If this be so, I do not see that we can hope ever to obtain in man so perfect a demonstration of the different tides of the gastric juice as Pawlow obtained in the dog. But, with this exception, it seems that we must regard Pawlow's observations as very largely applicable. Beaumont, it is true, only made what we may term rudimentary observations. He did not—he could not—estimate the power of the gastric juice under different conditions. He did not make sufficiently accurate observations upon the digestion of individual constituents of the diet; if he gave eggs, it was the whole egg together with salt and generally with bread. He experimented upon an enormous number of foods, even down to soused pig's feet and apple dumplings. He gave these with coffee, bread and vegetables. But, like the later observers, he found, under ordinary conditions, that within fifteen minutes the juice was already being actively discharged, and the discharge was largely proportional to the food taken, and that emotions and "whatever depresses or disturbs the nervous system" arrest the flow. I do not see that we can fail to be convinced that the broad principles of the two orders of excitation, psychic and chemical, must be the same in all warm blooded animals. What rests with us is, to observe carefully the effects of accepting Pawlow's principles in our dieting of the individual. Thus far it may be laid down as a matter of experience that the most well-fed persons are those who feed best.

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

EDITED BY

JAMES STEWART,
A. D. BLACKADER,
G. GORDON CAMPBELL,
FRANK BULLER,
H. A. LAFLEUR,

GEO. E. ARMSTRONG
J. GEORGE ADAMI,
WILLIAM GARDNER
F. G. FINLEY,
F. J. SHEPHERD,

ANDREW MACPHAIL, MANAGING EDITOR.

WITH THE COLLABORATION OF

EDWARD ARCHIBALD,
W. L. BARLOW,
H. S. BIRKETT,
T. J. W. BURGESS,
W. G. M. BYERS,
KENNETH CAMERON,
J. C. CAMERON,

W. W. CHIPMAN,
J. M. ELDER,
D. J. EVANS,
J. J. GARDNER,
A. E. GARROW,
W. F. HAMILTON,
F. A. L. LOCKHART.

C. F. MARTIN,
JOHN MCCRAE,
A. G. NICHOLLS,
E. J. SEMPLE,
J. W. STIRLING,
C. W. WILSON,

Remittances, advertisements or business communications are to be addressed to the Montreal Medical Journal Co., Box 273; all others to the Managing Editor, 216 Peel Street, Montreal.

VOL. XXXII.

NOVEMBER, 1903.

No. 11.

A REASONABLE SETTLEMENT.

In an editorial in the October number of this JOURNAL on the proposed amendments to the statutes, by-laws and regulations of the College of Physicians and Surgeons of the Province of Quebec, we made what might be called—in view of the attitude of the College at the July meeting—a reasonable forecast of the probable decision which it would take at the meeting of September 30th in regard to the vexed question of the “cours classique complet.” We said that “there seems to be no doubt that the clause as amended (Chap. VI., clause 1) will be passed at the September meeting of the board.” This would have meant nothing less than the enforcement of the “cours classique complet,” as a preliminary to the entrance examination, on all candidates—Protestant and Catholic alike—and we protested once more against what would be an undoubted injustice to one section of the community. Quite unexpectedly the board accepted an amendment excluding Protestant candidates from the operation of the by-law, which was objectionable to them.

We make haste to add that this was done in a spirit of perfect fairness and courtesy, which was duly appreciated and acknowledged at the time by the Protestant members of the board. There had evidently been a misunderstanding on both sides, and the satisfactory settlement of the question removes the only grave source of friction between the majority and the minority of the board. Both French and English have to live together, and all signs point to an increasing toleration of the views held by each where they can not be completely reconciled. We shall not be mistaken if we add that the time is at hand when all the elements of the board will operate as a unit for the welfare of medical education and practise. This latest concession, so gracefully made, has materially advanced the interests of all parties.

THE MEDICO-CHIRURGICAL SOCIETY.

The president of the Medico-Chirurgical Society introduced an innovation into the proceedings of the opening meeting, by transacting the business quickly, and delivering a short address in which the history of the session that is now past was nicely touched with comment and observation. The austerity of the rooms was relieved by small tables covered with white cloths, and the series of events which followed led to a display of extreme cordiality of feeling such as has not been achieved by ten years of case reports, papers and pathological demonstrations. The business of the society is not, of course, purely social, but the scientific side will not suffer by the demonstrations of tenderness, which the members displayed towards each other, on the opening night.

The president, amongst his many "announcements," brought forth matter, which is full of promise for making the meetings more tolerable to tired men. All the business will be dealt with by the Council, and, when well considered, will be brought before the members for approval, a practice which will save much time, by avoiding loose speech and discouraging hasty utterance. The living cases will be assembled in two rooms, at half-past eight, with succinct histories of their conditions attached to their places, and the pathological specimens may be seen at another convenient spot. The formal business of the meeting will begin half an hour later, and by a quarter past ten all will be over. The president made an appeal for a widening of the discussions, especially by the younger members, and that can be done without much consumption of time, for the younger members are not the worst offenders in that respect.

At the meeting referred to, one was struck with the preponderance of young men, and the absence of many who occupy official positions

in the profession. There is a vigour of life and an activity of movement in this Society, and all those who occupy or aspire to occupy official positions in the profession should keep themselves informed of its trend. Another noteworthy feature of the meeting was the presence of a number of members of the French portion of the community. This is one of many gratifying signs that French and English are coming together. The Medico-Chirurgical Society can do much toward that end.

MEDICAL FEES.

It is within the knowledge of the public, that there are some physicians and more surgeons who do occasionally charge for their services more than seems to be necessary; it is within the knowledge of the profession, that there are some amongst the public who do not pay their bills, however reasonable the charge may be. The result is at times an appeal to the courts. A judge finds no difficulty in adjusting a lawyer's account, for he has been a lawyer himself; he often confesses himself at a loss in adjudicating upon the nature of a physician's services. Medical men themselves are sometimes in doubt lest they may have charged a patient more than he can conveniently pay, and they have many a bitter moment, when they hear in an indirect way that a patient has been overcome with astonishment at the smallness of the fee.

A tariff of medical fees must always be a movable one, there are so many factors entering into the case which alter the monetary value of the services, such as the financial capacity of the patient, the necessities of the physician himself, the responsibilities he incurred, the skill required, the gravity of the condition with which he has to deal, and in some degree the success that has attended his ministrations. Another important element is the time that has elapsed between the rendering of the service and the rendering of the account. Eaten bread is soon forgotten.

The remedy for this unsatisfactory state of affairs is to be found in a judicial committee, which might be drawn from amongst the wisest members of the profession by the Medico-Chirurgical Society. It would be purely advisory in its functions, it would have no power of initiative, it would merely take cognizance of, and pass upon any account which might voluntarily be submitted to it by a medical man, who had any doubt about the accuracy of his account—doubt, it may be added, which might have been instilled into his mind by the recipient of his services. This committee would, of course, have no legal standing, but in time, it might come to be recognized as a medical court of arbitration. to

which the laity might come in all confidence that they would receive equitable treatment. In the unlikely event of legal proceedings, if a judge were convinced that an account had been passed upon by such a committee, it is extremely probable that he would adopt their view of the case. Litigation would be discouraged, and therefore justice would have a freer play.

In order to make the work of the present session especially interesting, the Council has issued a circular letter, pointing out how desirable it is that each member should hold himself responsible for some part of the programme, and asking him to consider the matter and reply to the Chairman of the Programme Committee, indicating the form his contributions would take, and the approximate dates of submitting them.

CHARITY AND THE HOSPITALS.

There was a time, long ago, when hospitals were institutions purely for the distribution of charity, though it is hard now to see what charity there was in exposing patients to the infection of erysipelas, hospital fever, gangrene, puerperal sepsis and the brutality of ignorant attendants. The poorer classes after a long crusade convinced the world that what they demanded was not charity but justice, not free coals, blankets and drugs from some Lady Bountiful, but a living wage, which would permit them to procure these necessary things for themselves.

This charity used to be bestowed chiefly with an eye to the benefits which were supposed to accrue to the giver; at present, this ethical motive is never referred to. If the canvasser for a hospital were to put forward this incentive to charity, the average man of business would look into his face for some signs of mental derangement. The people who call themselves the working classes—as if none worked but themselves—have received the justice they vainly sought for centuries. They cannot have justice and charity too; rather, they have received justice, and do not require charity.

A bricklayer receives 40 cents an hour; a stonemason, 35 cents; a carpenter 22½ cents; a plumber, 30 cents. These are not the poorer classes, and even the labourers, who alone have any claim to that distinction, have elected to remain idle rather than work for less than two dollars a day. The average medical man makes less than that during his first years of practice, and not many, at any time, arrive at the emoluments of a bricklayer. If the plumbers and carpenters and painters were to establish an institution, centrally located and perfectly equipped, where anyone, who chose to apply, would have the services of the most competent workmen free of charge, then there would be some justice in the present arrangement.

The medical profession is as eager as ever to bestow charity, but there is a growing irritation against the preposterous demand that it shall be given to all who apply, and those demands will not be endured forever, either by hospital physicians, or those outside the hospitals, whose actual living is put in jeopardy. The public, which supports the hospitals, will not endure it either. There is a remedy at hand, and that is to be found in the Charity Organization. This Society has already driven worthless beggars from our doors, and compelled them to elect between honest work, starvation and crime. It has reduced the professional applicants for needless relief at one institution by two-thirds, and it can purge the hospitals in the same way. In the General Hospital last year there were given 37,372 free consultations in the outdoor department, and 63,018 hospital days of free treatment; in the Royal Victoria Hospital the free consultations were 21,950, and the days of free treatment 70,609. If anyone says that any considerable part of this enormous extent of charity is in reality charity, then we take the liberty of replying that we do not believe it; if it be claimed that there is no remedy for this state of affairs, we say again that such a claim is unfounded. The proper source from which such remedy shall proceed is the Medico-Chirurgical Society, and we shall be much surprised if it does not take the matter in hand.

THE ALEXANDRA HOSPITAL.

Objection has been made in several quarters, that the committee which has in charge the matter of the new hospital for contagious diseases for the English speaking portion of the community in Montreal, has in the specifications for the plans asked for too small a number of private wards; that the hospital is to serve all classes of the community, that therefore all classes should be duly considered, and that a due provision of private wards is necessary, if the needs of the whole community are to be ministered to. We cannot but acknowledge the force of the argument; yet those who object have left out of account, that owing to the contract with the City the number of free beds cannot be lessened. The committee are fully alive to the fact that there should be accommodation of the very best kind for those who are willing to pay, and that anything short of the best will help to defeat one of the main purposes of the plan, but they have also before their eyes the necessity of doing the best they can with the means at their disposal. That part of the public which is likely to require private accommodation has the remedy in its own hands, and that is to come to the help of the committee in providing against the future. The members of the profession can be of great assistance in warning their patients to provide a refuge for their children against the time of need.

