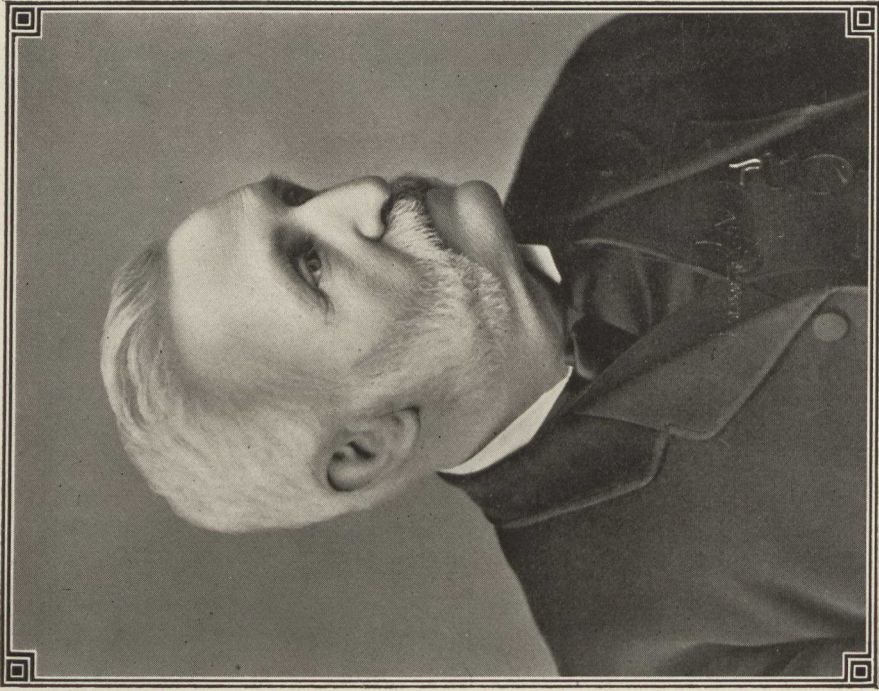


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INAUGURAL LECTURE, NEW MEDICAL BUILDING, TORONTO.

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Believe me, it is a difficult thing for a stranger, even at your invitation, to address you on an occasion like the present. So many significant events crowd in upon him and time for reflection is needed to weld into a connected whole the impression he would wish to offer to you. Not that the growth and doings of this University have not been followed and watched with interest by us in the Old Country. On the contrary, your activity has been felt, not only as a matter of mutual congratulation, but as a spur to arouse us to effort in our own similar pursuit of educational aims. But the stranger coming among you necessarily feels the shortcomings of his acquaintance with the details of these academic enterprises you have taken in hand. One advantage, however, is his. His view, gained from a distance, necessarily has freedom and truth of perspective that may give it a value in your eyes.

Some things lose by perspective. Some things, large, when close to hand, dwindle when viewed from afar. Not so in Canada. The perspective given by the width of the Atlantic is but an appropriate setting across which to view her greatness and her far-reaching activity. And this event, this academic celebration, this *dies festus*, in your University to-day, retains from a far off all the significance of a great event. It loses no tittle of its dignity and import when viewed across ocean from the crowded turrets of the older Cambridge, or the hoary spires of Oxford. It shines, I assure you, like a beacon to the new University whose buildings are as yet unfinished on the hill above the port of Liverpool.

Coming from a region where history is long and the land little to this where written history is short and the expanse of land incomparably great, one realizes how relative is size. And in regard to the event of to-day the largeness of this country rises in my thought not as a matter of mileage, but—that with you more than with us in the Old Country, the size of to-morrow is vaster than the size of to-day. Each step of progress here more than with us, has to be measured by its ample consequences in a more rapidly widening horizon of the morrow. And

so with these new laboratories, : for they have a field already demanding them, and a still larger lies before them in an immediate and historic future.

Biology is the study of life in regard especially to growth and organization. Every medical man is a biologist, and as a biologist it may be but natural if I regard to day's event from a biological standpoint, and the community as an organism, and the university as a living organ, essential to the healthy life of the community.

Science—especially medical science—is growing in importance to the community. We must have organization in science as in industry. This University to-day makes provisions of first rate importance for the organization of medical and allied sciences in the region which centres here. Capacity to rear and support men constitutes the extent of a country, and population is the biological measure of the social organism. The ceaseless energy of the race has begun to plant a great population in this land. Growth, great and rapid, is inevitably before it. The growth of nations as of individuals requires the vigilance of guiding hands. Growth, for it to take its course, rightly towards perfection, requires that provision for the security and expansion of the liberal arts and sciences forerun rather than halt behind the actual requirement of the hour. Not only for their direct utilitarian service. They form a whetstone of man's most universal tool, his intellect. Also a discipline for character, in the pursuit of truth for its own sake. Scientific truth, when found, has often proved unpalatable to man—as when it dethroned him from his fancied seat at centre of the whole perceptible universe, a universe he had imagined simply subservient to his needs—or again, as when it taught him that instead of being a creature altogether apart from brute creation, there are flesh and blood bonds between himself and them. Regardless of its cost to his cherished fancies, man strives for scientific truth. And, as the old Greek said, this purpose puts him further from the brutes and nearer to the gods.

In nurturing science, I would urge that a community cultivates more than mere utility. And even with regard to mere utility, as the fields of knowledge fall ripe under the ceaseless husbandry of the world's thought those who would join in the great reaping, and not only glean where others reaped before them, must cultivate for themselves. To do this requires more than the devotion of individuals. It requires the intelligent co-operation of whole groups of individuals. Organized scientific inquiry becomes in advanced countries a conscious aim of the community as a community.

That society may draw due benefits from wells of natural knowledge three kinds of workers have to stand side by side. First, the investigator, who, pursuing truth, extends discovery, with little or no reference to practical ends. He constitutes the fountain-head of the knowledge that is for distribution. Other hands may reap the harvest, but his sets and rears the seed. After the investigator comes the teacher. To him it belongs to diffuse the knowledge won. This honourable and difficult task receives its best reward in seeing the small spiritual beginnings of a pupil widen out into the spiritual beginnings of a master. Thirdly, there is the applicer of natural knowledge. His part consists in making scientific knowledge directly serve practical needs. It is this work which to the popular idea often presents the whole of science, or all of it that is commonly termed "useful." The practical results of this work are often astounding to those ignorant of the steps by which they have been reached. The greatest of these steps, however, is usually the first one, made in the laboratory of the investigator. These three co-workers are coequal in the priesthood. Science and the applications of science are one growth, united together even as the fruit and the tree. The proper hearth stone round which the community should group these laborers, laboring for a common end, is the University. There the sacred flame of learning is fed from many sides by many hands.

It is sometimes said that pursuit of science renders a man deaf to the appeals of practical life. That it tends to withdraw him from the everyday interests of the people. That I do not believe of any science. Certainly not of biology and the medical sciences. Why, from their very outset these subjects draw the mind toward study of an organization the most complex and the most perfect it can examine. The ancient simile that our old school classic, Livy, drew between the human body and the body politic the state, has not lost but won significance as the centuries have run. The achievement of the microscope has been the discovery that living things, whether plant or animal—all living things of more than minutest size—are common-wealths of individually living units. These cells, as they are called, are living stones that build the house of life. In that house each stone is a self-centred, individually living microcosm, individually born, breathing for it-self, feeding itself, consuming its own substance in its living, and capable of and destined for an individual death. Each cell lives by exchanging material with the world surrounding it. In other words, its bulk depends on its surface. Hence surface increasing as the square, and volume, as the cube, cell-size, is circumscribed by tiny limits—microscopic limits. Had the dependence been greater than it is, and the average size of the cell

less, and too small for resolution and discovery by the microscopes of seventy years ago, it is hard to imagine where biology would stand to-day. For two generations, every biologist has been accustomed to think in terms of the cell-theory. Every shred of the body he knows as an intricate interlacement, embodying co-operation and mutual support of associate thousands of individually existent cells. Division of labor has gone on, and with it differentiation of function; while this group of cells combines with its own inner life some special function subservient to the needs of the great common-wealth, as a whole. Another group is specialized for another duty again subservient to the general needs. Each organism, however complex, each one of ourselves here, is built up of myraids of living cells. Each such organism consisted at outset but of a single cell, and from that in his life's growth have arisen the countless myraids composing him to-day. The blood relationship is close between all the cells of each one individual body. The cells of our nerves, or our muscles of our time hardened bones are all blood relations through one common ancestor. Yet so far has specialization of these unit-lives gone on, yet so far does function reflect itself in microscopic form, that there is greater likeness between my nerve-cells, the nerve-cells of a fish than between my nerve-cells and my own muscle cells—despite the blood relationship between these latter. And in the common-wealth of cells that constitutes each one of us, goes forward day long, night long, as in the body politic. The birth of new units to replace the ones outworn, the subordination of many individual purposes to one, the sacrifice and destruction of the individual life for the benefit of the many.

Trained in study of such an organism, surely the biologist and the medical man will be the last to underrate the importance of organization to the community for the commonwealth. Therefore I am rejoiced, but I am not surprised, that it is your faculty of medicine which to-day, in its public spiritedness, erects and instals these fine laboratories, this potent addition to the organization of your community, for its activities in medicine and biological science. I would also, as a friend among you, offer you my congratulations on the consolidation of your two schools of medicine. Union means not only greater strength, but the more effective application of strength. I need not to this assembly extol medicine. Many of her votaries are here; I venture to count myself as one. But to-day the relation toward her of education is a matter on which our minds are naturally set. Am I wrong if in regard to this it rises saliently to me that from the educational standpoint medicine, like Janus of old, in a good sense, bears a double face. On the one hand, she is an

empiric. She has learned to cure by what the comparative psychologist calls the "method of trial and error." Conquests over sickness acquired purely as result of experience, without help either from a priori or from inductive reasoning. And great and glorious is the role of her achievement on these lines. Of her humanitarian triumphs probably still—certainly until a generation ago—the greater share is assignable to this part. The use of quinine in malaria, the curative effects of the iodides and various metals, the discovery of chloroform and ether as anaesthetics, these and the names of a long line of famous physicians from the renaissance down to some as justly famous as the past, and with us now to-day suffice to certify the inestimable gifts that medicine as empiric has given to mankind in his suffering. This face of medicine well may wear a garland.

In her other aspect, medicine is not an empiric but a scientist. Who will refute me if I assert that medicine is as well an art as a science. Somewhere it is said that woman is the last thing that man will ever civilize. So the scientific aspect, the male face of two visaged medicine, thinks of that female face, the empiric, with whom his lot is linked. He feels sometimes that his other half is the last thing science will ever render wholly rational. By dint of patient toil he improves her practice by showing her reason now and then. No sooner that than she is off on a fresh flight into the inexplicable, and he must cudgel his brains anew to find her a fresh logical position.

The feminine, ever youthful trait in medicine, has to the student an undying charm. But on the whole, the countenance of medicine has of recent years, for the student, become masculinely severe. This head of medicine has indeed become the larger. Hydrocephalic in appearance though it may be, it is filled, not with water, but with reasoned facts. The development proceeds in the main from certain data acquired in the century just passed. For instance, the chemist, in discovering that all the million-sided chemical diversity of the perceptible universe is composed from a few—some 70—substances, therefore called elemental, discovered also that living matter, instead of containing elements different from or subtler than those of the dead world, consists of just a few of those very same ones. Further, the doctrine of the indestructibility of matter was demonstrated in a new form, namely, as the destructibility of energy, and the convertibility of any one form of energy into other forms. Thus, dead and living matter become united as subject material for study. It became really possible to consider the living body as a chemical and physical machine, a machine to which the laws of chemistry and physics can be applied.

But this scientific progress in medicine, fruitful of benefit to the community, lays a burden of obligation. The empirical part of medicine is at once the most easy and the most difficult thing to teach. The preparation for learning it requires but little training in other subjects. Its facts lean on nothing but themselves.

With the scientific part of medicine it is different. That is based upon initiatory studies. Medicine historically traced, we find first drawing help from the simplest and nearest at hand of these adjuvant studies. First she bent to the study of the gross form of the parts and organs of the body. The gross form of these is significant chiefly where they are machinery for application of mechanical powers. The greater part of the corporeal machinery is, however, not destined for such work, but has its purpose in processes chemical, thermal, and electrical, to which—marvellous appendage—mentality is adjunct. Medicine, in the course of the seventeenth and eighteenth centuries, sucked dry for the most part what the study of the gross form of the body's parts could yield her. She then turned to study of microscopic form—examined what Bichat first named the tissues, the fabrics of the body. In so doing she came upon a great generalization, the cell-doctrine, discovering an essential and visible similarity of microscopic structure in all that has life, differentiating it from all which has not life.

But even before the advent of the cell theory, medicine had begun to ask of chemistry what it could give her. With the discovery of oxygen and of the nature of combustion the links between biology and chemistry began to be tightly drawn. The young Oxford physician, Mayon, had performed the fundamental experiments on respiration and had discovered oxygen more than a century before Priestley and Lavoisier, but the time was not ripe until the stupendous work of Lavoisier had founded modern chemistry. The cell-theory was from the first not only morphological, but physiological. It meant for the application of chemistry to biology that the chemistry of the body or of one of its organs was a chemistry resultant from a thousand tiny living furnaces, individual seats of oxidation, deoxidation, polymerization, hydrolysis, and what not.

Not only that, but the living laboratory of the cell itself manufactures even the medium in which the cells themselves exist: the saps and juices of the body. And we are beginning to know, thanks to pathology, that every species of animal produces an internal medium specific to itself. Further, your distinguished physiologist here, Professor Macallum, who has so revealed the distribution of the chemical elements within the cell, tells us that the internal medium which the cells of even the highest animal forms produce as appropriate for themselves, still

approximates in its salts to the water of the ancient geologic seas in which their ancestry arose, and still reveal in fact the composition of that ancient ocean. In that respect these living cells, with all their influx of change, have been more durable and constant even than ocean itself. The contrast brings home to us a deep distinction between dead matter and living—the latter a moving equilibrium, gaining stability from the very motion of itself.

The bond between Schwann and Pasteur has opened a new perspective, and chemistry and medicine were drawn still tighter by their discoveries concerning those subtle influences named "ferments." Pathology, the study of these processes of the body in disease, even more than physiology, as yet has drawn help from this part of modern chemistry. If the processes of health are in fact the resultant of the due cooperation of ten million little foci of healthy chemical action in the body, the processes of disease are similarly divisible, and have to be traced to the unhealthiness of certain of these minute centres of activity. How extreme is the importance of chemistry to modern medicine, no single statement can perhaps emphasize so well as this—that is, I believe, acknowledged on all hands—that in virtue of his chemistry, a chemist, Louis Pasteur, during the latter half of last century, was able to do more to alleviate the diseases of mankind and animals than any single physician of his time.

Also medicine has made appeal to the physicist, and from him she has got understanding of the body's heat, the basis of knowledge of fever; she has learned the intricacies of the mechanism of the eye and refined methods of examining that organ and of remedying many of its defects; the laws that govern the circulation of the blood and the subtlest means of detecting the forces liberated in the working of the nervous system. In some cases as sciences grow, their discoveries seem to sunder them the further one from another. In my belief, that merely shows they are at the outset of their career. To-day we find physics and chemistry converging and conjoining within a field of physical chemistry. It early became convenient to have a specific name for living material, wherever found. The name given was Protoplasm. It might have been better to call it x or y , so far was it in many respects an unknown quantity. Instead of looking forward to this material as a chemical entity, we incline now to regard it rather as a field for chemical action, satisfying certain particular conditions. Probably discoveries regarding these conditions will fall to the physical chemist, perhaps in a future very near at hand. Probably such discoveries will be among the most valuable that medicine has yet received from any source.

I have said enough to remind us how interlocked with science medicine has become. She is applying sciences to her own problems,

and they form a vast capital fund from which she can draw wealth. To give instruction in this part of medicine, to turn out men trained in it, is now one of the duties of a medical school. The earnest student has a right to expect such training from his *alma mater*. But for it the requirements are importantly different from those that suffice as an introduction to empiric medicine. In the first place, as Pasteur said, we cannot have the fruit without the tree. For scientific medicine the student must, perforce, be thoroughly trained in his sciences before he can really grasp instruction or truly profit from his medical teaching. One of the aims of his instruction in empirical medicine is to teach him to observe for himself, so in his instruction in scientific medicine, one of its aims is to enable him to apply science for himself. How small a fraction of all the realities of medical practice can be met in the few years of preparation of the student in the clinic as he passes through it in his school career. His teacher knows that well, and uses the cases there as types whereby the principles of medicine can be fixed as a beginning. The rest must be accomplished by the man himself, as his life's work. The more necessary that the man go forth from his school equipped not only with the present applications of science to disease but so possessed of root principles of the sciences adjunct to medicine that he may grasp and intelligently use the further developments of scientific medicine after he is weaned from his instructors and the school. That is a way to obtain enlightened progress in professional practice. What truer safeguard can a man have, alone it may be, and isolated from the centres of knowledge, what truer safeguard can he have against all the pseudo-scientific quackeries of the day, than some real knowledge of the principles of the sciences, along whose lines the discoveries of medicine must develop.

Therefore it is that the burden of obligation falls heavy nowadays upon the teaching resources of every faculty of medicine worthy of the name. There is, in the first place, the burden of increased intellectual labor. For the learner and the teacher is this true. To seize the proffered assistance of these great and complex sciences is not always easy. These studies are more difficult than those that were needed once, and they take longer to acquire. The mere instrumentarium of modern chemistry and physics, as applied to medicine and of physiology and pathology, and bacteriology and of hygiene, of itself suffices to bring conviction of the increased difficulty and longer training due for these studies now preparatory to medicine.

Further, these initiatory studies have become vastly more costly than was all that formerly was required. Experts have to be found who can devote themselves heart and soul and undividedly to their

particular subject. Laboratories have to be erected and equipped, and on a scale that makes them a distinct feature of the modern world. Those that we see now here are models of their kind; wise foresight has planned them; public-spirited enterprise has constructed them. Nor does the achievement end with their erection. The laboratories and their equipment are but the factory and the plant; both fail in their purpose if they halt for sustenance. And beyond that the likeness does not go. The factory, once started, if it be wanted, can expect to pay, to support itself. Not so the laboratory. The laboratory is both a school of instruction and a school of thought. Well, no higher instruction can be expected unaided to pay the expenses it involves; it can only do so at the expense of those who come to learn, and that is to put its teaching beyond the reach of all but the wealthier few. And the instruction is costly, for it has to be practical. And another source of expense is that the laboratory has not only to distribute knowledge, but to manufacture it. The duties of a university do not begin and end with the disciplinary and didactic. Besides schools of instruction, they must be schools of thought. To be this latter, the laboratory must pursue research. Even for the welfare of the class-teaching this is essential. Instructive lectures may be given by men of ability, the whole of whose knowledge is second-hand, but it is doubtful whether the real life of science can be fully felt and communicated by one who has not himself learnt by direct inquiry from nature. Nothing more augments the teacher's power of impressive and incisive teaching of a subject than to have faced problems in it himself as an original enquirer. And after rudiments have been once fairly acquired, there is for good students no training equal to that given by following even a small research under an experienced leader.

So truly does the laboratory become a school of thought. Your laboratories are arranged with admirable provisions for research. The student should enter on his study of a natural science through the portal of its fundamental experiments. The attitude his mind thus takes is the true one—the only true one—for further insight into the subject. Too often humanistic studies at school have tended to kill the natural philosopher within him—that innate curiosity for facts, the healthy heritage of childhood. He leaves school a little book-man. Even as to the phenomena of nature, he has been insensibly led to ask for statements upon authority, rather than to turn his own senses and observation to the phenomena themselves. To learn a science or acquire an art resting upon sciences, the first thing to do is to look at the fundamental facts for yourself. Our great teachers of medicine teach upon this plan. They teach where they learned, not in the library, but from the bedside of the

sick. In laboratories such as those raised here for pathology and physiology and hygiene students can learn these sciences as medicine is learned in the hospital ward, by direct enquiry into the nature. The teachers you give them are men who have won widely recognized distinction as themselves direct enquirers into nature. Worthy students will appreciate the double boon their *alma mater* gives them—the means of learning at first hand those secrets of nature which lie at the root of his craft's skill—and to learn them under guidance by men who excel in unravelling such secrets.

Only by enabling men to continue their learning after their teaching is over can we secure the greatest advantage any educational system can afford. Your laboratories here will encourage post-graduate work. We look with keen interest to the researches that will flow from them. No subjects offer finer fields for research than do the progressive studies, physiology, pathology and hygiene, to which your new University buildings are consecrated. And of the functions of a laboratory, research is not the least costly. We in the Old Country find that. Our central Government has done little to support research. Our nation, proud of its success in things practical, has been prone to despise the abstract and the theoretical. We do so foolishly; we do so at our peril. Behind all practical application there is a region of intellectual action to which, though our practical men have contributed little, they owe the whole of their supplies. Theory, if a goose, is the goose of the "airy tale that lays the golden eggs. No more such eggs if once you let her die. To speak of theoretic knowledge slightly is for the lips of the fool. The value of abstract research to a country is becoming more widely acknowledged among us than it was. Sir John Brunner said the other day, at Liverpool, that there was no better investment for a business man than the encouragement of scientific research, and that every penny of the wealth he possesses has come from the application of science to commerce and manufacture. And we find that munificent citizens have and do come forward among us and meet by their individual gifts the pressing needs in this respect of our community at large.

But we welcome a new era drawing on us. Liverpool, Birmingham, Sheffield, and other great centres, begin to regard the local University as an institution entitled to support from the public means, for instance, by subsidy from public rates. Such subsidies can be used also for studies which do not come within allotment from the smaller subsidy from the central Government: medicine, for instance. Proud of the young universities—to which yours of Toronto is a time-honored veteran—communities and local Governments are encouraging research within our universities. They do not expect such research to be able to pay

its own way, but they recognize that indirectly it does pay the community that gives it a home. They feel it a duty which they owe themselves. Is not the university a party of their own life, and is not research a part of the university's life blood? They feel it a right, due to their own higher selves. It stimulates progress. Supported by the large-handed sympathy of the community and the local Government, it means quicker advance, both material and mental, it means invention, and it means medical discovery. And *qui facit per alium facit per se*, is a motto worthy of a State.