The plans for the new hospital are now sufficiently advanced to allow of suggestions from the medical profession being of some value, and they will in due time be submitted for consideration and advice.

An interesting case is under adjudication in the Superior Court of Quebec. The plaintiff is Isidore Crepeau, who claims \$395 damages from Dr. R. de L. Harwood and Dr. Magloire Ouimet, druggist, on the ground that a prescription ordered by Dr. Harwood, and prepared by Dr. Ouimet seriously impaired the health of his wife. It appears that the prescription was telephoned, and, that if any mistake occurred, it arose by a misunderstanding of the message. The suit in itself discloses another pitfall in the way of medical men.

Montreal is large enough to require some co-ordination in its public medical and surgical work. Residents as well as visitors would like to be informed of the time of clinics and operations. Men newly graduated would appreciate the opportunity for enlarging their experience, and even some of the older members could profitably renew their hospital life. It would not be necessary to advertise the operations in the newspapers, after the manner of some places. The interchange of cards between the hospitals, the posting of a notice in the colleges and in the rooms of the Medico-Chirurgical Society would be sufficient. The details of such a little innovation could be arranged by the various medical boards without much discussion and with no fear of misunderstanding.

Dr. Leo Loeb, who, for the last year, has been Fellow in Pathology at McGill, has been appointed assistant in the department of Pathology at the University of Pennsylvania.

During his stay in Montreal, Dr. Loeb has been a singularly active worker. Apart from the papers published and bearing upon researches carried on elsewhere, he has completed the following: "On the Coagulation of Blood in its Relationship to Thrombosis and the Formation of Fibrinous Exudate," this *JOURNAL*, July, 1903. "On the Presence of Specific Coagulines in the Tissues of Vertebrates and Invertebrates," *The Medical News*, New York, N.Y., Aug. 1st, 1903. "Versuche ueber einige Bedingungen des Blutgerinnung, insbesondere ueber die Specificitaet der in den Geweben vorhandene Coaguline," *Virchow's Archiv*, 1903 (in the press). "On the Influence of Certain Bacteria on the Coagulation of the Blood." *Journal of Medical Research*. (In the press).

The following papers deal with work begun elsewhere and continued and finished at McGill:—

"On the Transplantation of Tumours," *American Medicine*, Vol. V.,

March 14th, 1903. "Ueber Transplantation von Tumoren," *Virchow's Archiv*, Vol. 172, 1903. "On the Coagulation of the Blood of some Arthropods and on the Influence of Pressure and Traction on the Protoplasm of the Blood Cells of Arthropods," *Biological Bulletin*, Vol. IV., 1903. "Ueber die Bedeutung der Blutkoerperchen für die Blutgerinnung u. d. Entzündung einiger Arthropoden u. ueber auf d. Protoplasma dieser Zellen," *Virchow's Archiv*, Vol. 173, 1903. "On Regeneration in the Pigmented skin of the Frog and on the Character of the Chromatophores (with R. M. Strong), *Journal of Medical Research* (in the press). "On a Hypertrophic form of Atresia of Follicles and on the formation of Syncytium in the Ovary of the Guineapig, with Notes on the Oocytes of the medullary canals, on progressive changes in the Ova and on the origin of Lutein cysts. Other work begun in Montreal is not yet completed.

Reviews and Notices of Books.

OBSERVATIONS ON THE PLACENTA OF THE RABBIT WITH SPECIAL REFERENCE TO THE PRESENCE OF GLYCOGEN, FAT AND IRON. By WALTER CHIPMAN, B.A., M.D., Edin., F.R.S.C., Edin., Assistant Gynæcologist, Royal Victoria Hospital, Montreal; Lecturer in Gynæcology, McGill University. Studies from the Royal Victoria Hospital, Montreal, Vol. 1. No. 4. 1903.

In this part of the studies from the Royal Victoria Hospital are contained the results of some years of work in the laboratory of the Royal College of Physicians of Edinburgh, of work which gained for Dr. Chipman the Freeland Barbour Research Fellowship of that University and subsequently the gold medal of the same when the results were embodied in a thesis for the degree of M.D. It is in many respects unfortunate that the university authorities in Edinburgh have no fund for the publication of select graduation theses. As a result many a valuable piece of work is stowed away in manuscript in the university library never to see the light. A similar fate threatened this work of Dr. Chipman's. It is violating no confidence to state that an offer was made to publish it in the Transactions of a very distinguished Royal Society with the understanding that, at most thirty illustrations were to be given. But as, to confirm each successive step in the observations, the author regarded the photographic reproductions of his long series of sections of the developing embryo and placenta as absolutely essential, this offer could not be considered. Nor did there seem any other scientific body which would undertake the publication of so costly a work, while the specialised nature of the

work made it hopeless to think of independent publication. At this juncture, to quote the introductory note; "considering that the value of the investigation lies largely in the admirable series of microphotographs, illustrating the successive stages in the development of the placenta, and that the cost of reproduction was too considerable for Dr. Chipman, single handed, to undertake, at the recommendation of the Editorial Committee; the Governors of the hospital have not only agreed to apportion to this publication a share of the 'Study Fund,' but have also individually contributed to defray its very considerable cost on the grounds that, under the circumstances of the case, the words 'Works by members of the Staff of the Hospital,' may well be permitted to include work by those members undertaken in laboratories elsewhere."

It is to these circumstances that this handsome monograph of 261 pages illustrated by no less than 186 illustrations, the majority of them microphotographs, but some of them reproductions in colour, owes its existence, and the photographs are so admirably reproduced that there is no difficulty in following and confirming each successive step in the author's results. Of this large number of illustrations only some half dozen or so strike us as being inadequate.

Dr. Chipman, it would appear, began his work as a micro-chemical research upon the presence and fate of glycogen, fat and iron in the placenta. As a preliminary to this study, an intimate knowledge of the structure and development of the placenta was essential. It was soon realized, however, that the life history of the rabbit's placenta was, in many places, incomplete and that some of its most critical incidents were subject to diverse interpretations and disputes. As a result it was seen that accurate study of the development of the placenta had to be made in the first place, and as a matter of fact, while Dr. Chipman devotes some considerable attention to these subjects, glycogen, fat and iron, which are concerned more or less directly in all nutrition, it will, we think, be admitted that quite the most important portion of the work is his detailed study of the progressive steps in the development of the placenta of the rabbit, for his results seem to throw most valuable light upon the structure and development of the human placenta.

Briefly, studying first the virgin uterus, Dr. Chipman obtained a remarkably complete series of rabbits at each successive day of gestation from the fourth (the first recognizable) up to the twelfth, after that every other day up to the thirtieth, when intrauterine existence is complete and birth occurs. It is unnecessary to state how each gestation sac was hardened and prepared. A feature of the work is

the photographs of transverse sections of the uterine cornu on successive days, all upon the same scale.

The battle is still raging as to what extent of the placental tissue is of maternal, what of placental origin. Beginning at the fifth day, the first sign of the future placenta presents itself in the form of a great hypertrophy of two folds or cotyledons of the uterine mucosa. The connective tissue elements of the sub-mucosa multiply and there is great increase in the size and number of the capillaries. The endothelial covering of those cotyledons grows at the same time and at first remains intact. The stimulus to the growth of these folds is the presence in their immediate neighbourhood of the fertilized ovum. In this on the seventh day, the embryonal area is outlined and is directed towards the two cotyledons. Only upon the eighth day* did Dr. Chipman find the embryo gain direct attachment to these. Then the embryo was found placed with its back more or less apposed to the groove between the two folds. On either side of the embryo the ectoderm was thickened, forming the area of placental attachment which becomes apposed to the surface of the corresponding cotyledon. The attachment is by plane surfaces. The area of placental attachment quickly extends, but while the ectodermal cells of the embryo multiply rapidly, the underlying maternal endothelium is corroded and thinned. From this period onwards, while formerly the line of fusion of the two tissues, maternal and foetal, was, speaking broadly, in one plane, the foetal tissues encroach more and more upon the maternal, by means of ectodermal processes which first appear opposite to the uterine gland mouths, plugged by their own overgrowth of epithelium. In the perivascular sheaths about the maternal blood channels there now (9th day) appear great numbers of uninucleated, so-called decidual cells and the channels tend to become greatly enlarged. By the ninth day the epithelium covering the cotyledons, that is the maternal placental folds, is destroyed and the embryonic cells are in contact with the underlying corium. The foetal ingrowths into the maternal glands have plunged deeper, and the second group of such foetal processes penetrate into the corium, always in the neighbourhood of some superficial capillary. And now, in its turn, just as the surface epithelium (maternal) had disappeared, before the advance of the foetal processes, so now the tissue of the corium is absorbed and destroyed by the like means. As regards the maternal vessels, there now ensues a most remarkable process. It has already been stated. that

* We note here upon pages 123 and 124 what appear to be contradictory statements, to which we would call the author's attention. The statement is made that, on the *ninth* day, the attachment of the embryo is effected, but on the next page we are told that at eight and a half days the area of attachment is further extended. In our main text we make the obvious correction.

the maternal blood channels become more and more dilated and thin walled, and now, upon the tenth day, it can be seen that the columns of foetal cells penetrate along the course of the maternal vessels. The ectodermal cells surround the distal end of a vessel; multiply, advance along the wall, and gradually replace the maternal lining endothelium of the vessels. The foetal tissue swallows, as it were, the maternal and not only that, but swallows irregular hæmorrhagic cavities in what we may term the neutral zone of the placenta, due to occasional rupture of the maternal capillaries. And so it comes to pass that the advancing ectoderm replaces the maternal endothelium of the maternal vessels, or, in other words, at this period we see that what we may term the active portion of the placenta, is formed by foetal tissue projecting itself into the maternal tissue and lying in direct contact with the maternal blood. Dr. Chipman's figures make this remarkable process absolutely clear and appear to us to settle, once and for all, the question as to the nature of the main bulk of the placenta. What had been maternal becomes, save for its blood supply, almost wholly foetal.

This settled, the subsequent steps become easily comprehended. From having solid processes of foetal cells, or, as Chipman has termed it, test-tube-shaped processes, containing maternal blood, we pass on next to what we may term the organization of the foetal processes. Under and behind the foetal ectoderm is projected outwards the foetal mesoderm with capillaries filled with nucleated foetal blood, and thus, if we may so express it, the ectoderm lining the maternal blood sinuses, acts as a layer of glandular cells absorbing nutrition from the maternal blood and presumably also capable of excretion of material into that blood, and this glandular tissue passes on the products that it receives from the mother into the vessels of the foetus, while the vessels of the foetus give up to these same cells substances which are to be discharged, and in this way, the placenta acts as a go-between for mother and foetus. As Dr. Chipman remarks, the above is the fundamental plan of the foetal placenta; the plan is afterwards merely elaborated.