What, then, are finally the uses of these laboratories now opened by your University? They will assist in training men for various honourable callings, especially for that most ancient one of medicine. They will assist, no doubt, also to render life by practical applications of science superficially still more different from what it was only a short generation ago. They will assist to bring home and distribute to your community treasures of knowledge from all the quarters of the globe. They will assist—and it is a thought dear to a high-spirited people—themselves to add to the sum total the treasures of knowledge of the whole human race. “Noblesse oblige” appeals to chivalrous nations, as well as to chivalrous individuals.

But their highest office seems to me, perhaps, not even these high ones, but a more difficult still. Genius cannot by any community, however wealthy and powerful, be made to order. In biblical language, it is the gift of God. All a community can do toward obtaining it, be our riches and willingness a thousandfold what they are, is to ensure the rare and glorious plant a meed of freedom, light and warmth for blossoming upon our soil. Who can doubt that in this population here genius exists—not sown, it is true, broadcast, for nowhere is it thus—yet existent, scattered up and down? This it is for the community to foster, to discover.

By help of these finely built and finished laboratories this much in one direction can be done. The problem to which a wise country turns is the discovery less of things than of men. By these laboratories, adequately supported, your community can create opportunity for the exercise of powers which come from sources within itself, but are utterly beyond its power to produce at will. Their loftiest function is creation of this opportunity. For that aim the studies in them must be followed with no single narrow technical purpose, but must be wide of scope and full of access to every rank of students. So shall these laboratories prove a corner-stone for the upbuilding of a temple of knowledge, and a touch-stone for the best ore of intellect within the bounds of this great land.

THE MASTER-WORD IN MEDICINE.*

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

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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 your 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. Macallum 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 school in the same city. That

* An address to Medical Students on the occasion of the opening of the New Buildings of the Medical Faculty of the University of Toronto, Oct. 1, 1903.

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 other 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 friend, 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 were 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; and in W. T. Aikins, 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 enthusiasm did much to make anatomy the favorite 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 this 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 tectotum, 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 harbor 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 Rev. 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 Linaere, 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 ardor with which he studied Kant, Hamilton, Reid 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 rumored 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 tumors 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 favor 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 single 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 what will be your careers; for one success, for another failure; one will tread the primrose path to the great bon-fire, 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 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 honor 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 fore-heads. 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 labor. 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 whole nervous system, to discharge some temper before he returns to his 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 labor." If you wish to learn of the miseries of scholars in order to avoid them, read Part I, Section 2, Member 3, Sub-section XV of that immortal work, the *Anatomy of Melancholy*, but 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 the 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 in 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 variant 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 the 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 toward 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 the 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 a man who does his 'part' to perfection, who has got out all there is in it, who labors 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 will 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 driven 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."*

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

* Quotation mainly from Marsilius Ficinus.

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-absorbing 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 on 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 the 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 freely than any other man, needs that high 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 *Areopagitica*, 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

springtime 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 labor. 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 *lucrymæ 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 at 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 literary heroes of the first rank, the friendship 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 or charity. Many a physician whose daily work is a daily 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 your 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 a 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 succor 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 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.

AN ADDRESS ON RECEIVING THE DEGREE OF LL.D. (HONORIS CAUSA) FROM THE UNIVERSITY OF TORONTO, OCTOBER 2.

By W. W. KEEN, M.A., M.D., LL.D.,
Professor of Surgery, Jefferson Medical College, Philadelphia.

MR. VICE-CHANCELLOR, Mr. President, students of the Medical Department of the University of Toronto. Ladies and gentlemen:—
I thank you most sincerely for the unexpected honor of this degree, an honor which I shall always remember with the greatest pleasure. In doing so, it gives me great pleasure to join my congratulations with those which

have been so happily expressed by others of your honored guests upon the erection of your new building for physiology, physiological chemistry, pathology, and public health. These branches of medicine, with anatomy, which already has an admirable home, are fundamental, and the progress of medicine, surgery, obstetrics, and all the specialties is conditioned, first of all, upon progress in these departments.

The laws governing the action of all forces,—such as power when applied by the lever, the pulley, the inclined plan, or the screw, the forces of heat, light, electricity, magnetism, and steam—are first discovered. Then come the practical applications of these forces through machines by which we can use them. In the wake of such theoretical knowledge have come the balance, the printing press, the steam engine, the locomotive, the dynamo, the trolley, the telegraph, the telephone, etc. These are the machines which minister to civilization and have transformed modern life. Were it not for the unwearied theoretical study in the laboratory, by which the abstruse laws governing these forces have been discovered and accurately stated, we should be groping in the dark and wasting our time, our money and our opportunities. In 1903, we would be as our fathers were in 1803. Just so in medicine. The same patient laboratory workers must be encouraged by the facilities which you have now provided for them to solve the problems of physiology, that is the study of the various organs in their normal condition, or pathology, that is the study of the various organs in diseased conditions, the complex reactions of chemistry, which, in the future, far more than in the past, will aid us both in physiology and pathology, and of public health, which will diminish the suffering, promote the well being, and prolong the lives of the entire community.

You have provided now the external physical conditions for successful study. The intelligent young man around you, yearning for distinguished careers in science, will be swift to take advantage of such splendid opportunities, and will be the best guarantee that the moral and intellectual conditions shall equal the physical.

Those not wholly familiar with progress of medicine in the last two or three decades may think, in view of the enormous and well known progress made by medicine, surgery and bacteriology, that medical science may have reached its limits, and may wonder whether there are any other worlds to conquer.

Worlds to conquer? Aye! scores of them! The solution of each problem does but reveal two or three new ones; increase of knowledge but shows us how little we really know. Prof. Welch's Huxley lecture which disclosed the marvelous progress made in the study of immu-

ity, showed a still larger world of the unknown which must be subdued. The surgeon longs for such an intimate knowledge of sepsis as will enable him to convert an already septic wound into an aseptic wound : and that the cause and then the cure of cancer, and other similar diseases, may be vouchsafed to him ; the physician is seeking for the germs of scarlet fever, typhus fever, chicken pox, whooping cough, measles : the pathologist is questioning the blood and slowly compelling it to disclose the secret foes and friends of health floating in its crimson tide ; the physiologist is investigating the internal secretions and the therapist is experimenting upon the various antitoxins and immunizing serums. The darkness of the night of ignorance is gradually fading, the dawn is lighting up the eastern sky, some day the glorious sun of complete knowledge will appear above the horizon to flood the world with its bright rays.

But you need more than these fundamental branches, without which no progress could be made. The "final cause," the ultimate reason for the existence of the doctor is to alleviate suffering and cure disease. When well grounded in the fundamental branches, for which you have now made provision, he must learn how to apply this knowledge to actual sick and suffering men, women, and children. How shall he learn to do this ? It must either be from lectures and books, when he hears and reads about disease : or by coming directly in contact with disease itself in living, but suffering men, women, and children. Which method shall be adopted ?

You have bought a fine watch, locomotive, a steam yacht, or have built a costly electrical plant. You seek a skilled watchmaker to repair your watch, or you want to engage an engineer to run one of those complicated machines. Which will you choose, the watch-maker or the engineer who has only listened to lectures and read books on watch-making, electricity, steam, the dynamo, the locomotive and ships' engines ; or the man who has not only become theoretically familiar with their construction, but has actually handled them till every part is as familiar as his own bed-room, who has taken them apart and put them together again scores of times, and has healed sick watches and cured sick engines ? To ask the question is to answer it. Will you do better by your watches, your engines, your yacht, your electrical plant, which only cost money, than by your bodies, which are indissolubly bound up with your very lives and the happiness of those dearer to you than your own lives ?

The great daily laboratory of the medical profession is the sick room. To be equal to his task, therefore, the doctor, even when he

graduates, must be familiar with actual patients and not be compelled to learn by blunders, the penalty for which is paid by his patients in shattered health or tedious convalescence, or by ghastly mistakes, each of which has cost a life. You must, therefore, provide a complete university hospital in which hundreds of the sick and suffering will find relief at the hands of your devoted and skilful faculty and at the same time afford the students the occasion for study and observation, for case taking, for dressing of wounds, and for clinical and bacteriological examinations, and so learn the chameleon phases of disease, the means of cure, and the methods of operating. This hospital must have also not only its wards for those actually sick or dangerously injured, but a large out-patient department for every specialty, for those whose illness, or accident, or injury does not require them to leave their homes and their families and enter a hospital, but who can be cared for by simply visiting the hospital at suitable intervals. Here the minor accidents and ailments may be early and easily cured, and so prevented from threatening life or limb. In these out-patient departments, your students will see all the usual forms of disease and be trained in their proper treatment.

It is sometimes objected by those who are not familiar with the real facts, that this method of actual bedside instruction does harm to the sick. May I quote in reply what I said in an address to the Congress of American Physicians and Surgeons last May ? " I speak after an experience of nearly forty years as surgeon to half a dozen hospitals, and I can confidently say that I have never known a *single patient* injured or his chances of recovery lessened by such teaching. Moreover, who will be least slovenly and careless in his duties, he who prescribes in the solitude of the sick chamber, or operates with two or three assistants only, or he whose every movement is eagerly watched by hundreds of eyes, alert to detect every false step, the omission of an important clinical laboratory investigation, the neglect of the careful examination of the back as well as of the front of chest, the failure to detect any important physical sign or symptom ? Who will be most certain to keep up with the progress of medical science, he who works alone with no one to discover his ignorance ; or, he who is surrounded by a lot of bright young fellows who have read the last *Lancet*, or the newest *Annals of Surgery*, and can trip him up if he is not abreast of the times ? I always feel at the Jefferson Hospital as if I were on the run with a pack of lively dogs at my heels. I cannot afford to have the youngsters familiar with operations, the means of investigations, or the newer methods of treatment of which I am ignorant. I must perforce study, read, catalogue, and remember ; or give place to others who will. Stud-

ents are the best whip and spur I know." The poorest charity patient in a hospital often has his disease more thoroughly investigated and has a better chance of recovery than a well-to-do or even rich patient because a hospital affords the means for such complicated investigations which are not possible in private practice.

Such a hospital and out-patient department should be under the control of the trustees and faculty, and all its beds should be wholly given up to the teaching faculty as much friction will thus be avoided; the professors of medicine, surgery and other branches will be the physicians surgeons &c. to the hospital of right and not by courtesy, and the didactic instruction in the college and the clinical instruction in the hospital will be most advantageously correlated. College, hospital, out-patient department, and laboratory are all parts of one great medical machine. Cut off or dislocate one and all are crippled: the education of your own family physicians, your surgeons, your obstetricians, and your specialists, is marred: and you, men and women of Toronto, and your children, and all of Canada, will suffer.

One more thing is needed to carry out this scheme completely—large endowments. Modern medical teaching is excessively expensive, because it has become so largely individual instead of to great classes, and so the teaching force has had to be enormously increased; and because it is chiefly in the laboratory which demands expensive buildings, costly equipment, and still more costly instructors. Has it ever occurred to you that universities are the only bodies which sell their wares below cost? Railroads, industrial plants, merchants, all sell their goods for cost plus 5, 10, or 20 per cent, which represents their profit. Universities sell theirs for 25 to 50 per cent less than cost, which represents their actual loss in money. Hence the \$10,000,000 for the Medical Department of Harvard, the \$7,000,000 for the Medical Department of Chicago, the \$2,000,000 given to the Medical Department of Columbia University, the \$7,000,000 for Johns Hopkins, the millions so freely given to McGill University. Universities and medical schools must have large endowments, either from generous friends or from the Government. The former have shown their interest in this University by large gifts. It now rests with the government to help you either by annual grants or by additional endowments. I feel the more at liberty to urge this before a British audience, because Sir Norman Lockyer, as President of the British Association for the Advancement of Science spoke in clarion tones but a few weeks ago in support of this same idea and showed its urgent need in Great Britain. It is no less urgent in Canada. Liberal aid to universities and technical schools, including pre-eminently the

medical schools, is one of the wisest and most profitable investments a government can make and will most surely meet with popular approval. The profits on the formerly wasted coal tar products alone have more than repaid Germany all her vast grants to her chemical laboratories in which the methods of utilizing this waste were discovered; and the pre-eminence of Germany in medical research has been maintained by similar expenditures upon her medical schools. Why should not the familiar label "Made in Germany" be replaced by "Made in Canada?"

THE TECHNIQUE OF GASTRO-ENTEROSTOMY.*

BY THEODORE A. MCGRAW, M.D.

IN the practice of surgery the field of intestinal anastomosis is becoming daily enlarged and the questions connected with it more and more important. These questions are necessarily viewed by the general practitioner and the surgeon from very different standpoints and the physician, whose ultra-conservatism is regarded by the operator with disfavor, is inclined on his part to consider the surgeon too impatient and reckless. It is in such general assemblies as this, that all such matters may be discussed with advantage and we may all hope by a frank interchange of views to arrive at rational conclusions as regards practice. In this paper I seek to give, as impartially as I may be able, the principles which should govern the surgeon in his work in this particular field. There are four classes of cases, which may make intestinal anastomosis necessary. They are, first, the various kinds of intestinal obstructions; second, inflammations and ulcerations in the alimentary tract; third, displacement of the viscera; and, fourth, intestinal fistulæ. The first class is by far the largest in numbers and the most important.

We may divide the intestinal obstructions into those which are acute and those which are chronic. Of the acute obstructions I shall have little to say in this connection. The most of them when operated on in an early stage can be relieved by simpler operative methods. The intersusceptions may be drawn apart, the volvulus untwisted, the binding cord cut, and the hernias reduced. The question of anastomosis comes in for consideration only when the gut has become gangrenous. In such cases, the surgeon has a choice of a variety of procedures none of which is very promising.

He may immediately cut off the mortified coil and make either an end to end or lateral junction of the severed ends. This operation on the nearly moribund patient is only occasionally successful. It is diffi-

* Read at the Canadian Medical Association, London, August 25 to 28.

cult to determine the extent of bowel which must be sacrificed, and the surgeon is obliged either to excise a long piece of the gut or to operate on a tissue that is inflamed, soft and uncertain. Sutures are apt to cut through such tissues and permit an extravasation of feces. Many surgeons prefer to fasten the diseased coil in the abdominal wound and leave it to nature, in hope that the patient may recover sufficiently to permit a secondary operation for the resulting anus.

I venture to suggest a combination of these methods which I have tried in one fatal case and which seems to me to offer the best hope for the patient in my procedure.

The surgeon draws the gangrenous coil out of the abdomen far enough to permit him to unite the two limbs of the bowel at a point where they seem healthy, by means of a rubber ligature. This requires very little time and causes no shock. All of that part which is liable to slough is then fastened outside of the abdomen and the wound closed around it. The immediate result is a false anus through which the intestine may relieve itself of its contents and, when we consider the character of those contents, we may hardly doubt that it is better that they should be discharged by the shortest and quickest route. At the end of two or three days, a new channel has been cut by the rubber ligature and the false anus becomes unnecessary; it may then in time close spontaneously, or be closed by the simple operation of inverting and suturing the ends. In this way we may escape both the great dangers of an immediate excision with an end to end anastomosis, and the severe secondary operation for the cure of an active false anus. The closure of the fistula, when a free communication exists between the two segments of bowel above it, would hardly require the opening of the abdominal cavity. Most physicians recognize the necessity of surgical procedures in cases of acute obstruction, although they are often too slow in arriving at a positive diagnosis. This is, unfortunately, not the case with those chronic forms of obstruction which furnish the largest quota of cases which require the formation of intestinal anastomosis. I do not know why it is that the general practitioner evinces so much repugnance to operations on the very class of cases in which operations give the most brilliant results. Cases of obstruction of a chronic nature differ from the acute obstructions inasmuch as they are, during a comparatively long period, partial in character—their symptoms develop gradually and they give to the competent observer long notice of the coming closure. For this reason the physician is enabled to study the conditions and to prepare, if he only will, for the coming disaster. To the surgeon, who is permitted to operate before the case has become

desperate, a field is presented for operation which is free from inflammation, sepsis, or gangrene. Stenoses of this character are most commonly caused by tumors or cicatricial contractions. The symptoms vary according to the seat of the obstruction and have to be studied therefore with especial relation to their location. When diagnosing any given case, we have to note the intensity and character of the pain or distress produced by the disease, the changes which take place in the form, size and feel of the abdomen, the location of any abdominal swelling, the degree of tolerance with which contents are allowed to accumulate before serious symptoms supervene, and the character of the vomit when it occurs. The movements of the viscera, seen as they affect the abdominal wall, and the gurgle of the fluids as they pass the point of stenosis will also in some cases afford positive evidence as to the seat of the disorder. We may become best acquainted with the import of symptoms if we study them in turn as they appear in the obstructions of the separate portions of the alimentary canal from the stomach down. A pyloric obstruction will often end in death before the channel is obliterated. It is not at all uncommon to find on post-mortems that death has taken place from a pyloric tumor, in which the pyloric orifice is still large enough to admit the finger or even the thumb, the patient having died, nevertheless, from inanition due to the inability of the viscus to force its contents into the duodenum.

The explanation of this fact is simple. Under normal conditions the chyme is forced out of the stomach by rythmical contractions of its muscular fibres, associated and in unison with a relaxation of the circular fibres which close the pylorus.

It is, in fact, a very complicated process, involving many nerves and muscles, by which small portions of the digested food are forced intermittently into the duodenum. When the duodenum is filled, the further evacuation of the stomach is inhibited.

Now any malady which interferes with this delicate mechanism may prevent the passage of chyme and cause vomiting. A pyloric tumor or cicatrix may do so by preventing the rythmical expansion of the pyloric fibres, or by causing a change in the direction of the vermicular motion, or by thrusting a mechanical obstacle before the coming bolus which will divert its course. So, too, the adhesions around such a diseased segment will prevent the free motion of the gut or even cause a positive obstruction by producing a bend in the bowel.

Now, the first symptom produced by a beginning pyloric obstruction is one of irritation. The patient complains of indigestion and has eructations of gas. These symptoms increase in intensity as the disease

progresses, and sooner or later he begins to vomit. The stomach, unable to dispose of its contents, becomes distended and prolapsed. The pain becomes more intense and the vomit, which has at first consisted only of ingesta mixed with the normal secretions, begins to contain mucus and blood and the products of fermentative changes. It must be noted that bile is always absent from these ejecta.

The distension of the stomach usually causes a swelling to the left of the median line, but occasionally the stomach will be so enlarged as to pass completely across the abdominal cavity. The position of the stomach will be influenced also by adhesions which it may form with the surrounding viscera. A tumor, if such exists, may or may not be felt by palpitation. It may lie under the liver and be hidden by that organ or by very rigid and tense abdominal muscles.

I wish to insist upon the fact that there are very few diseases, other than obstruction of the pylorus or first part of the duodenum, which can cause just this sequence of symptoms. They might be simulated by the nausea of pregnancy or by that of a purely nervous character, but rarely or never by chronic dyspepsia.

Prolapsus of the stomach may, indeed, cause similar phenomena, but it does so by producing a kink of the duodenum, which, itself, causes an obstruction.

When, therefore, this train of symptoms occurs the physician should not lose time by a vain indecision. If he can find no other cause for the trouble, and it persists in spite of all his remedies, it is his duty to call in the surgeon, to give the relief which medicinal means cannot possibly supply. This is especially the case, when the patient, previously healthy, is steadily losing weight and strength, though it must be remembered that both tumors and strictures are apt to result from old ulcers and inflammations which have caused trouble during previous years. If I have gone more into detail in the discussion of the diagnosis of pyloric stenosis than might seem necessary it is because there is no class of cases which, in my judgment, demands so imperatively surgical aid, and in which there is so much unjustifiable delay on the part of the general practitioner.

The profession seems to be hampered by old traditions and unable to distinguish between other chronic digestive troubles and those due to obstruction. It would perhaps aid in stimulating to more decided measures, if it were borne in mind, that these other troubles may themselves be more amenable to surgical than to medical treatment, for many so-called dyspepsias are caused by inflammations of the gall bladder or by gall stones, and many ulcers of the stomach which have resisted the

efforts of the physician have finally yielded to a gastro-enterostomy. Dr. Walker, of Detroit, has had much success of late in applying the same surgical remedy to indigestions caused by gastric ptosis. There may be some excuse for physicians who hesitate on account of a doubtful diagnosis, but there can, it seems to me, be only one opinion as to the duty of one who has diagnosticated any given case as one of pyloric obstruction. In such cases there can be no relief except by the knife and the failure to relieve means the sentence of death to the patient. A large number of these cases are of benign stenoses in which a successful gastro-enterostomy means a permanent cure. Of the tumors of the pylorus many are fibrous or adenomatous, and a tumor in that region should therefore never be assumed to be cancerous. I have just had occasion to correct a diagnosis upon a patient upon whom I operated nearly three years ago. His case was very instructive in many ways. He was a gentleman of 68 years when I first saw him, who was steadily failing in health on account of a pyloric obstruction. There was a tumor to the right of the navel as large as a hen's egg. He could retain no food on his stomach for more than a few hours. The contents of the stomach, when tested, showed the absence of hydrochloric and the presence of lactic acid. On opening the abdomen an irregular tumor was found at the pylorus as large as a hen's egg and enlarged lymphatics could be felt in the mesentery. I made a gastro-enterostomy by the elastic ligature. He recovered completely and gained his strength to such a degree that he travelled all over the country attending to his large lumber and mining interests without any inconvenience whatever. His first operation was done on September, 1900. He continued in good health until when attacks of colicky pain began, which were believed to be caused by the spread of the cancerous tumor to the neighboring viscera. These continued with occasional ameliorations until 1903.

He was then at Algoma at a summer hotel. There supervened then a sudden attack of obstruction of the bowels with faecal vomiting. It was two days before I saw him, but as soon as he was brought to the hospital I operated on him. I found that the trouble was entirely independent of the original pyloric tumor. The obstruction was caused by a cancerous tumor of the transverse colon which had completely occluded that organ. He died shortly after the operation and I made a post-mortem. To my surprise I found that the original pyloric tumor, which I believed to be cancerous, had nearly disappeared. The pylorus was thickened and contained some small tumors projecting from its mucous membrane. There were some calcified lymphatic glands in the mesentery. There were absolutely no adhesions anywhere. At the

Detroit Clinical Laboratory, to which the specimens were sent for examination, the pyloric tumor was found to be an adenoma and that of the colon a cancer. The orifice between the stomach and jejunum made by the elastic ligature was large and perfect. Now this illustrates the extreme difficulty of deciding upon the character of a pyloric tumor without a microscopical examination. In this case, we had every reason to believe that the hard pyloric mass and the swollen lymphatic glands were cancerous. There was a rapidly growing obstruction, and the test breakfast showed the entire absence of hydrochloric acid. The tumor when exposed felt like a cancer and looked like a cancer, and yet when the irritation produced by the obstruction was removed by a gastro-enterostomy, the tumor began to grow slowly smaller and was disappearing when a new tumor of different kind growing in the colon caused his death.