The rest of the study is concerned with the finer details of the processes, with the nature and origin of the different forms of cells and, lastly, with the study of glycogen, fat and iron found in the placenta.

Employing micro-chemical methods, Chipman was able to follow all these stages. He found, for example, that glycogen, as such, could never be detected in the foetal portion of the placenta. On the eighth day it began to accumulate in certain cells of the maternal placenta, but here it reached its maximum between the twelfth and

sixteenth days, and diminished rapidly from now on to the twenty-second day. On this day it is to be noted in the foetal liver, increasing in amount rapidly and steadily, until the end of gestation. These observations would seem to indicate that the glycogen is discharged from the maternal placenta in soluble form into the blood of the sinuses, that it is taken up by the foetal cells and circulation and is then consumed, and that only at a relatively late period in the development of the foetus, is there either sign of glycogen or of its precursors circulating in the foetus, becoming deposited as such in the foetal liver. The fat, it is interesting to note, makes its appearance in the liver cells about a week earlier and it accumulates until, at the period of gestation, the liver is richer in fat than at any other period. In the placenta the fat is noticed first upon the twelfth day and then in the foetal portion rather than the maternal.

With regard to the iron, Chipman found that it appears first in the foetal placenta and then on the fourteenth day, irregularly distributed through the mesodermic partitions which separate the blood sinuses. The iron granules in fact, always lie in the mesodermal cells. This deposit of iron in the foetal placenta reaches its maximum upon the eighteenth day, and its maximum is coincident with the appearance of granules in the foetal liver. Although in diminished amount, the iron continues to be found in the placental mesoderm until the close of gestation.

We congratulate Dr. Chipman upon having produced a work which, from its completeness and the care that has been taken to substantiate every statement made, by recourse to actual appearances in the tissues, is bound to be regarded as the authoritative publication upon the subject of which it treats.

A TEXT-BOOK OF OBSTETRICS. By J. CLARENCE WEBSTER, M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynaecology in Rush Medical College. W. B. Saunders & Co., Philadelphia, New York, and London, 1903. Canadian agents, J. A. Carveth & Co., Toronto.

Dr. Webster is so well known in Montreal from his former connection with McGill College, and the Royal Victoria Hospital, that any work from his pen is sure of a sympathetic reception in this city. As he is best known, perhaps, in connection with his work in Edinburgh, especially his researches in female pelvic anatomy and tuboperitoneal ectopic gestation, and later, his studies of the minute anatomy of placentation, it is not surprising to find that in his book the anatomy and physiology of pregnancy have received careful attention. In the

space of 94 pages he has succeeded in giving a description of modern views and theories so clear and concise as to be easily within the comprehension of the average student. The illustrations, which are numerous and for the most part original, help very much in simplifying a subject which the student usually finds very hard to understand. He criticizes the statement so commonly found in text-books, that both *arteries* and *veins* open into the intervillous spaces, and proposes to substitute the terms *afferent* and *efferent* vessels, since their structure is more like that of dilated capillaries than of true arteries and veins. Further, he holds that there is no systematic or orderly arrangement of these vessels, but that afferent and efferent vessels open indiscriminately on the decidua surface, between, as well as upon, the decidua elevations. He takes issue, therefore, with Bumm and others who describe a particular and definite arrangement of these vessels.

The chapter on the anatomy and physiology of normal labor is also very good, and is well illustrated. In the explanation of the mechanism of *internal rotation*, he makes the *sacral segment* of the pelvic floor the chief factor, pointing out the incorrectness of Olshausen's view that internal rotation is merely the result of a movement of the trunk. He rejects also the explanations of those who attribute rotation to the shape of the head, for rotation occurs in other presentations than those of the head; also of those who attribute this movement to the influence of the inner surface of the bony canal on the foetal head, for rotation occurs in breech and transverse cases and in pelvis so deformed that the normal relationships are absent. If there is one thing more than another upon which the student should have clear ideas, it is regarding the mechanism of labour. It is indeed gratifying to find an author who gives forth no uncertain sound in this regard, and who, from clinical experience, confirmed by the study of frozen sections, is able to brush aside those theoretical explanations which have done so much to confuse the mind of the student and divert his attention from the plain and simple mechanism which he must grasp firmly if he is to carry out his practical work with intelligence and success.

In the management of labour, in dystocia, and in operative obstetrics the author follows chiefly the teaching of the Edinburgh school. It would be desirable, however, that in subsequent editions he should expand somewhat this portion of his book, which does not receive so complete and satisfactory a treatment as the earlier portions devoted to anatomy and physiology.

On the whole, the book is excellent and suggestive, and should be in the hands of every one who wishes to know something of the science as well as of the art of obstetrics.

A TEXT-BOOK OF DISEASES OF WOMEN. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania, Gynæcologist to the Howard, the Orthopædic, and the Philadelphia Hospitals. W. B. Saunders & Co., 1903. Canadian Agents, J. A. Carveth & Co.

Following the introductory chapter, upon instruments and methods, the author begins at the vulva and dutifully following his many predecessors, pursues his descriptive way up the genital tract to the ovary; an index is appended and the work is complete.

This book of Prof. Hirst's is much better than many others and is deserving of rank with Dudley's. It is a companion work to the author's Text-book of Obstetrics, and follows much the same lines. It is essentially a practical book, the work of a busy surgeon, designed especially as a practical guide to those who read. The various conditions are sharply, if shortly defined; the clinical pictures are drawn clearly and the treatment, surgical or medical, generously designated. The whole atmosphere is utilitarian, rather than scientific, but its quality is always accurate and well-chosen.

The author tells us that he writes in the light of twenty years' experience, and the book everywhere shows this, for everywhere the actual practical dealings at the bedside and in the operating-room, are kept well in view. The scientific aspect of the work is always subsidiary, and viewed in this light alone, the book is unequal and not infrequently weak. This is specially noticeable in Parts v and viii, "Diseases of the Cervix Uteri and the Fallopian Tubes." Professor Hirst's text-book, while designed for the use of both, meets more adequately the need of the young practitioner who desires to know what to do and how to do it, than the requirement of the student whose concern is, or ought to be, equally, with the ætiology and nature of the disease. The chapter on Displacements of the Uterus is exceptionally judicial. Undue prominence seems to be given to Anomalies of Development and why, in the closing chapter, "Gynæcological" should be still further mutilated, from 'gynecologic' to 'gynecic' is not quite clear. An especial feature of the book is the clearness with which the different operative procedures are described; the meaning is always plain and the text, while profusely, is for the greater part temperately illustrated. The microphotographs and water colours are with few exceptions original and they are excellent and well produced. Whilst many of Prof. Hirst's colleagues have enjoyed a twenty years' experience, there are few of them who could write so lucid a book.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By RICHARD C. CABOT, M.D., Harvard Medical School. Second edition, 147 illustrations. New York, William Wood & Co., 1903.

This book, in spite of the author's too modest deprecation, does contain a great deal which is original. Good writing in itself in medical works is now so rare as almost to amount to originality. Most books on diagnosis are merely a propagation of errors, as Dr. Cabot points out, that the aortic second sound is louder than the pulmonary second sound, that aortic regurgitant murmurs are best heard in the second right interspace, that a hypertrophied left auricle can produce dulness and pulsation near the left sternal border, that systolic retraction at the cardiac apex means adherent pericardium, and that epigastric pulsation denotes hypertrophy of the right ventricle. Dr. Cabot has approached his subject with a fresh mind, hearing ears and seeing eyes. If he sees and hears fewer things than others who have written books upon diagnosis, it is because he does not confuse facts with inferences. Dr. Cabot thinks that many instruments of precision are of value, if they were not continually getting out of order—which is a wise observation. The chapters on percussion and on early phthisis are nothing short of the expression of a master workman with his hands. The whole book is a refreshment.

DISEASES OF WOMEN. By ARTHUR H. N. LEWERS, M.D., Lond., F.R.C.P. Sixth Edition, 551 pages. H. K. Lewis, London, 1903. 10s. 6d.

This is the sixth edition of Dr. Lewers' well known book, in which he has utilized the enormous experience he has gained as obstetric physician to the London hospital these fifteen years past. All the obsolete operations have been removed from consideration, and if the book be compared even with the third edition, published in 1891, many other changes are observable. Fibroid tumours beginning in the cervix are well worthy of the attention they receive. The catechising of the woman is very vivid, but there is no necessity for introducing into a scientific book the jargon of the outpatients' department of the great hospital in Whitechapel road. One or two examples will serve: "Did you come on quite regular at first, or after seeing it once, did it leave you for some months"? "When were you first poorly in your lifetime"? "Seeing nothing." "Skin-cracks," "stomach," for abdomen. Many of the pages are defaced by italics, brackets, and the frequent employment of "i.e." and "e.g.," to say nothing of such expressions as "peri-, or parametris." Many of the illustrative cases are trivial and the histories of them prolix. Objecting to these small things may appear

as an eccentricity on the part of a reviewer, but they mar the pleasure in reading an otherwise excellent book, and it would be so easy to remove them from a book which is passing through so many editions.

A HANDBOOK OF THE DISEASES OF THE EYE AND THEIR TREATMENT.

By HENRY SWANZY, A.M., M.B., F.R.C.S.I. Eighth edition, 678 pages, with illustrations. London, H. K. Lewis, 1903.

It is with pleasure we greet the appearance of the eighth edition of Swanzy's really valuable handbook of diseases of the eye. The observations and statements in this work have always been so uniformly accurate, that it can not be too strongly recommended to the student of Ophthalmic Surgery. Reviews of previous editions of this book leave but little to be added in regard to the present one. Some obsolete matter has been left out and much new matter added; especially is this noticeable in the description of operations, the use of the magnet, the description of new forms of ocular disease, such as conjunctivitis petrificans, guttate keratitis, lymphangeoides of the eyelid. The article on sympathetic ophthalmitis has been greatly extended, and the author favours the title of Ophthalmia Migratoria as more faithfully indicating the etiology and nature of the disease, the disease being a uveitis and often optic neuritis, which has arisen by direct transmission or migration of bacteria by way of the optic nerves and commissure, from the injured eye to the sympathizing one.

The chapter on ocular symptoms in connection with cerebral disease, is a thoroughly useful one and will be of much service both to the student and practitioner. Little remains to be added except to mention the admirably lucid style of Mr. Swanzy's descriptions, and also the good general "make-up" of the book as a specimen of the publisher's work.

J. W. S.

MODERN METHODS IN THE SURGERY OF PARALYSIS, with special reference to muscle grafting, tendon transplantation and arthrodesis.

By A. H. TUBBY, M.S., Lond., F.R.C.S., Eng., and ROBERT JONES, F.R.C.S.E. Macmillan & Co. 10s.