I have no doubt that the original trouble had been practically cured by my first operation. Now, if when he first began to suffer from that peculiar intermittent colicky pain which characterizes a beginning intestinal obstruction, I had promptly operated, I might by an excision of the cancerous mass in the colon or by an entero-enterostomy have still further prolonged his life. This was not done because I believed that the trouble was caused by the invasion of the surrounding intestines by the pyloric tumor, a condition which would have made an operation of no avail. It was one of those lessons which the practical surgeon every now and then meets with, which tell him that no case should be despaired of until we have exhausted every possibility of cure.

When the pyloric tumor is cancerous, it does not forbid but rather urgently indicates an operation. That which kills the patient is not the tumor but the obstruction. He actually starves to death. The cancer, if not eradicated, would sooner or later kill, but in the meantime, the patient relieved by a gastro-enterostomy, would have his life prolonged from one to five years.

For these reasons, then, I earnestly insisted that we are not justified in withholding from patients a means of relief which in many cases would promise a permanent cure. If, on entering the abdomen, the surgeon finds that the case is not one of obstruction, he should examine the stomach to see whether a displacement causes a bend or if an ulcer has produced unusual symptoms. In either case, a gastro-enterostomy would give relief. In case there were gall stones and evidences of inflammation around the gall bladder, they could be operated on and the symptoms relieved, and thus in the rare cases in which the typical symptoms of pyloric obstruction were caused by other maladies, the operation would still be of service to the patient.

While the conditions which necessitate operations for the production of anastomosis in the small and large intestine are nearly the same as in pyloric stenosis, there are nevertheless peculiarities due to the position of the trouble which should be noticed. Stenosis of the duodenum between the orifice of the bile ducts and the stomach, presents about the same symptoms as pyloric obstruction. Beyond that point, bile will always be present in the vomit if the bile ducts are open. A stenosis in the third part of the duodenum or at the junction of the jejunum will usually be marked by a great distension of gut to the right of the median line before vomiting begins. The vomiting may indeed be postponed until the patient is nearly moribund. This comes from the inhibiting action which is caused by a distension of that part of the duodenum on the motility of the stomach. I saw this manifested in my first case of vicious circle, in which the contents of the stomach instead of entering into the efferent limb of the jejunum passed into the duodenum. That viscus and the stomach both become enormously distended, but vomiting did not take place until the patient was moribund. This fact has a very important indication as regards surgical practice for the reason that a gastro-jejunosomy would be of no avail in a stricture of the third part of the duodenum—for that bowel, becoming distended, would prevent the contractions of the stomach, which are necessary to force the food through the artificial opening. Stenoses of the jejunum, ileum, and, sometimes, colon, when incomplete, are manifested by the violent contractions, often visible through the abdominal walls, which the bowel is forced to make, in order to empty itself through the narrow ring, by the extreme colicky pain caused thereby and by the gurgle, which announces the success of the movement and the consequent relief. I have met with this symptom only once in stricture of the large bowel, in the case namely of colonic cancer which I have just reported. This patient manifested it so markedly that I was deceived in diagnosis and thought that I had before me a stricture of the small intestine. Ordinarily a stricture of the colon causes a slowly growing distension with a general malaise and a toxæmia resulting from faecal absorption. In many cases, however, the growing obstruction causes little inconvenience until, all at once, as the result of congestion or faecal accumulations behind the stricture point, the most violent symptoms arise of acute obstruction. The surgeon is then surprised to find the bowel so completely occluded as hardly to admit a lead pencil through the diseased part.

The indications then for an intestinal anastomosis are chronic or sub-acute and partial obstructions, displacements of the viscera which

interfere seriously with their functions, and ulcers and inflammations otherwise incurable. In this last named case the relief is obtained by making a new channel for the stomach contents and thus relieving that viscus from the long retention of food and the friction which arises from its own churning action. They are indicated in acute obstructions only as means of repair. They are contra-indicated when the stomach has lost its motor force, for in that case, the chyle could not pass into the intestine even though there were a free and unobstructed opening. So, too, from conditions already stated, they could not avail in strictures of the third part of the duodenum or the beginning of the jejunum. In some cases, too, a total excision of the diseased area might offer a more permanent cure and be preferable. It is a curious fact, which illustrates the caution with which statistics should be received without careful study, that gastro-enterostomy, an operation not in itself dangerous, has a mortality record nearly as great as that of pyloric excision. The reason of this is evident—it has been the operation of last resort in nearly moribund patients. Many surgeons make a practice of excising a pyloric tumor when the case is hopeful and making a gastro-enterostomy when it is desperate. That a man thus operated on, when his stomach has become highly inflamed, and when he himself is at the point of death from starvation, should die, indicates not that the operation as such is dangerous but that it has been too long postponed. It happens not infrequently that a surgeon begins an operation expecting to make a pylorotomy, but finding that procedure impracticable, makes a gastro-enterostomy in hope of giving a temporary relief. As regards the mortality ratio, it varies widely in the practice of various surgeons—that it should depend in a measure upon the skill of the operator is self-evident but there are other factors which influence the result in an even greater degree. Conservative surgeons who refuse to operate on patients who have passed the safety line will show exceedingly favorable statistics, for the majority of such will recover. He who operates, as I have done in all stages of obstruction cannot fail to lose many patients. It is a question whether it pays to operate on cases so desperate that only now and then one recovers.

Speaking generally and with reference solely to pyloric obstructions, the operation will be usually successful as long as the ejecta consist solely of food and colorless mucus, and the cases become more and more hopeless as the vomit becomes green and finally black. The safety line may be measured, in most cases, by the color and character of the vomit. When it assumes a green hue, we may know that the disorganization of the stomach has begun, and when black, that it is nearly completed. I

think it right to give the patient every reasonable chance, but I now refuse to operate when a black fluid oozing from the stomach indicates an early death. Statistics will become more favorable when the general practitioner arouses from his apathy and ventures to urge upon his patient an unwelcome operation. There are certain nationalities, whose members will invariably resist all such attempts, but the duty of the physician is to give good advice, even though he can not secure obedience.

The question of method is an all important one to the surgeon who would make an intestinal anastomosis. Of the many procedures which have been introduced for this purpose, there are only three which can, at present, claim consideration, the use of the others having been abandoned or at most confined to single operators. These are, suture, the Murphy button, and the elastic ligature.

Of the suture and the Murphy button I shall have little to say, as they are too well known to all practical surgeons to require description. I shall, however, compare them with the method by elastic ligature, which has only recently succeeded in gaining favorable attention.

As early as 1891, I had operated for intestinal anastomosis by the elastic ligature. The patient recovered from the operation and ceased to vomit, but died on the 15th day of diarrhœa and starvation. Adopting the plan recommended at that time by Lücke, I had united the stomach with the nearest presenting coil of small intestine. This error in technique caused the loss of the patient, as the post mortem showed a magnificent anastomosis of the stomach with the Ileum, at a point only 91 centimetres from the Ileo cœcal valve. I published the case and described the method in a paper read before the American Medical Association and published in its journal of May 16th, 1891. The paper and the method fell dead and attracted no attention. I myself soon after became enamored of the Murphy button, and used it in preference to my own procedure.

That which attracted me especially to Murphy's device was the possibility of administering food immediately after the operation while the elastic ligature required an abstinence of three days while it cuts its way through.

It was not until a further observation of ten years had taught me that it was not desirable that even the most fluid and blandest food should be thrust into an injured stomach directly after the operation, that I recurred to my own, as I now believe, superior method.

In most cases, the stomach refuses to contract during the first two or three days and food or medicine put into it, is liable to be retained there during that time. In the fall of 1900 I returned to my ligature

operation with successful results and am now in position to report many confirmations, on the part of distinguished American surgeons of its efficiency.

The application of the 31 elastic ligature as a means of producing an intestinal anastomosis is very simple. The two viscera are brought together and the surgeon connects them with a single line of Lembert sutures a little longer than the desired opening, the rubber cord is then, by means of a large needle, passed through the walls of first one and then of the other bowel and tied firmly in a single knot. Before tying it, however, a silk thread is laid under the knot and after the knot has been firmly tied with the rubber stretched to its utmost, the silk thread is made to fasten it in place. Both threads are then cut short and the Lembert suture is now completed so as to form a ring inclosing the rubber. In passing the rubber through the gut it should be put upon the stretch, in order to lessen its size, and drawn slowly and carefully through in order not to tear the gut. It is not necessary to say that the rubber should be first-class and fresh, for old rubber is apt to break. The advantages of this procedure are, 1st, its simplicity and quickness of application, 2nd, its aseptic quality for the rubber fills the openings through which it passes so completely that no extravasation is possible, 3rd, the delay in opening the passage until the intestines have become well glued together, and 4th, the ability to make with it a communication of any desired length. If we compare it with the incision and suture, it is more easy and quick of performance, much more aseptic and is accompanied with much less hemorrhage. If with the Murphy button, it is less liable to meet disaster from faulty technique, causes no loss of blood, is more aseptic, and it leaves no foreign body in the bowel.

The following history is interesting as illustrative both of the dangers which may arise from the use of the Murphy button in the hands of a very competent surgeon and of the condition of the gastro-intestinal anastomosis eight days after the application of the ligature.

Dr. Max Ballin, Surgeon to the Detroit Sanitarium, had two cases of gastro-enterostomy by the elastic ligature. One recovered without any complication whatever. In the other, fearing a vicious circle, he made a second anastomosis between the loop of the jejunum by the Murphy button.

The history of the case as reported by himself is as follows:

Mrs. S. B., 35 years old.

Previous history.—At 18 years chlorosis and a severe hematemesis. Since then suffered frequently from vomiting, pain after meals, etc. In

last three years vomiting more frequent and in large quantities, great loss in weight, lived mainly on liquid diet. Washing of stomach gave only temporary relief.

Examination showed: Weight 98 pounds (at the age of 18, patient weighed 132 pounds). Stomach dilated below umbilicus. No palpable tumor.

Operation on Feb. 14, 1903. Abdominal section showed greatly dilated stomach, near the pylorus hard scar-tissue. Fundus nearly five inches lower than pylorus. Anterior gastro-jejunosomy after McGraw. Entero-enterostomy of afferent loops of jejunum by Murphy button.

For four days patient was in splendid condition. On Feb. 19, sudden collapse and vomiting. Symptoms of peritonitis. Patient died on Feb. 22.

Autopsy showed: Perforative peritonitis. New communication between stomach and jejunum perfect; the rubber-ligature had entirely cut through, the edges well united. On the place of anastomosis between the loops of the jejunum a perforation an inch large. The button not found on the place of the anastomosis.

Had there been no postmortem examination the onus of causing death in this case might have been laid on the ligature operation, as the less known and consequently less trusted procedure. The consideration which is, I find, the deterring factor in preventing the trial of this method by surgeons to whom it is a novelty, is the fact that the surgeon is not able to see the orifice produced by the ligature. He closes the abdomen on still intact intestines and is obliged to put his trust in the slow, unseen action of a constantly contracting rubber cord. He desires the evidence of his senses but is obliged to put faith in things unseen.