The authors of this excellent book begin by passing in review the literature that deals with the causes and course of infantile paralysis, quoting cases that have come under their own observation and referring to the epidemics in which this disease has so often been seen. This section of the work together with the chapters on general treatment and the prevention of deformity are treated at sufficient length to make them of the utmost value to the practitioner.

In the chapter on mechanical treatment great stress is laid on the position in which the limb is splinted. The intact muscle groups

are extended and the affected muscles thus put at rest and relaxed. This, together with the muscle treating, is the mainstay of the treatment. The authors say, "We cannot speak highly of electricity either in the early or later stages of the disease, a combination of voluntary movements and massage is invariably more effective." With this conclusion we quite agree. In complete paralysis of the elbow a new method of fixing the joint in flexion is described by dissecting off a diamond-shaped area at the bend of the elbow and suturing the upper and lower angles. They claim a much more useful arm for this procedure. The various operations for tendon and muscle grafting are well described and illustrated by diagrams, and case reports and the possibilities of nerve grafting are indicated. The advantages and disadvantages of arthrodesis in flail limb are discussed at length and the operation described. The book concludes with a section on paralysis from fractures and dislocations, sections of nerves, spina bifida, etc. The descriptions of principles of treatment is lucid and concise, the illustrations are clear and diagrammatic, a distinct relief from the photographic method, and the cases cited are convincing. It is the most serviceable and thorough handbook of this subject, and one that must commend itself to every man under whose notice these unfortunate and unsatisfactory cases have been brought.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS.

By J. BERGEN OGDEN, M.D., formerly Instructor in Chemistry, Harvard University Medical School. Second Revised Edition, 418 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Canadian Agents, J. A. Carveth & Co. Cloth, \$3.00.

This is a work upon the chemistry of the urine and also upon the relation of the various constituents to physiological and pathological processes; that is, it deals as well with the diagnosis of disease in so far as that can be arrived at by urinary examination. In this, the second edition, important changes have been made in Part I., especially in connexion with the determination of urea, uric acid, and total nitrogen; and the subjects of cryoscopy and beta-oxybutyric acid have been given a place. It is probable that Dr. Ogden has gone a little too far in assigning importance to the urinary changes in such diseases as melancholia, and in epilepsy; the alteration is probably merely the result of muscular effort and not of intoxication. The sections upon albumen and diabetes are extremely sensible, and the references to the literature are full and correct. Rather a careful examination fails to disclose any useful test, which has not received full consideration in this book, and the inferences from them are made with justness.

A **MANUAL OF THE DISEASES OF THE EYE.** By CHARLES H. MAY, M.D., Adjunct Ophthalmic Surgeon to Mount Sinai Hospital, New York. 3rd Edition, 410 pp., with 275 original illustrations and 16 plates with 36 coloured figures. Cloth, \$2.00. William Wood & Co., New York. Canadian agents, Chandler & Massey.

This little book deserves the success with which it has met. For the undergraduate of medicine it is probably the best work on ophthalmology published in English. Naturally in so small a space it is impossible to deal with every phase of the subject, but the author has presented everything in modern eye surgery the student should know in a concise and very attractive manner. The text is clear and well arranged; the illustrations numerous and well placed. The photographs employed in this edition for the first time are surprisingly clear and instructive. The size of the book accounts not a little for its popularity, and we hope the author will keep the volume within its present limits.

A **TEXT-BOOK OF THE PRACTICE OF MEDICINE.** By JAMES M. ANDERS, M.D., Professor of the Practice of Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition, revised, 1,300 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, \$5.50; leather, \$6.50.

In the February number of this JOURNAL, the fifth edition of Dr. Anders' well known text-book was fully considered, at a date so recent, there is no need to deal with this, the sixth edition, with any elaborateness. Many will think that the appearance of six editions in as many years of a book containing considerably over a thousand pages is indubitable testimony to its value; certainly, that fact attests to its popularity, and the favour with which it has been received is easy to understand, in view of the wealth of material the book contains, and the bearing of much of its contents upon the treatment of disease.

PROGRESSIVE MEDICINE. Edited by HOBART AMORY HARE, Vol. III., September, 1903. Lea Brothers & Co., Philadelphia and New York.

This volume deals with diseases of the thorax and its viscera, including the heart, lungs and blood vessels, by William Ewart; Dermatology and Syphilis, by William Gotheil; Diseases of the Nervous System, by William G. Spiller; Obstetrics, by Richard C. Norris. This series has been referred to so often in these pages, that it is only necessary to mention that the present volume maintains the high standard of fulness and accuracy established by the previous ones. The references are particularly valuable.

SCHEME FOR THE DIFFERENTIAL TESTING OF NERVES AND MUSCLES, for use in diagnosis. G. J. MONTGOMERY MOSHER, Albany Medical College. Brandon Company, Albany.

These tables are the result of examinations made at the Albany hospital. Every point of importance upon the body is noted in coloured charts and further described in a concise text. For those, who are impressed with the necessity for an exact knowledge of the electric reaction of muscles for purposes of diagnosis, this book, plates and text will be of great value.

SQUINT: ITS CAUSES, PATHOLOGY AND TREATMENT. By CLAUD WORTH, F.R.C.S. London, John Bale, Sons and Danielson, Ltd.

This little book of two hundred and thirty pages represents the views of the author after a careful study of twenty-three hundred cases of squint in several London Hospitals. There are new theories expressed regarding the causes and treatment of this common affection which require to be read by every ophthalmic surgeon. The book is well illustrated and merits a place in any library devoted to the surgery of the eye.

CANCER AND PRECANCEROUS CHANGES, their origin and treatment.

By G. H. FINK, M.R.C.S., Eng. Major, Indian Medical Service (retired). London, H. K. Lewis, 1903.

This booklet of 105 pages assembles in convenient compass all that is known and much that is surmised of cancer. The statistics, which were scattered through various books and periodicals, are tabulated and made available for reference, and the account of cancer in tropical countries is full of interest. The author believes that circumstances point strongly to an analogy between cancer and malaria.

AIDS TO PHYSIOLOGY. By PEYTON T. B. BEALE, F.R.C.S., Eng. Ballière, Tindall and Cox, London, 1903.

This little book is of the familiar aid series, and contains all which is required by law for the student to know. It is intended to be supplementary to the text-book, lectures and practical work; as such it has a usefulness, and is likely to be much sought after by students.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. By R. A. WITTHAUS, Fifth Edition. William Wood & Co., New York.

One would like nothing better than to be a student and follow this guide through the whole course. In the end there would be very little in urinalysis he did not know.

Medical News.

TORONTO UNIVERSITY.

The formal inauguration of the Federated Medical Faculty of Toronto University, took place at a special convocation on the 2nd October. The prevailing sentiment was hope for the future. The necessity of generous aid to the school was strongly urged, and the government was assured that in making the college one of the leading medical institutions in America, it would receive the endorsement of the people of Ontario.

The first candidate for the honorary degree of doctor of laws, was William Keen, of Jefferson Medical College, Philadelphia. Dr. Keen in acknowledging the honor dwelt on the necessity for providing a complete university hospital in order to afford the students the opportunity of obtaining the best practical education. Speaking from his own experience of forty years, he said that students were the best whip and spur of which he knew. The medical man who works under the eye of a hundred students would do better than one working alone. He would be compelled to keep up with the times, and in perfect touch with the most recent developments in modern practice.

Rev. Prof. Clark introduced William Henry Welch, Professor of Pathology, Johns Hopkins University. Dr. Clark spoke of Dr. Welch as one who honoured the university by accepting a degree, as he was known as an important man in the medical and literary world, and was also distinguished for his kind and generous helpfulness to the student body.

Dr. Welch said he appreciated very highly such an honour from a Canadian university, as he did not consider it a foreign institution, but one in which he had a brotherly interest. He strongly endorsed the remarks of Prof. Keen, especially in regard to a university hospital, and was sure there was a great future in store for the medical school, as he had been greatly impressed with the men he had met and was confident of their ability.

R. Ramsay Wright, vice-president of the university, introduced Dr. William Osler, and he was received with much applause. Dr. Wright said that the name was so familiar he felt as if they should appropriate its bearer for the new college. He had been very fortunate in his ancestry, as a man's success was due chiefly to heredity and only partly to education. The speaker was glad to say that Dr. Osler's first leaning to biology had been directed by a Canadian institution.

A short speech was made by Dr. Osler in appreciation of the honour

conferred on him. The degree of J.L.D. had a number of disadvantages he said, as, it was believed that the recipients did not do much for the world, but had only reached an ornamental stage. It was beyond his power to suitably express the feeling of an old student at witnessing the prosperity of his alma mater.

Russell Henry Chittenden, Professor of Physiological Chemistry, in Yale University, was presented by Dr. McPhedran in a short resumé of his attainments. The recipient in his reply dwelt on the important part that his department was to play in the future of medicine. The University of Toronto had an opportunity to develop this phase of study, but it must have money and brains. There must be an opportunity for research, such as would induce students to stay and keep their young men. The strength of the university depended on the strength of its men.

A. B. Macallum in introducing Charles S. Sherrington, Professor of Physiology in the University of Liverpool, stated that very few men could rank with him in his contribution to medical science. There were very few departments in which he had not made some change, especially in neurology. The honorary degree had never been more worthily bestowed than on Dr. Sherrington.

The exercises were concluded by the announcement by President Loudon that, on account of the illness of Henry Pickering Bowditch, Professor of Physiology in Harvard University, he would ask the vice-chancellor to confer the degree on him in absentia.

An informal dinner was tendered in the evening by the medical faculty to the visitors.

The new university buildings for physiology, pathology and medicine, were formally inaugurated on Thursday, 1st October, at the new buildings; addresses were delivered to the final classes by Dr. Keen, of Philadelphia, Dr. Welch, of Baltimore, Dr. Adami, of McGill, and Dr. Abbott of the University of Pennsylvania.

Dr. Welch, in his address, reviewed the history of pathology, showing how the growth of knowledge of physical life proceeded by generalization, followed by demonstration. He paid a high tribute to Virchow, who had reduced the theory of cellular life to fact; and also to Pasteur, who had done inestimable service by his investigation in the causation of disease, and his discoveries of parasitic organisms in the human body. Koch's creation of a simple technique of pathology had also led to many great discoveries. He assured the students that a scientific interest in pathology would add greatly to the interest and pleasure of their lives as practitioners.

Dr. Adami combatted the reaction against scientific teaching, and

warned students that if they relied solely upon the written word their future careers would be in danger. The physician should regard each case as a problem, and should deal with it in a rational way and not by tradition. He paid a high tribute to the preliminary training in biology given at Toronto University, and said it had enabled it to send out many specialists to American universities. Prof. MacCallum's work in investigating the physiology of the cell, illumined the path of pathology.

QUEEN'S UNIVERSITY.

The formal installation of Principal Gordon, of Queen's University, Kingston, took place on the 15th October, in the presence of a large audience of citizens, delegates and guests. Dr. Gordon's address dealt with the spirit of Queen's, with educational, spiritual and national ideals. Addresses were also given by Lieut.-Gov. Clark, R. L. Borden, M.P., J. P. Whitney, President James, of the Northwestern University, Chicago; Principal Hutton, of University College, Toronto and Rev. Dr. Milligan, Toronto.

Honorary degrees of LL.D. were conferred upon the following:

Vincent H. Moore, M.D., Brockville; Hon. Wm. S. Fielding, Robt. L. Borden, Hon. Wm. M. Clark, Lieutenant-Governor of Ontario; H. L. Wilson, Baltimore; John Cox, Montreal; R. Ramsay Wright, Vice-President University of Toronto; Edmund James, Northwestern University, Chicago; Victor Goldschmidt, Heidelberg; Principal Peterson, McGill University; Hon. G. W. Ross, J. P. Whitney, Walter C. Murray, Dalhousie University; Dr. H. H. Chown, Manitoba University; Rev. Dr. G. M. Milligan, Toronto; Chancellor O. S. C. Wallace, MacMaster University, Toronto; Vice-President H. P. Judson, Chicago University; J. E. Creighton, Cornell University; President D. Allison, Mount Allison College; Principal J. Galbraith, Toronto; Sir Wm. Hingston, Laval University; Hon. Richard Harcourt, Principal Morris, Hutton University College, Toronto; Chancellor Burwash, Victoria University; Rev. O. Rigby, Trinity University.

Doctors of Divinity—Rev. D. P. Fletcher, moderator of General Assembly; Rev. Salem Bland, Wesley College, Winnipeg; Rev. H. J. Cody, Wycliffe College, Toronto; Rev. Malcolm MacGillivray, Kingston; Rev. John Mackie, Kingston; President Trotter, Acadia University, Wolfville; Rev. John Campbell, acting principal Presbyterian College, Montreal.

Dr. W. L. Herriman, of Lindsay, Ont., the only known survivor of the first graduating class of the Medical School in 1855, addressed the meeting.

Dr. Connell has since been elected Dean of the Medical Faculty in succession to the late Dr. Fyfe Fowler.

McGILL UNIVERSITY.

The number of students registered in the Faculties of Arts, Law and Applied Science at this date are as follows.

Faculty of Applied Science—Undergraduates: First Year, 108; Second Third Year, 46; Fourth Year, 51; total, 227. Partials: First Year, 77; Second Year, 22; Third Year, 11; Fourth Year, 1; total, 111. Graduates, 6; total 344.

Faculty of Law—Undergraduates: First Year, 12; Second Year, 7; Third Year, 18; total 37; Partials, 2; total 39.

Faculty of Applied Science—Undergraduates: First Year, 108; Second Year, 80; Third Year, 58; Fourth Year, 47; total, 293; Partials, 14; Graduates, 2; total, 309.

LAVAL UNIVERSITY.

On October 14th the religious exercises, attendant upon the opening of Laval University, were held in the Cathedral. The principal feature was the celebration of the Solemn High Mass of the Holy Ghost. His Lordship, Bishop Emar, of Valleyfield, officiated, and the various faculties of theology, philosophy, law, medicine, science and arts attended in a body, all attired in their official garments. Bishop Emar addressed a few words and Father Chas. Lecocq, superior of the Seminary of St. Sulpice, delivered an eloquent address.

OTTAWA ISOLATION HOSPITAL.

Patients who were compelled to resort to the Ottawa Isolation Hospital, have observed that the disease with which they suffered on entering, gave way to an entirely different one before they were many days in residence. This phenomenon aroused some interest, and the two medical societies were requested to undertake an investigation. The text of the Ottawa Medical Society is worth reproducing, as it agrees in substance with that published by the Clinical Society:

After a thorough examination of the building and a rigid questioning of the staff we find:—

That the clerk shares her office with the lady superintendent and the house surgeon; her bedroom is with the nurses of the diphtheria ward. The clerk, amongst other duties opens the front door, answers the telephone, and hands visiting physicians their gowns. In her absence these duties are performed by the lady superintendent, or a nurse from the diphtheria ward.

The lady superintendent and the house surgeon do not change their clothes in going from one department to another in the discharge of their various duties. Owing to the arrangement of the building it would be almost impossible to make the numerous changes of clothing required.

On leaving the entrance to go to any part of the building it is necessary to pass through a corridor connecting the two wings of the diphtheria ward. This is practically going through that ward.

The chute for infected and soiled linen is common to both floors.

There are two large ventilating shafts, one for each wing of the building. In each wing the various wards, public and private, and the dining rooms have all connexions with this shaft, but as there are no fans, the draft of air under certain atmospheric conditions is into the room supposed to be ventilated.

Lavatories—None of these are supplied with ventilators.

Dumb-waiters—Though there is a separate one for each floor and the utensils are all sterilized before being returned to the kitchen, as there is but one kitchen, which is generally hotter than the wards above, there is a constant interchange of air and flies between the different floors. The flies are very numerous in the several kitchens.

Admission room—All patients are admitted and examined in the same room and are then sent up by the common stairway or elevator to their respective floors. The kitchen help have to go through the entrance on their way to and from the store room.

Sterilizing room—The man who puts the bundles of infected clothing into the sterilizer takes his meals with the cooks and laundresses. The laundry is well equipped and no fault can be found with it.

The pathological work for both diseases is done in the same laboratory.

Elevator and stairway—The only stairway in the building runs around the elevator shaft, and is a perfect fire trap; the elevator itself is simply a warehouse hoist, which should not be used for patients. Accidents have occurred due to its faulty construction.

The nurses have separate dining rooms but there is a common kitchen and the same maid waits at table in both rooms.

The maids for the different wards have bedrooms widely separated, but eat at the same table.

The house surgeon has no bath-room. He has to use the ward bath and keep his street clothes in his bedroom with his hospital uniform.

There is now a case of mixed infection in the scarlet fever ward, attended to by a nurse who has also under her care some cases of pure scarlet fever. There is absolutely no means of isolating mixed infections.

There have been treated since the hospital opened, 184 cases of scarlet fever, and 194 cases of diphtheria. Twenty-four cases of scarlet fever were complicated with diphtheria on admission. Nine cases of scarlet fever developed diphtheria, after admission, during convalescence; five of these occurred in three beds which were opposite an opening in the ventilating shaft. Three cases of diphtheria developed scarlet fever.

From the foregoing it will be seen that these infectious diseases, are in no wise isolated, one from the other, nor can they be, while these structural and administrative defects remain. On this account we must absolutely condemn the building as it now stands. We take this opportunity of congratulating the hospital staff on the splendid results they have shown under the most disadvantageous circumstances.

In our opinion the proper way to carry out isolation is in separate buildings. We would, therefore, recommend that the present building with some alterations be used for scarlet fever and administration, that another building be provided for diphtheria and that the annex have another story added to it to be used for cases of mixed infection and such other infectious diseases as do from time to time arise in every contagious hospital.

Dr. Klotz has since resigned and Dr. T. C. Ballantyne was appointed in his stead, but Dr. Ballantyne also gave up the post after observing the condition of the hospital.

ST. LUKE'S HOSPITAL, OTTAWA.

The annual meeting of the St. Luke's Hospital was held on the 14th October. The Treasurer's report showed that in addition to the special fund of \$29,892.06, there were received during the year for ordinary maintenance cash subscriptions from the public \$2,223.86; civic grant, \$1,024.86; county grant, \$200, and provincial grant, \$1,520.29; from patients, \$10,767.76. The expenditure including salaries, hospital staff, \$5,417.78; floating indebtedness and current expenses, \$19,780.92, leaving a balance of \$713.86.

Dr. R. W. Powell presented the honorary secretary's report. During the year there were 474 surgical operations. The total number of admissions for the year ending September 30th, was 945. Of these 478 were males and 467 females; 521 were Protestants, 398 Roman Catholics, and 26 belonged to other denominations; 751 were Canadians, 54 English, 61 Irish, 27 Scotch, 13 Americans and 39 came from other countries; 540 patients lived in Ottawa, 75 outside in the county, 148 in other countries of Ontario, 169 in other provinces and 4 in other countries. Of the total number 875 were discharged and 32 died.

There were 38 patients remaining in the hospital on September 30th. The average length of a patient's stay was 18.16 days, slightly below last year's average stay. Of the patients discharged, 717 were cured, 136 improved; 7 showed no improvement, and 15 were not treated.

WESTERN HOSPITAL.

The report of the Western Hospital for the quarter ending 30th September, 1903, shows that during the quarter 146 patients were admitted; 136 were discharged and 7 died; 37 were medical; 75 surgical; 34 gynaecological.

Out-Door Department—Total number of consultations for the quarter, 1,941; medical, 617; surgical, 374; gynaecological, 372; eye and ear, 157; nose and throat, 259; skin, 47; genito-urinary, 115.

Report for September—Number of patients admitted, 43; discharged, 39; died, 4. Out-Door Department—Total number of consultations, 684; medical, 221; surgical, 122; gynaecological, 141; eye and ear, 56; nose and throat, 88; skin, 18; genito-urinary, 38.

THE ROYAL VICTORIA HOSPITAL.

Patients in Hospital, August 31st, 175; admitted during September, 261; discharged, 209; died, 12; patients in hospital September 30th, 215; cured, 152; improved, 51; unimproved, 2; not treated, 4; medical, 86; surgical, 111; ophthalmological, 17; gynaecological, 38; laryngological, 9; males, 128; females, 133; daily average, 196; Out-Door Department, 2,264; ambulance calls, 68.

NOTRE DAME HOSPITAL.

During the month of September 112 patients were treated in the wards, and 1,657 in the Out-Door Departments.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

The medical men of Ottawa have formed a new society, the Medico-Chirurgical Society, by the amalgamation of the Ottawa Medical and the Ottawa Clinical societies, two organizations which for several years have existed and between which, in the old days, considerable rivalry existed. Regular meetings will be held and professional programmes arranged. The meeting was largely attended and nearly unanimous.

Officers were elected as follows: Honorary President, Sir James Grant, K.C.M.G.; President, Dr. H. B. Small; First Vice-President, Dr. Dewar; Second Vice-President, Dr. Webster; Secretary, Dr. C. H.

Brown; Treasurer, Dr. Kirby; Librarian, Dr. Seager; Curator, Dr. Royce. Executive Council; the president, secretary and Drs. Troy, Minnes, Echlin, Chabot, Horsey and Basken.

LA SOCIÉTÉ MÉDICALE.

La Société Médicale resumed its meetings on the 13th October, in the halls of Laval University. Dr. Dubé presided, and the members present numbered 29. After reading the minutes of the last meeting, Dr. Jean Decary, secretary, reviewed the doings of last year.