It is only after repeated trials of its efficiency that he learns to have confidence in a procedure which is certainly the simplest and, as I believe, the least dangerous of all methods for making an intestinal anastomosis.

CONSERVATIVE GYNECOLOGY.*

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THE position occupied by the conscientious Gynecological surgeon is often a difficult one. He wishes to do the best he can for the suffering woman who puts her trust in him; he wishes to win and retain the good opinion of the practitioner who advises the patient to come to him

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he wishes to stand well with his brethren in the profession generally, as a successful expert, whose patients not only recover from the operation but are restored to health by it: he wants the patient herself to be a living and walking witness to the advantages of operations in suitable cases, generally, and in her individual case in particular, so that other women suffering from similar troubles will listen to their family physician when he frankly tells them that he has done everything that medicine can do, and that now they must fall back upon the resources of the gynecological surgeons art. So that from every possible point of view it must be his most earnest wish that he may do neither more or less than is necessary for the cure of the patient. And yet he is sometimes spoken of by his brethren half seriously and half in joke and often by the public altogether in earnest, as though he were not only ready and willing to operate on those who require it, but anxious to remove the whole of the sexual organs from women in whom they were perfectly well. If the specialist has served ten or fifteen years in general practice, as I think every one of them should do before he takes up his specialty, I can hardly imagine him to be other than a careful diagnostician and a conservative operator. If he is an educated gentleman, as he ought to be, surely no consideration, monetary or otherwise, could induce him to perform an operation which was not necessary or to do seven operations at one sitting when only one or two or three are required. It would seem that in the minds of some the words *thorough* meaning *complete*, and *radical* meaning *destructive*, were interchangeable. Place yourselves in the position of the specialist who receives a letter by the first mail in the morning from a patient from whom he has removed the left ovary two or three years before and who writes an angry letter because she is now suffering just as much from her right ovary as she did before from her left. At the time he may have believed that this would happen but she had refused her consent to have the right ovary removed. She also states that she has had a child since but suffered so severely all the time she was carrying it, that now she is going to another specialist in the hope that he will complete the unfinished work. This letter would make you resolve that you will remove both ovaries or none the next time. Then when you go to the hospital you find that you have to operate that morning on a patient who had her left ovary removed at another hospital a year ago by another specialist of whom your patient speaks most disparagingly in spite of your efforts to stop her. You have a difficult task in removing the right ovary and tube, because all second operations on the abdomen are more difficult than the first; and the vermiform appendix being imbedded in the tube is also removed.

This case makes you still more determined to remove both ovaries or none at all. She subsequently makes a good recovery and improves in health from day to day. Then on your return to your office you find a lady waiting to be examined and you find that nothing but an operation will do her the slightest good, it may be nothing else will save her life. But you cannot persuade her to have an operation because a friend of hers who underwent an operation for a similar trouble is no better but rather worse; and so she delays and when the operation has to be done later it is more difficult and more dangerous. You go to the Medical Society that evening and on hearing some one reporting the removal of a cancerous ovary in which he was careful to leave the other ovary, you mildly suggest that it might have been better to have removed the two ovaries lest a second operation may be needed later and at once you are attacked by several general practitioners and also by the man whose work you completed that morning, as being a dangerous fellow and a radical: and then some one rises to prove what an awful thing it is to remove both ovaries and tubes by citing a case in which one ovary was left and the woman subsequently had a child: as if the having of a child was positive proof that the woman was free from pain, while as a matter of fact her suffering may have been almost maddening. All this has happened to the writer in one short day: how would you feel about it? You would no doubt go on doing what you thought was best, but you would perhaps urge more women to go on bearing their sufferings who might be restored to perfect health by means of an operation.

My own practice has been to remove no more than is necessary to obtain a cure of the condition. But it is so distressing to have a woman come back time and again complaining that she has not been cured, or what is worse, to have her go to another doctor to have done what might just as well have been done at first, that I leave nothing undone to obtain a good result. There are many cases, I might almost say that the majority of the cases which come to us, have not one thing, but several things the matter and if the false idea of conservatism makes us perform only one operation when six or seven are necessary, all of which can be done at the one sitting, it is a veritable calamity for the patient. I have now done over one hundred of these combined operations which, if no extraordinary difficulties present themselves, can all be accomplished within an hour and ten minutes. Such a case for instance has an endometritis of gonorrhoeal origin, a badly lacerated cervix, a badly lacerated perineum causing a rectocele, owing to the too early application of the forceps; and from the same cause a cystocele, the bladder having been dislocated through the separated pelvic fascia. The heavy and

subinvolted uterus is lying retroverted in Douglas cul-de-sac and bound down there by layers of exudation; the ovaries and tubes together form an abscess sac, the pressure of which causes an almost constant and sickening pain. It is evident that in such a case we must, First, Dilate the uterus so as to do, Second, a thorough curetting; Third, we must repair the cervix; then, Fourth, we should remedy the cystocele which alone causes distressing urinary symptoms, and Fifth, build up a new perineum which Emmet has pointed out is so necessary to support the large veins in that locality; Sixth, we must remove those purulent tubes and ovaries; and, Seventh, free the adhesions, raise the uterus and fasten it securely to the abdominal wall. While I have been removing the diseased tubes it has happened about twenty times that I have found the vermiform appendix imbedded in the exudation and covered with lymph. Is it conservative to leave the woman with a diseased appendix which may perforate a few days later or is it more conservative to remove it there and then even if that makes eight operations at the one sitting. Whether you consider such a practice conservative or not I can testify that these patients make the most satisfactory recoveries and I can find many of them now in perfect health. They are besides free from the dread of having to undergo any more operations. While recently visiting some private hospitals in other countries I was shown some patients who had been in the hospital for several months undergoing the above operations piece meal. It must have added enormously to the cost and I wonder how they could be induced to undergo these repeated operations, for the women whom I have seen have all expressed the greatest dread of undergoing any more of them.

With regard to the ovaries, this is one of the most difficult questions that a conscientious man has to settle. Shall we remove both ovaries? Or shall we remove only the one which is causing the pain? Our course must depend upon the nature of the disease. In cases of ovarian and dermoid cysts I have always left the apparently healthy ovary; but while writing this paper a woman from whom I removed a large ovarian cyst three years ago has come back with a still larger cyst on the other side which I will remove in a few days. In the case of malignant and semi-malignant disease such as papilloma I have always removed both ovaries. I was recently called to New Brunswick to a case of papilloma of the left ovary involving the bowel and necessitating the resection of several inches of the sigmoid flexure, in which the very skilful local surgeon had removed the right ovary for papilloma a year before, which subsequently proved to be malignant. He had the best of intentions and thought that he was properly conservative in doing this but it was a misfortune for his patient that he was so.

In prolapse of the ovary it is generally the left one which is enlarged and heavy and drops to the bottom of Douglas cul-de-sac on account of the difficulty the return flow of blood into the left renal vein experiences, entering as it does at right angles to the current. I only remove one ovary in these cases and none of these women have had to have a second operation.

Cirrhotic ovaries. This is the condition which gives the conservative operator the most anxiety. The woman complains of a constant sickening pain; she is nervous, emaciated and cannot fulfil her duties to her husband or to her family. The slightest touch on the ovaries causes excruciating suffering so that she shrinks from the very thought of sexual relations until her husband becomes estranged because she does not dare to show him any affection. A bimanual examination, even when the woman is thin, sometimes proves negative, because the ovaries are too small to be felt, so that the physician doubts whether there is any real cause for her complaining. These ovaries are in the second stage of inflammation in which the exuded lymph of the first stage becomes organized into cicatricial or scar tissue which contracts and makes the ovaries smaller and at the same time squeezes the sensitive nerve tissue in the stroma of the ovary. That this is so, is proved by making a cross section of the ovary, when the follicles will stand out like the cells of a hob nailed liver. Even after such ovaries have been removed some of those present have wondered at their removal because they were so small. And yet one of the most satisfactory results I have ever obtained was in such a case. The patient though twenty-eight years of age had never menstruated. She had never experienced any sexual feeling, and she could not bear her husband to come near her. Immediately after her operation her pain disappeared and a few months later sexual feeling developed to rather more than normal. It is now about three years since the operation, and her husband, who called to see me recently, assured me that he was now a very happy man. I have mentioned this case because we so often hear it stated that the removal of the ovaries asexes the woman and so many are in favor of letting the woman suffer for years rather than remove the ovaries. As I know of many other cases in which sexual feeling was first experienced after the removal of the ovaries this objection does not have the same weight with me as it does with others who have not had this experience.

There is another class of cases which claims our sympathy, namely girls of twenty-five or six who have been suffering from dysmenorrhœa for many years until they are no longer able to remain in a situation or earn their living either as servants or school teachers or music teachers.

What shall we do for these unfortunate women? They have been treated for years with opium or alcohol until it is a wonder that they have not become addicted to these drugs. Many times I have removed the ovaries in these cases with the most satisfactory results enabling them to retain a good situation and to get fat and well. As marriage would cure most of these cases I do not remove their ovaries if they tell me that they have any prospects of getting married.

Resection of the ovary. In about twenty-five cases I have removed one and a half or one and three quarters of the ovaries with a good result so far. In some of them, menstruation has continued for a variable period and in all the troubles of the artificial menopause has been lessened. Another method of preventing the premature menopause is that suggested by Dr. Robert Morris of New York to take a small piece from some other patients healthy ovary and implant it into the broad ligament; I intend to employ it on the first suitable case. Another suggestion was made by Dr. Howet of Guelph, at the Winnipeg meeting, namely, to lift the ovary up and instead of cutting it off simply relieve the painful tension in it by making several cross cuts through the sclerosed capsule of the ovary. I have done this twice with very good results are far as I know.

The same question arises to a lesser extent in tubal pregnancy; a great many women who have run the gauntlet for their lives for a ruptured tubal pregnancy beg that we take such steps that this accident may never happen again. I have generally removed both tubes for this trouble as I think it is cruel to expose the woman to such terrible danger a second time, but I leave the ovary.

With regard to removal of the uterus. I am quite opposed to the operation as most of the women recover eventually although the organ has been infected. So that in pus tubes I only remove the ovaries and tubes generally leaving a small fragment of ovary. In conclusion I would say that the best interest of the woman demand that we act thoroughly in every case and it should be our constant endeavor to restore her to health by doing all that is necessary at the one sitting.

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THE CARDIAC COMPLICATIONS OF INFLUENZA.*

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IN the number and protean character of its complications and sequelae, influenza probably ranks second only to typhoid fever. The frequency of formidable and dangerous pulmonary complications during the febrile stage of the disease is well known, but it is not so well recognized that the heart often suffers serious damage from which it may never entirely recover. Only a want of recognition of the cardiac dangers in influenza can account for the common practice of administering such large and frequently repeated doses of the coal-tar preparations:—drugs, which, in a man over forty are probably as dangerous in influenza as in pneumonia. Months after an attack of grippé a man still complains of unusual weakness, he is shortwinded and sweats on slight exertion, his pulse rate is easily disturbed, perhaps irregular; physical examination reveals no sign of organic disease, yet he is suffering from cardiac weakness, either functional, in which case complete recovery is probable, or due to muscular change with a loss of cardiac power that may be permanent.

The cardiac complications of influenza may be divided into:—(1) Organic changes in the heart, and (2) Functional disturbances of the heart.