The election of the officers for the present term resulted as follows:

Dr. C. R. Valin, President; Dr. O. F. Mercier, Vice-President; Drs. A. E. Asselin and Jean Decary, were maintained in office, the former as Treasurer, and the latter as Secretary.

Dr. Dubé installed the new officers and a vote of thanks was given to those going out of office. Dr. Valin then addressed the members and expressed the wish that he would outdo his predecessors in bringing the work of the Association to the front and hoped he would be strongly seconded.

The report of the vital statistics of the province of Ontario for the year 1902, shows that there were 47,796 births during the year, as compared with 46,061 in 1901, or an increase of 1,735. The number of marriages in 1902 was 18,072, an increase of 37 over the preceding year. The number of deaths during the year was 27,864, in 1901 it was 29,608, showing a decrease of 1,744. According to population, the rate per thousand of births was 21.1 in 1901; 21.7 in 1902; of marriages, 1901, 8.2; in 1902, 8.2; of deaths, in 1901, 13.6; in 1902, 12.6.

The death rate of Montreal per thousand, according to the report for the year 1902, is 22.58. This is a slight decrease as compared with 1901. The marriage rate per thousand is given at 9.22, and the birth rate is 38.65.

The additions to the General Hospital at St. John, N.B., are proceeding satisfactorily. The work of raising the main building one story is also progressing rapidly. On the two wings of the building the new story is to be of wood, covered with iron sheathing, and in the centre of the building the addition is of brick. The southwest wing has already been raised.

The Government of the Kingston General Hospital will at once erect a suitable building on the hospital grounds for the treatment of con-

sumptives who have the disease in an incipient form. The building will be fashioned after those used at the Gravenhurst Sanitarium.

Dr. E. G. Simpson, McGill, '01, of Lennoxville, was buried on the 28th September. The professors and students of Bishop's College, and the headmaster and boys of Bishops' College school attended in a body.

Dr. John Reid, of Watford, Ont., died on the 21st September, aged 76 years.

Dr. G. C. Field, Woodstock, Ont., died on the 14th October, after an illness of five weeks.

Dr. A. C. Bourbeau, Laval, '02, died of typhoid fever on the 27th September at Ste. Agathe.

Dr. W. Irving Goodwin, of Oxford, N.S., died on the 24th September, in the thirty-sixth year of his age.

Dr. A. E. Gardiner, of Bearbrook, died on the 15th September, in his 37th year. His home was formerly in Belleville.

Dr. Stephen Hepworth, Manitoba University, '03, died at the St. Boniface hospital of typhoid fever, on the 20th September, aged 28 years.

Dr. James R. Cox, McGill, '00, for two years secretary of the McGill Y. M. C. A., left Ottawa on the 26th October for China, to engage in missionary work.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

The Treatment of Sarcoma of the Long Bones.

KARL VOGEL. "The Treatment of Sarcoma of the Long Bones."
Deut. Zeit. f. Chir., Sept., 1903.

DR. BORCHARD. "Resection of the Femur for Malignant Tumors."
Langenbeck's Archiv., 1903—Heft 3.

One of the surgical questions which have been of late years more or less discussed, concerns the extent of the operation that should be undertaken in the case of sarcomata of the long bones; and the two papers cited above represent contributions to this subject.

Since Krause, reporting in 1889 a series of cases from v. Volkmann's clinic cured by conservative operations, impressed upon the profession

the essential benignancy of the endosteal myeloid, or giant-celled sarcoma, these growths have been very generally removed by an operation which stops short of amputation, either a simple scraping out or a resection; and the results seem to have justified this conservatism.

Bloodgood, of Johns Hopkins, has lately reported cases of this nature from Halsted's clinic (Johns Hopkins Bull., May, 1903), and reviewed the literature (Progressive Med., Dec., 1902, p. 150). Borchard's case was a sarcoma of the femur of the endosteal giant-celled type, in which he did a resection of the diaphysis, removing 26 cm., and uniting upper and lower ends of the bone with silver wire. Healing went on smoothly; bony union was complete at the end of 5½ months; and—what lent especial interest to the case—the muscles, left disproportionately long by the removal of so much bone, gradually shortened and adapted themselves to their former functions. The patient a year and a half after operation showed no recurrence; and the function of the limb, aided by a high shoe, was relatively good.

In selecting cases for resection, as opposed to amputation, one's judgment should rely, according to Borchard, very little upon the histological diagnosis, not greatly upon the gross relations of the tumour to surrounding parts, but chiefly upon its clinical course—slow growth and a good general condition.

Vogel's article goes into a wider discussion of the question. He presupposes that surgeons are now practically unanimous in treating myeloid endosteal sarcomata conservatively, provided that the clinical course and the macroscopic relations indicate a relative degree of benignancy. The microscopical picture is of no assistance in forming a prognosis or deciding upon the extent of operation. If the bone is broken through and the soft parts invaded, a resection may still cure, as is proved by a number of cases; but conservatism here begins to tread dangerous ground.

The chief part, however, of Vogel's article is taken up by a consideration of conservative operations in the definitely malignant sarcomata, of the spindle and round-celled types. Most surgeons will probably deny the advisability of ever even thinking of anything short of amputation or exarticulation in such cases. And yet, as great a man as v. Mikulicz, eight years ago took the stand that "in selected cases a conservative resection ought to be brought more frequently into consideration than had been hitherto done." His argument was in the main that, as regards metastases, resection was on an equality with amputation, inasmuch as, if they were to occur at all, they were already present. Further, a patient was generally inclined to refuse an amputation, where he would welcome a resection; and that if

"amputation or nothing" had to be his choice, he was frequently driven to quacks and returned later for amputation when it was too late. Thus the gross mortality was in reality increased. The weak point in the argument, as König pointed out at the time, lay in the fact that local recurrence from foci left in unresected bone was much more likely to develop after resection than after amputation. Against this v. Mikulicz urged careful watching and early second operations where necessary. For the finer points in the argument the reader is referred to the original.

Vogel, after reviewing the somewhat scanty literature, reports in detail a case of Schede's, which in his opinion, lends support to the views of v. Mikulicz. The tumour was a "round-celled sarcoma of the character of a chondromyxosarcoma," situated in the upper end of the humerus, of two years' duration; operated a year and a half previously, with recurrence in a few months. Schede did a resection, removing all save the lower 3 cm. of the humerus in slices, inasmuch as at each slice the medulla was found affected until he approached the elbow-joint. He also took away the ends of the clavicle and the scapula which were diseased in the neighbourhood of the joint; and the affected muscles. The main vessels and nerves were not involved, and could be spared. The patient was discharged well in 26 days, with a leather prosthesis fastened to shoulder and chest for the upper and part of the lower arm, provided with a joint at the elbow. Function was ultimately good, and there was no recurrence in four years.

While Vogel gives us here a clear case of a definitely malignant round-celled sarcoma cured by resection, a careful review of the literature which he cites has shown the reviewer that his case stands practically alone. Only one other case, that of a spindle-celled sarcoma of the lower end of the femur (Nasse), showed no recurrence after the lapse of three years. All the others, including several of v. Mikulicz, are seen either to have shown recurrences or to have been followed but a short time.

One apparently paradoxical point is emphasized in Vogel's article; that the more proximal a tumour is situated, the greater is the indication for resection; the more distal it is, the greater for high amputation. In the first case the chances of metastasis and local recurrence are about equal as between resection and exarticulation; in the latter these dangers are much more certainly guarded against by high amputation.

Narcosis in Ileus.

W. KAUSCH. "Narcosis in Ileus." *Berl. Klin. Woch.*, 17th Aug., 1903.

The author remarks on the danger of vomiting with consequent

aspiration—pneumonia, or even immediate drowning during operations for intestinal obstruction under general anæsthesia. The general recommendation to use local anæsthesia in such patients he shows to be justified in only two classes of cases: (a) Simple enterostomy and (b) incarcerated hernias. In all others, and in many also of the second class, the pain is so great as to exact general anæsthesia.

Under these conditions, the only way in which the above mentioned danger can be avoided, is to have the stomach empty. That washing out the stomach is often unsuccessful in this regard, is a fact well-known to all surgeons; for the intestinal contents simply flow back into the emptied stomach, and thence are vomited during narcosis. Indeed, vomiting seems to be an almost unavoidable result of the intra-abdominal manipulations. Kausch, therefore, has devised an ingenious modification of the ordinary stomach-tube, designed to prevent vomitus from reaching the larynx at all. It consists essentially in the attachment of a small rubber balloon to the stomach-tube just above its eye. After introduction into the stomach just before narcosis, this balloon is blown up; the tube is then withdrawn until the balloon blocks the cardiac orifice. Thus, the vomitus is conducted entirely through the stomach-tube, and can never be aspirated into the lungs. Kausch reports that in three cases the apparatus worked perfectly. There are other non-essential details which we have not space to describe. Kausch has named it the "Narcosis Stomach-Tube" (*Narkose-Magensonde*), and it can be obtained from Georg Haertel in Breslau.

Having witnessed one death on the table from "drowning in one's own vomitus," besides several cases of aspiration-bronchitis and pneumonia in these patients with ileus, the reviewer feels impelled to call especial attention to this simple and ingenious device, being assured that its use would save many a life.

E. W. A.

The Formation of Loose Cartilages in the Knee Joint.

E. A. CODMAN, M.D. "The Formation of Loose Cartilages in the Knee Joint." *Boston Medical and Surgical Journal*, Oct. 15th, 1903.

From experience gained at the operating table and from experiments upon the cadaver, the writer believes that the great majority of such bodies are formed by a breaking away, by trauma, of a part of the articular surface, the cartilage bringing with it a lamina of spongy bone. The prevailing idea that these bodies are formed by a process of concretion, the nucleus being a clot of fibrin, a bit of torn fringe or a fragment of semilunar cartilage or of osteophytic origin, does not appear to adequately explain their formation. The writer's point of view, and originality is not claimed for it, appears to be well taken, and is

borne out by the series of skiagraphs illustrating the article and also by the fact that there is generally a scar found on the articular surface of the internal condyle of the femur, the part most liable to injury.

Value of Albuminuria in Differentiating Pyelitis from Cystitis

THOMAS R. BROWN, M.D. "The Value of Albuminuria in Differentiating Pyelitis from Cystitis." *New York Medical Journal* and *Philadelphia Medical Journal*, October 17th, 1903.

The writer gives a very simple way of differentiating pyelitis from cystitis requiring merely the precipitating of albumen by heat and acetic acid. The exact quantity need not be measured, but the amount roughly judged by the denseness of the precipitate. It was found that pyuria due to a cystitis, even if of a high grade, was associated with but a small amount of albumen, if the urine was examined immediately after catheterization, and the pyuria not accompanied by hæmaturia. In pyuria due to a pyelitis, however, a considerable quantity of albumen was found to be present. Nine cases are reported in which pyelitis was diagnosed or rendered probable as against cystitis and proved by cystoscopic examination or ureteral catheterization, or both, to be correct.