1 *Organic Changes in the Heart*:—

(1) *Pericarditis*. Grippal pericarditis is either primary, when it complicates influenza without other organs being affected; or, secondary, where it occurs in association with pneumonia or pleurisy, the latter form being much more frequent than the former. Like other forms of pericarditis it occurs with or without effusion: the former may be sero-fibrinous or purulent or even hemorrhagic, the latter dry.

The anatomical changes are similar to those found in other forms of the disease. It must be noted, however, that in grippal pericarditis purulent effusion is relatively frequent, and that myocarditis is commonly associated with it. De Batz, of Bordeaux,¹ in 8 autopsies, found the liquid purulent in 4, hemorrhagic in one. Bacteriological examination of the pus revealed the specific diplobacillus of influenza; also the pneumococcus, streptococcus, and staphylococcus in the various cases.

Clinically, the cases may be divided into two classes: (1) Those in which the symptoms are similar to those presented by pericarditis due to other causes, and (2) The latent type, in which no symptoms of the

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disease are manifest. Menetrier² affirms that pericarditis is so frequent in the pneumonia of influenza that it is probably often latent, and refers to 6 cases, in all of which there was found at the autopsy abundant evidence of pericarditis, without a single symptom during life.

Grippal pericarditis is especially grave owing to its frequent complication with myocarditis and its tendency to take on a purulent character.

(2) *Endocarditis*. Endocarditis is generally considered to be a rare complication of influenza. From the number of cases reported and the frequency with which an attack of grippe is the sole antecedent history in cases of recently discovered valvular lesion, one is inclined to think that influenza is by no means so rare a cause of this condition.

Grippal endocarditis is rarely primary. In the great majority of cases, as pointed out by De Batz, it is secondary (15 out of 20 cases), and in nearly every instance secondary to pneumonia.

Anatomically, the changes are similar to those met with in endocarditis of rheumatic origin; the left side of the heart is most frequently involved and the mitral more often than the aortic valves. The infective agents are the pneumococcus, streptococcus, staphylococcus and the bacillus of Pfeiffer. Austin³, of Baltimore, has reported three cases of endocarditis in which micro-organisms with the characteristics of the influenza bacillus were found on the cardiac valves.

The endocarditis of influenza may be, (1) simple, or (2) ulcerative or malignant. Simple endocarditis may present the usual symptoms of endocarditis from other causes and may be easily recognized. On the other hand the subjective symptoms may be so slight and unobtrusive that the diagnosis is very difficult. A man of 35, was examined by his physician for insurance in October, 1901, and his heart found normal. In January, 1902, he passed through a severe attack of influenza, characterized by chills at the onset, high fever (104 to 105), severe headache and general pains, rapid pulse, harassing cough and marked prostration. On the fourth day his temperature was 99 and he was comparatively comfortable but was extremely weak. His pulse was 110, quick and irritable and unduly accelerated by sitting up in bed. The first sound of the heart was impure and muffled. Two days later a soft blowing systolic murmur was heard at the apex. His recovery was slow and characterised by exhaustion with dyspnoea on exertion and rapid pulse. To-day he is apparently well, but his heart apex beat is in the fifth space, just inside the mammary line, the cardiac dulness is increased, there is a blowing systolic murmur at the apex, transmitted to the axilla, and the pulmonary second sound is sharply accentuated.

Huchard⁴ states that primary, simple, grippal endocarditis may give rise to permanent valvular lesions but he thinks this is rare. He considers that cases of simple endocarditis occur generally in persons subject to old valvular disease. It is well known that the victims of chronic valvular disease bear grippe badly and, in many, the recovery is incomplete. A chronic, latent heart lesion may be so influenced by influenza as to produce most serious symptoms and thus for the first time reveal itself during or after the grippal attack.

Ulcerative or malignant endocarditis, as a complication of influenza, has been observed by many writers. It occurred in 4 of De Batz's 20 cases and a most interesting example has been recorded by Tickell⁵. In this case, symptoms first appeared during convalescence from an attack of influenza, the patient dying after an illness of two months. The autopsy showed extensive vegetations on both the aortic and mitral cusps with superficial ulceration, dilatation of the cavities, infarcts in the spleen, and puriform emboli in the kidneys, several branches of the mesenteric artery and both brachials. During his illness, the patient suffered from sudden abdominal pain with vomiting and diarrhoea, which Tickell explains as the result of the mesenteric emboli.

Ulcerative endocarditis has been observed during the course of the influenzal attack, but most frequently in the convalescing period. According to Huchard it is usually secondary to pneumonia and most generally comes on about the defervescence of the latter, or within a few days after.

(3) *Myocardial Changes*. Degenerative changes in the myocardium are common in the acute infections generally, and especially so in diphtheria, influenza and pneumonia. The bacillus of influenza elaborates a poison, which, when circulating in the blood in sufficient quantities, acts as a powerful heart depressant and modifier of the nutrition of the heart muscle.

By the constant irritation of this poison there will develop gradually degenerative changes in the muscle fibres, impairing their vitality and tonicity (myocarditis or degeneration, with usually dilatation). So long as these patients remain in bed they may suffer from their influenzal symptoms only, and the complete rest which they maintain enables the heart to perform its work. But when convalescence has set in and the patient rises and begins to take exercise, the heart muscle, already enfeebled by the action of the influenzal poison, is no longer able under the increased stress to perform its functions without unusual and often conscious effort. The myocardial lesion is now manifested by palpitation, dyspnoea, extreme weakness and, perhaps, collapse and syncope. Hence though the heart may be attacked during the acute stage of the influenzal

attack it is not until a later period that the cardiac complication becomes manifest.

Huchard thinks that the fatal cases of myocarditis are usually due to obliterating endarteritis of the coronary vessels and records such a case. Hay⁶ reports an interesting case of fatty degeneration in a young man of 23, who died of cardiac failure three months after the onset of an attack of influenza. At the autopsy the heart showed both macroscopically and microscopically the characteristic fatty changes in its muscle fibres, with healthy coronary vessels. Such an example of true fatty degeneration in so young a subject must be very rare. On the other hand I believe that toxic myocardial degenerations in varying degrees of intensity are quite common in influenza and are responsible for the profound cardiac weakness shown by so many patients and followed in some instances by fatal syncope.

On January 10th, 1903, a vigorous healthy lady of 38 was seized with chilliness, headache, general pains and nausea. Her temperature at no time exceeded 101; her pulse ranged from 84 to 100, was soft, regular and compressible. Her case appeared to be a mild attack of influenza. On the third day her temperature was normal and pulse 80, but weak. She attempted to rise to the floor and fainted. Her pulse fell to 50, was regular, but very weak and continued slow and feeble for several days. Twice during the following week she fainted on attempting to assume the sitting posture in bed. The cardiac dulness during this time extended to the left of the nipple, the impulse was feeble and diffuse and the first sound short and weak, there was no murmur. She has apparently completely recovered after a very prolonged convalescence. Another case, seen during the same epidemic, in a physician of 54, ran almost the same course with the exception that his pulse was rapid and irritable and for 3 months was irregular and unduly accelerated by ordinary exertion. These cases I take to be examples of toxic degeneration of the myocardium with resulting loss of vitality and acute dilatation. Fortunately, both individuals were healthy before the attack and neither had taken any coal-tar preparation. Had they been debilitated before this illness or had depressant drugs been administered, I fear the result might have been fatal in both cases. The case of the lady shows that there is no definite relation between the intensity of the influenzal attack as shown by the temperature and general symptoms and the development or severity of the cardiac lesion.

The disastrous results which we have all seen follow the cardiac complications of this disease should enjoin us to exercise the same watchful care over the heart in influenza, in mild as well as severe cases as we do in rheumatism or pneumonia.

Sternal oppression or pain, palpitation, dyspnoea or sense of faintness, especially with pallor should call for a careful examination of the heart. A small, feeble pulse, unusually slow or rapid, with a short feeble first sound and later weakening of the second, a weak cardiac impulse with increased deep dulness should make us think of *beginning myocarditis* with dilatation. Muffling of the heart sounds with the later appearance of a blowing murmur announce a commencing endocarditis. A rare complication is cardiac thrombosis of which two cases are reported by DeBatz and one by Reynolds. In all three cases a large, firm, pale clot was found firmly adherent in the right auricle, extending from the auricular appendix into the pulmonary artery. All three patients died suddenly with extreme dyspnoea; one, in addition, complained of intense sternal pain.

Huchard has shown that in patients, suffering from angina pectoris, the attacks are aggravated by influenza; indeed, the influenza may precipitate the first seizure.

2. *Functional Disturbances* :—

The changes already referred to are no doubt the result of the direct action of the influenza bacillus or its toxins on the endocardium or on the muscular fibres of the heart wall. In the second class of heart affections in influenza are included those functional disturbances in the cardiac rhythm so commonly met with after this disease in patients who present absolutely no signs of organic disease in the heart. These symptoms must be attributed to the action of the influenzal poison on the cardiac nervous mechanism, either on the vagus or the cardiac ganglia. Indeed, Sanson holds that in nearly all the heart disturbances of influenza the primary cause is an affection of the nervous apparatus. Probably in no other acute infectious disease are nervous phenomena so prominent as in influenza and of these nervous disturbances none is more important or alarming than those of the circulatory system.

Among the functional cardiac disturbances following influenza are palpitation, irregularity, bradycardia and tachycardia. Post-grippal palpitation is very common and may for months be so severe on the slightest exertion as to render the patient totally unfit for business. Irregular action of the heart may occur during the influenzal attack or may not appear until convalescence is established. The irregularity may be constant or appear only on exertion. In some cases there is an intermission which may occur at regular intervals.

Bradycardia and tachycardia are not infrequent complications of influenza, the latter being more common than the former in my experience. Both may occur in young and robust individuals without the

slightest sign of endocarditis or myocarditis, and may appear during the attack or not for a considerable period afterward. Usually rapid action on exertion may continue for weeks after convalescence has set in. According to Sansom, symptoms of Graves' disease are often associated with the tachycardia.

Of the four disturbances mentioned, bradycardia is the most dangerous as it sometimes leads to fatal syncope. Oppenheimer⁹ observed that it is usually accompanied by a subnormal temperature, though there is no necessary relation between the range of the temperature, and the pulse rate. Prostration is very marked and according to the same writer is inversely proportionate to the frequency of the heart beats.

Fortunately the functional disturbances usually disappear in a few weeks, but in some instances they have persisted even for years. To differentiate a functional from an organic case may be extremely difficult. Well marked examples of myocarditis have been discovered at autopsy on cases which presented no symptoms or even signs of cardiac disease during life.

As a rule, however, in addition to significant subjective symptoms physical examination will show a feeble, diffuse cardiac impulse with a weak first sound, and in many cases an increased area of dulness. The strength and character of the cardiac impulse and sounds are of much greater importance than the presence of a murmur or an irregularity in rhythm.

Personal observation and study of the subject lead me to the conclusion that influenza is a potent, and by no means an uncommon factor in the production of serious cardiac disease. Degenerative changes in the heart wall are probably present to some extent in many cases of influenza, and in debilitated subjects or in men past middle life whose cardiac muscles may be badly nourished owing to changes in the coronary arteries these changes may rapidly lead to grave symptoms.