Two Cases of Ascites Secondary to Alcoholic Hepatitis Treated Successfully by Operation.

SINCLAIR WHITE, M.Ch., F.R.C.S. "Two Cases of Ascites Secondary to Alcoholic Hepatitis, Treated Successfully by Operation." *British Medical Journal*, October 10th, 1903.

A brief sketch of the history of epiplorrhaphy is given and a report of two cases successfully operated upon by the writer. Both cases were women over 30 years of age, who had been confirmed alcoholics for several years, and presented well marked ascites with œdema of the lower extremities, absence of jaundice, urine scanty and high colour, no albumen. Several tappings had been done without any permanent benefit. The danger of operative interference is a real one, but the mortality should be greatly reduced by a proper selection of cases. It should rarely be undertaken after the age of 55, the patient must be free from any other serious organic disease, the kidneys especially must be sound, while jaundice and mental aberration of themselves preclude surgical interference. He sums up the knowledge of the subject as follows:—

1. There is indisputable evidence that cirrhosis of the liver, accompanied by ascites, is not always a hopeless disease.
2. The ascites can be permanently cured in a considerable percentage of cases by operation.
3. There is reason for thinking that the operation of epiplorrhaphy may not only cure the ascites, but also lead to partial regeneration of the damaged liver cells.

4. Tapping alone has occasionally cured ascites, and should be tried once or oftener before proceeding with the more serious operation.

5. The operation of epiploorrhaphy is a formidable one, and should only be undertaken in selected cases.

In the same number William Sheen, M.D., M.S., F.R.C.S., reports a "Case of Operative Treatment for Cirrhosis of the Liver," with no recurrence of the ascites, six months after. Marked general improvement also followed in this case.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY AND H. A. LAFLEUR.

Headache.

GUTHRIE RANKIN, M.D. "Headache." *The Practitioner*, Nos. 423 and 424.

Since headache is a subject rarely considered in itself, the profession is under not a little obligation to Dr. Rankin for a comprehensive discussion of this variety of pain, wherein he dwells profitably upon its causation, classification, pathology, diagnosis and treatment. While heredity, age and sex, influence to a considerable degree the frequency of headache, (1) *personal circumstances* as habits of life, fatigue, etc., (2) *local disease* as disorders of the teeth, tumours and meningitis—together with disorders of the special sense organs, the eye, ear and nose, account in a yet larger degree for pain in the head.

For descriptive purposes the following classification is made:—

1. Organic headache is due to intra-cranial changes and as a rule is characteristic, especially when taken with accompanying symptoms.

2. Nervous headache, also known as *migraine* or hemicrania (Clavus may be here included). It is usually preceded by prodromal disturbances, vertigo, languor, tinnitus, excessive yawning, nausea, etc. It is continuous and of increasing intensity—and at the height of the paroxysm—nausea gives way to vomiting and relief is often thereafter experienced. This form of headache has hitherto been regarded as an hysterical manifestation, but Dr. Rankin does not consider it as such.

3. Neuralgic headache—*tic douloureux*: In this form, cold and damp, —decayed teeth, antral disease, exhaustion and depressed general health are, in many instances, the causes at work.

4. Toxæmic headache is the most frequent of all, and the pain is attributable to the action on the nervous elements in the brain of blood altered in its constitution by toxins—and the sources of such toxins are numerous and varied. Drugs, diet—alcohol, tobacco—nephritic gout, rheumatism, other fevers, impure air, may be mentioned.

5. Ocular headache—that form of headache produced by abnormali-

ties (1) in the ocular muscles, or (2) by astigmatic errors of refraction. Dr. Rankin claims that ocular abnormalities are responsible for a form of headache which differs from all others in the following particulars:— After prolonged use of the eyes in reading or writing there is blurring of vision, pain on movement of the globes, hyperæmia of the conjunctivæ and a tendency to congestion of the lids. The symptoms subside on resting the eyes.

6. Neurasthenic headache, which might have fallen under the class of toxæmia. This form of headache is always occipital and is frequently associated with a sense of constriction. This form of headache has been termed the headache of the "present century," and is always accompanied by vaso-motor phenomena, emotional instability, impossibility of mental effort and anorexia, together with other phenomena of neurasthenia.

7. The hæmic headache may be associated with plethora or anæmia. In plethora the pain is dull and continuous, usually extends from the forehead to the occiput, and is accompanied by heaviness and stupor. It is essentially the headache of alcoholic excess.

The headache of anæmia is apt to be acute and frequently vertical—but it may be either frontal or occipital. The recumbent position affords relief—and taking of alcohol is followed by like result.

In the treatment of headache the diagnosis of the *cause* is most important, and therefore each case is one requiring special study. The writer advises that in all cases of headache causes of peripheral irritation should be first sought for by a careful investigation of scalp, eyes, etc. "The state of the digestive organs ought to be inquired into and thereafter the condition of the blood, and of the vascular and nervous system must be ascertained," and so on for every possible cause—the physician should search in liver, kidney and brain and the various diatheses, and when the cause is found seek to remove it. Some valuable hints and formulæ are given for guidance in dealing with each variety of headache, which would repay a careful perusal.

The Results of Organotherapy in Addison's Disease.

EDWARD W. ADAMS, M.D. "The results of Organotherapy in Addison's disease." *The Practitioner*, No. 424.

After a little more than ten years of organotherapy in Addison's disease an inquiry into the results achieved is fitting, and of much interest. This article deals with the records of 97 cases, and the statements which Dr. Adams prefers to call deductions rather than "conclusions" are as follows:

1. There would appear to be a certain class of case of Addison's disease which derives indubitable benefit from the exhibition of some

form of suprarenal substance, though in any given case it remains up to now impossible to determine its probable response to the treatment.

2. In any given case of the disease selected haphazard, the probability remains that disappointment will follow on the institution of organotherapy; but that probability is very distinctly less than that attaching to any alternative method of treatment at present known.

3. The last word upon the preparation to be used and its method of administration remains yet to be said. The problem seems to be to get a sufficient and continuous dose of the pure and active principles unchanged into the blood stream. Intravenous injection is impracticable.

The "Idiopathic" or "Essential" Dropsies of Childhood.

ARTHUR WILLIARD FAIRBANKS, M.D. "The 'Idiopathic' or 'Essential' Dropsies of Childhood." *The Amer. Journal of Med. Science*, Sept., 1903.

"The characteristic feature of this condition is the appearance of œdema, in one or more parts of the body, without albuminuria or sedimentary evidence of organic disease of the kidneys, and without clinical or post-mortem evidence of organic disease of the heart or kidneys."

It appears from the cases reported that it may be apparently primary or apparently secondary, and that it may be found in children of any age. In a study of the records, Dr. Fairbanks gathers together 168 cases—all in children under fifteen years of age.

Anæmia, marasmus and subnormal temperature with this affection are chiefly confined to the first two years of life. Of all the abnormal features that may be found associated with essential œdema, *disturbance* of the gastro-intestinal tract is by far the most common. The cause of such "dropsies" is doubtful. They have been explained as of *angio-neurotic* origin. The neurotic element may be considered, so also should the "gouty or rheumatic." Certain cases occur after infectious diseases, as scarlet fever, measles, varicella and typhoid fever. Perhaps anæmia and exposure to cold are the chief *causes* to which these dropsies have been ascribed, while to marantic and toxic conditions they have likewise been ascribed.

The writer states his views upon the etiology in the following paragraph:—

".....In the great majority of cases this affection is produced by a reflex sympathetic disturbance, having its origin in a direct exciting cause acting through the terminal filaments in the vessel walls. This exciting cause, provided it be sufficiently severe, may in itself alone evolve such reflex even in a normal condition of the nervous system,

but there is usually a predisposing condition anti-dating the action of the exciting cause.....”

“Whether the transudation is brought about by an irritation of the vaso-dilators or by a paralysis of the vaso-constrictors, or whether it is the stimulation of secretory function” must remain a question. The reflex impulse in many instances has its origin in the terminal sympathetic fibres in the walls of the intestine and stomach.

W. F. H.

GYNÆCOLOGY.

UNDER THE CHARGE OF WILLIAM GARDNER.

Cutaneous Pigmentation in Relation to Diseases of the Female Sexual Organs.

MM. DALCHE AND FOUQUET. “Pigmentation Cutanées d’Origine Génitale. *La Gynécologie, Fév., 1903.*”

The co-existence of gynæcological troubles and pigmentation of the skin, is not infrequent, the site of the cutaneous lesion usually being the face, as is so often seen in pregnant women. The backs of the hands and the fingers, especially around the joints, may also show discolouration.

They consist, as a rule, simply of hyperchromation of the tissues, the colour varying from a yellowish circle surrounding the eyes of some women at the time of their periods to the dark brown or black of those affected with Addison’s disease, more rarely the patches are bluish, deep red, ecchymosed or yellow.

Pressure produces no pallor of these patches, neither do they desquamate, nor are they irritable. Quanon, Neligon and others have asserted that the colouring matter transudes and may stain white linen if the patches are rubbed with it, but the authors have not observed this phenomenon.

A case is cited of a young woman, twenty-six years of age, who has been afflicted with these patches of discolouration. A retroversion of the uterus and an inflamed right Fallopian tube were found causing dysmenorrhœa and a mucous enteritis. On treating and relieving the displacement and inflammation, the dysmenorrhœa, enteritis and pigmentation were relieved. The pelvic conditions recurred several times, the recurrences being followed by cutaneous pigmentation and by dysmenorrhœa and enteritis, all of which conditions improved each time that the pelvic troubles were relieved.

Women of any age during the period of sexual activity may be thus affected and the duration of the pigmentation varies. In some, it appears just before each menstrual period and persists during the flow,

on the cessation of which it disappears. In others, it remains present during the remainder of the patient's life, becoming more marked during each period of pregnancy. In addition to the above varieties, which may be called physiological, many forms of ovarian and uterine disease are productive of similar subcutaneous deposits of pigment. These pathological deposits are chiefly characterized by their persistence, *i.e.*, once they appear they do not tend to vary in their intensity unless it is to become darker and more extensive.

The authors consider the cause of this condition to be some disturbance of the ovarian secretion.

The *treatment* may be either (a) local, attacking pigmentation itself, or (b) general, as where the active cause is sought for and removed. *Locally*, Besnier applies an ointment composed of equal parts of olive oil and vaseline at night, while one of carbonate of bismuth and kaolin of each 10 grammes and vaseline, 40 grammes is used in the morning and during the day.

Hagar uses a glycerol composed of

Precip. Alba.

Bismuth. Sub-nit, aa 40 grs.

Glycerole d'Amidon 15 "

applied daily.

Uterine Traumatism.

BROTHERS, ABRAM. "Accidental Perforation of the Uterus." *American Gynecology*, April, 1908.

The uterus is far more often perforated than is usually believed, cases not being reported on account of the fear of the operator, of ridicule or adverse criticism. Such accidents may end fatally, but this is rather the exception than the rule.

Eight cases are cited, of which four were seen in consultation and four occurred in the writer's own practice. Of the four consultation cases, three died. The perforation of the uterus of the patient who recovered took place through the anterior wall into the tissue between the bladder and uterus where an abscess formed and was subsequently emptied by operation.

In three of the cases which occurred in the writer's clinic, the accident was immediately discovered, the operation stopped and douching was omitted. All three recovered. Salpingectomy was carried out in the fourth case and the opening up of the peritoneal cavity for this purpose was taken advantage of to sew up the opening in the uterus with a perfect result.

Perforation of the uterus by the curette was recognized many years ago. Tait, in 1872, reported three cases of what he called "metro-peritoneal fistulas" due to this trouble.

Where such an accident has happened, the fact is recognized that the instrument has passed deeper than the previously estimated size of the uterus should allow. In such a case, the prognosis is good if operator, instruments and field of operation are aseptic and no further intra-uterine interference is attempted. If the operator had originally intended to open the abdomen for some other condition, this opportunity may be taken advantage of to suture up the opening, otherwise the patient may be returned to bed, having ice applied externally and a dose of opium administered.

Where irrigation of the uterine cavity (and therefore of the abdominal cavity) has taken place, one may have, (1) a mild local peritonitis with spontaneous recovery; (2) acute septic peritonitis requiring hysterectomy and vaginal drainage; or (3) localized abscesses may form and require evacuation.

Where not only perforation of the uterus, but a protrusion of the intestines through the opening has taken place, abdominal section must be done at once and the bowel treated by resection or not, as its condition indicates.

Vaporization of the Uterus.

BLACHER, G. F. "The effects of Vaporization of the Uterus, etc."
Jour. of Gyn. and Obstet. of the British Empire, May, 1903.

The specimen described was removed from a patient aged 47, fourteen days after atmaukosis and curetting, the scrapings showing evidence of carcinoma.

The uterus was slightly enlarged and a vertical section through the whole organ from before backwards reveals the fact that the cavity is divided into two parts, an upper and lower, the latter being about four times as long as the upper as well as having entirely lost its normal appearance.

The inner surface of the upper part is smooth and, for the inner 3 m.m., of a reddish-gray colour. No trace of mucous membrane can be seen, even with the aid of a microscope. Even the superficial muscular tissue shows but little affinity for the staining fluid.

In the lower part of the uterine body both mucosa and muscular tissue have been destroyed, the effect in one place extending to a depth of 5 m.m. from the surface.

The upper part of the cervical canal was affected in manner similar to the above.

After dilatation of the cervical canal, and curetting, steam at 120 degrees, down to finally 110 degrees C. was applied by means of a metallic cannula, which was introduced not quite up to the fundus, for 90 seconds.

One sees from this specimen that it is quite possible to utterly destroy by this process not only the epithelial lining of the uterus, but also a certain amount of submucous tissue as well and that, too, in such a manner as to prevent any possibility of the mucous membrane being regenerated.

It is also seen that not only does the steam itself produce necrosis, but that the heated cannula plays an important part, and this fact must be carefully taken into consideration in the employment of this method of treatment of intra-uterine disease.

Three Cases of Ruptured Uterus Successfully Treated by Tampons.

TÖTH. "Three cases of Ruptured Uterus Successfully Treated by Tampons." *Central f. Gyn., No. 6, 1903.*

(1) During this patient's ninth labour, the uterus ruptured and part of the foetus escaped into the peritoneal cavity. It was delivered by traction on the feet and the placenta extracted by pulling on the cord. Intestine became prolapsed through the rent in the wall of the uterus, but was replaced and a tampon inserted into the uterine cavity, this being followed by complete recovery of the patient.

(2) The second patient was in labour with her eighth child and suddenly complained of most intense pain, the pulse going up to 124. Rupture of the uterus with escape of the head into the peritoneal cavity was diagnosed. The uterus was emptied and then tamponed, but eventually required removal. Patient recovered.

(3) A midwife delivered this woman of a macerated foetus at the end of her eighth pregnancy, but thought that a twin had remained in the uterus. The "twin" was found to be the promontory of the sacrum which was felt through a tear in the uterine wall. The uterus was tamponed and the patient had an uninterrupted convalescence.

F. A. L. Lockhart.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Oct. 2, 1903.

W. S. BIRKETT, M.D., PRESIDENT, IN THE CHAIR.

This was the opening meeting of the Session of 1903-1904. The secretary read the annual report and it was adopted. The treasurer's report was deferred till the end of the financial year. The names of the following persons were proposed for temporary membership: Drs. A. G. McAulay, J. R. Goodall, W. W. Francis, J. D. Dixon, L. C. Harris,

J. M. McCulloch, Robert King, H. C. Church, A. L. Lynch, D. W. McKechnie, J. M. English, G. H. Turner, R. H. M. Hardisty. All of these are upon the staff of the Royal Victoria Hospital.

The following are the names of those who were re-elected officers for the ensuing year:—President, Dr. H. S. Birkett; vice-president, Dr. John A. McDonald; treasurer, Dr. Alfred T. Bazin; secretary, Dr. A. Mackenzie Forbes; trustees, Dr. F. J. Shepherd; Dr. James Ferrigo, and Dr. James M. Jack.

The President read his annual address, and afterwards entertained the members with refreshments and music. The following is the text of the address:—

Allow me on behalf of those of my confreres associated with me in office, to express to you our sincere appreciation and thanks for the honour conferred upon us in having elected us to direct the affairs of this Society during the past session.

It is the duty of the president to communicate to the Society a statement of the work done during the past session and I, therefore, beg to read a few extracts from the reports of the secretary and chairman of the various committees:—

From the secretary we learn that there were twelve regular meetings held, at which there was an average attendance of forty members. We must bear in mind that this average whilst falling a fraction below that of the previous session, is due to the fact that the immediate past session was only six months instead of nine, owing to the recent change of the by-laws. At these twelve meetings ten papers and thirty-four case reports were read; sixteen living cases were presented and three pathological demonstrations given.

The number of names at present on the register is as follows:—

Resident members, 165; non-resident members, 3; temporary members, 27; honorary members, 1; total, 196. Three new names have been added to the list of resident members since January of this year.

The large number of living cases presented, and case reports read, is particularly noticeable, and this work has, I think, been largely instrumental in making the meetings of more than ordinary interest.

Several alterations have been made in the by-laws during the past session, and amongst those to which your attention is directed are the following:—The date of election of the officers has been changed from December to June, the object being to allow the incoming staff more time to deliberate over the work of the coming session, rather than to take up the reins of office in the midst of heavy work, without having had the opportunity of learning what methods have preceded and what might in the future be improved. Whether this method will prove successful you will have the opportunity of judging for yourselves.

Another change is, that the business of the Society is now referred to the council and after due consideration, is then presented to the Society, thus enabling it to devote more time to the medical and surgical work. Your council sincerely trusts that this change will prove a satisfactory means whereby the interest and work of the Society will be furthered.

The chairman of the library committee reports that the following journals are subscribed for:—

American Journal of Medical Sciences, Revuè de Médecine, Annales de Gynécologie, The Practitioner, British Medical Journal, Deutsche Medicinische Wochenschrift. Several other journals are contributed through the kindness of Dr. Perrigo, Dr. James Bell and Dr. Armstrong, and the editors of the Montreal Medical Journal, whom we here desire to thank. The library committee desires to state that it is not responsible for the occasional non-appearance of journals not subscribed for.

The rooms committee has been most indefatigable in its labours, and, as a result has acquired, through the kindness of the Bank of Montreal, several much appreciated improvements to the rooms.

We have been promised portraits of some of our deceased presidents by the members of their families; the first to adorn the walls is that of the late Dr. Reddy. Those of the late Dr. Geo. W. Campbell, Dr. R. Palmer Howard and Dr. Geo. Ross, we are to have during the present session. We here take this opportunity of expressing our sincere appreciation of this kindness.

The programme committee has also been most active, and suggests that an invitation be occasionally extended to some well-known men of the profession, outside of the city of Montreal, to contribute a paper, thus adding interest and stimulation to our work. The first step in this direction was taken during the past session when Dr. Kinghorn of Saranac, N.Y., presented a most interesting paper, the result of which was that we had one of the largest attended meetings in the history of the Society, with one exception, that being the presentation of X-ray work on its first introduction to this city.

The report from the finance committee is not due until the first meeting in January, but a preliminary report shows a most satisfactory state of affairs.

In order to facilitate the carrying out of an evening's programme, the council begs to bring before you a suggestion, that all living cases to be presented should occupy the small rooms adjacent to the reading room, one room being reserved for males and the other for females; each patient to have the details of his or her case written out, and if such reports are handed in to the office by the afternoon of the day of

the meeting they will be typewritten, and this report placed beside each case. Living cases for examination must be in their rooms at 8.30 p.m., and those presenting them should likewise be punctual. Half an hour could then be spent with those cases and at nine o'clock, the patients having been dismissed, an adjournment would be made to the lecture room and the cases there discussed. On these same lines pathological specimens, with descriptive cards, could also be presented.

The result of such a plan would be a great saving of time and by 9.15 any paper or series of case reports could be read, discussed and the meeting closed by 10.15 p.m. The length to which some of our meetings are at times prolonged is recognized as a great drawback to success, and to further obviate this, punctuality on the part of our members is earnestly requested.

In looking over the work of this Society for many years back one is impressed with the fact that "the discussions have been confined to a very small proportion of the members present at any meeting." This is the dominant note of nearly every president in his remarks made at the close of each session. And it is so forcibly expressed in the remarks of one of them, Dr. Bell, that I do not hesitate to quote his remarks upon this subject, with which my own are so fully in accord: "This, I fear, is the weak point of the Society, and I trust the members will pardon me for calling attention to it. With every department of medicine represented on our programme as they have been, clinically and pathologically, medicine and surgery, gynæcology and obstetrics, ophthalmology, otology, and laryngology, and with such a wealth and variety of material presented, it seems strange that lack of discussion should be the feature of our meetings. I am sure that I voice the sentiment of the older members, and of those who have been the main contributors in the past, when I say that we would gladly see the younger members take a more prominent part in the preparation and discussion of the papers. Let it not be thought for a moment that here some are teachers and some are students; rather let it be understood that all are students and all may be teachers; that here we meet on common ground for mutual benefit and for the advancement of our profession. We have abundant facilities, let us have active professional work in the Society from every member, young and old. This is all that is needed to make our Society a great power in the land."

In conclusion, your officers desire to thank you for honouring us with re-election, and assure you that it will be our endeavour to further the interests of this Society to the best of our ability, and in this work we hope to receive your hearty co-operation, without which our efforts otherwise would fail.