Though I do not propose to take up the treatment of influenza, I feel that in consideration of the dangers of cardiac complications, the routine treatment of the disease with such drugs as phenacetin, acetanilid, etc., cannot be too strongly condemned. Certainly, in patients past middle life the use of such drugs must be considered dangerous.

REFERENCES.

1. DeBatz, Bordeaux Theses, 1895-96, No. 93.
2. Menetrier; Huchard, Le Bulletin Medical, Paris, 1892, 6, 107.
3. Austin, Johns Hopkins Hospital Bulletin, Oct. 1899.
4. Huchard, Le Bulletin Medical, Paris, 1892, 6, 107.
5. Tickell, The Clinical Journal, London, 1897, 9, 251.
6. Hay, Tri-State Medical Journal, 1898, 5, 57.
7. Reynolds, Lancet, London, 1893, 2, 1616.
8. Sansom, Lancet, Oct. 21, 1899.
9. Oppenheimer, Lancet, London, 1899, 1, 689.

THE RELATION BETWEEN THE GENERAL PRACTITIONER
AND THE SPECIALIST IN REGARD TO THE TREAT-
MENT OF INTRA-NASAL DISEASE.*

By J. PRICE-BROWN, Toronto.

I think it may be laid down as an axiom, applying to medicine as well as surgery that, "the highest good of the patient should be the supreme object in the treatment of any disease." Hence, it behoves us as medical men to equip ourselves as completely as possible in order to combat with disease in all its manifold forms. The whole field, however, is too wide to be covered thoroughly by any one man. We must have general practitioners with broad vision, keen discrimination, and wide experience, to be the safe guard of the people, as well as of professional life; but we must also have specialists, who, in their narrower groove, can individualize more effectively and beneficially for the patient, than is possible with the men of larger vision. It is not that the one man is better than the other, but that "each in his place is best."

Of the various side lines in medicine which have opened up so extensively during recent years, no one, I believe, is more important than the one situated at the commencement of the great thoroughfare of the Respiratory tract. I mean the olfactory organ, the nose. The unfortunate thing in the past has been that the sense of smell has too frequently been considered the only great function of the nose, and that its duty in respiration has been almost ignored. Medical men are at last beginning to realize that while an obstructed nose is not the *Fons et origo mali* of all diseases of the respiratory organs, yet the condition of the tissues within the nose has a very important bearing upon the well-being and recovery of their patients. The triple function which the nose possesses, of purifying, heating and saturating the air of respiration, is forcing itself upon the minds of medical men more positively than it ever did before: and the necessity of correcting anything that interferes with the performance of that function is accepted.

The question may be asked, what is a normal nose? Pyncheon says: "In the ideal nose the septum is practically plain, and naturally divides the organ into two passages of equal calibre, which passages have jointly a sufficient capacity to at all times easily supply the requirements of nasal respiration." This is a brief and good description, but as there are very few ideal noses, it is a little more perfect description than the average normal nose is entitled to.

It may be briefly said, that the two nasal passages should be approximately equal in dimensions and patency. The septum should be com-

* Read at the Annual Meeting of the Dominion Medical Association, London, 1903.

paratively straight from the anterior to the posterior nares, without noteworthy spurs or ridges or curves. The posterior end of the septum should not be thickened. Unfortunately it often is. The three scrolls—the superior, middle and inferior turbinates, which are situated on the outer wall of each nasal passage, should stand free from the septum, leaving an open chink. Each inferior turbinate body should be pink in color, full, resilient and glistening with moisture, and standing from the septum about a quarter of an inch. The middle turbinates should be lighter in color, smaller, and closer to the septum, but in other respects resembling the larger bodies; while the superior ones, being rudimentary require no description here. With all this the passages, when examined by either anterior or posterior rhinoscopy, should be free of accumulated secretions and at the same time nasal breathing should be efficient. Any marked departure from this general condition partakes of the abnormal and calls for treatment. If the required treatment can be efficiently done by the family physician, by all means let him do it. But if not, he should refer the case, not to another general practitioner be he ever so skillful, but to the specialist who by careful preparation and continuous practise has made himself proficient in all rhinological work.

I think it is practically desirable that every practitioner should be able to examine the nose with the rhinoscope both anteriorly and posteriorly; to discriminate between the normal and the abnormal; and to diagnose the principal forms of disease which may be found within that organ. Not only so, but many of the conditions which occur, he can treat successfully; while in others he can afford relief even if he cannot cure. There is also the fact that throughout the country there are many people too poor to go away for treatment. These the family doctor could help in a very marked degree.

The instruments he may require with the exception of electrical apparatus, are neither very numerous, nor very costly. They consist of: head mirror, throat mirrors of different sizes, nasal specula of different widths, curved or angular scissors, cotton applicators, tongue depressor, saws, snares, insufflators and atomizers.

With regard to disease within the nasal passages, there are certain conditions which simple treatment will relieve, but in which persistent and regular treatment is imperative. This is particularly the case in Atrophic Rhinitis, usually considered a hopeless disease so far as positive cure is concerned. Still the patient can be made continuously comfortable and free from mal odor; and with persistent and judicious care, this can be accomplished as well by the physician in charge as by a specialist, in a large majority of cases.

The most satisfactory treatment I have found for Atrophic Rhinitis is first to spray the nasal chambers freely with Dobell's solution; then to wash them out from behind with hot water by means of a post nasal spray syringe, passing by this means a pint or two of water through the nose, at a temperature of about 100 degrees Fah. By the double means the hardened secretions are loosened and washed away, and the cleansing can be completed by the aid of pledgets of absorbent cotton upon an ordinary carrier. Effective applications of the cotton will necessitate the use of the rhinoscope, the treatment for the time being completed by freely spraying the passages with albolene.

To a physician who has not tried it, the amount of relief he can give the patient by one good treatment like this is surprising. In continuing the case, the patient should be taught to use both the atomizer and post nasal syringe, at least once daily, and should be instructed to return to the physician at regular intervals for more thorough treatment.

As to prognosis, tell him that systematic toilet effort will be necessary for comfort and hygiene: and also that, if he persists he will by middle life be practically well.

In many cases of subacute and chronic catarrh, the general physician can do all that is required for the patient. The nasal passage may be relaxed, boggy and clogged, without any atrophy at all. In these cases, the patient while in the office should expel all he can from the passages. Then to produce shrinkage, let the physician apply by cotton carrier or atomizer a one per cent. solution of cocaine. The consequent shrinkage will enable him to examine the passages more thoroughly, and they can be freely cleansed with Dobell's solution, followed by a mild spray of menthol in albolene to finish the treatment. If the nasal tissues are flaccid and lacking in tonicity, the application of a one per cent. solution of nitrate of silver to the whole lining membrane is often attended with good results. And if repeated at intervals of two or three days for several applications may afford complete relief.

With regard to operations that the general practitioner might do with safety, provided he has the instruments, and exercises care, several may be mentioned. Small spurs and ledges can be removed with the saw, after applying cocaine and a solution of adrenalin. But care must be taken not to cut through the septum, nor to injure unduly the mucous membrane; while at the same time the two required cuts should meet in the centre and should leave a smooth surface.

Nasal polypi may also be removed, so long as the operator confines himself to the use of the cold snare, which is in fact the best instrument by all odds for removing these growths. The only difficulty is that.

without both skill and perseverance, he fails to remove the whole of the myxomata, and in a short time they become as numerous as ever, resulting in most instances in a final appeal to the specialist.

In what is commonly called antral disease, or empyema of the antrum of Highmore, there is no reason why the family doctor should not take charge of a majority of the cases. Cure in many of them is simply a matter of thorough drainage, and having removed the appropriate tooth and drilled through the alveolus, the washing is readily done, and in a short time the patient recovers. Of course, in long standing cases where, in spite of treatment, the suppuration continues, there may be either myxomata or enlarged middle turbinated occluding the ostium, or synechia or polypi may have formed within the antrum, necessitating in either case more complicated treatment.

Before passing from this branch of the subject, I would like to sound a note of warning in referring to the use of the galvano or electro-cautery within the nasal cavity. It is a dangerous instrument except in the hands of the skilled operator. Many a time have I seen a synechia or bridge across the nasal passage connecting the middle or inferior turbinated with the septum, which owed its origin to the use of this instrument.

One fact that the surgeon is apt to forget, even in cases specially requiring the use of the cautery, is that the application of heat sufficient to burn the tissues is usually followed by temporary infiltration: there is also more or less singeing of the opposite wall, and with the resultant swelling, the two sides may come in contact and unite, thus forming a troublesome synechia. The injuries done in the past by the indiscriminate use of this instrument have been so great that many rhinologists have almost discarded its use, relying upon other methods of operative treatment in its stead. How very guarded, therefore, should unskilled men be when venturing upon cautery treatment within the nasal cavity.

Partial or complete turbinectomy is also too serious an operation to be attempted by any but skilled hands.

Besides myxomata or nasal polypi, fibromata and sarcomata are the principal organic tumors that have their origin within the nasal passages. The occurrence of either of these neoplasms is a very serious matter, and their treatment should not be undertaken by anyone but the specialist.

The opinion formerly held, and adhered to even now by many authorities, was that all cases of large fibromata and sarcomata of the nose or naso-pharynx, if operated upon at all, should be handed over to the skilled surgeon for removal by the knife. Now, as I said before, the final good of the patient should be supreme, and history has not proven

that the general surgeon is the best man to treat these cases. The surgeon's skill has made wonderful advances during recent years, and operations are repeatedly and successfully performed now that were not even dreamed of a generation ago. But the surgeon's knife has its limitations.

We know that in the removal of both classes of neoplasms from the nose, although only the latter is malignant, there is a double danger—one from hemorrhage, the other from recurrence. To avoid these, every precaution is taken, and the surgeon, in order to guard against the latter, makes deep and wide incisions so as to remove every particle of diseased tissue; hence, on the face, besides the external incisions, which will always disfigure, healthy structures are sacrificed, hoping to remove the growth in its entirety, with consequent deformity as well as disfigurement. And while the operation may have been done scientifically, and may be followed immediately by perfect coaptation and union of the parts severed, still, in the vast majority of cases, there is recurrence and the patient sooner or later succumbs to the disease. This is particularly the case with sarcoma.

I want it to be distinctly understood that I am not speaking of osteosarcoma, having its origin in the malar or other bones of the face, but of nasal sarcoma, which usually has its origin in the spongy tissues within the nose. Now, I am of the opinion that these cases should be treated intranasally by the specialist in preference to the general surgeon. If there has been marked advancement in surgery, there has been progressive movement in rhinological work too; and the nose offers as wide a field for improvement in the methods of removal of organic neoplasms as any in the body.

The surgeon delights in doing his work by a single skilful operation, removing every particle of abnormal tissue, and placing his patient at once on the road to health: and undoubtedly with the greater part of the human economy it is altogether the best plan. But the nose is differently constituted to other parts of the body. Its framework is composed of a mass of little bones such as you will find nowhere else. Some of them are deeply seated, containing sinuses and meati, turbinal bodies and septal tissues, all crowded together. At the same time nature has placed wide openings both anteriorly and posteriorly whereby the whole interior can be scientifically examined and treated. Then why should we discard nature's methods, and resort to external incisions, particularly when the latter are futile of ultimate good results?

Fortunately, science has placed in our hands a method of treatment which promises to be superior to all others, and we are able to apply it entirely by intra-nasal methods.

At the annual meeting of the American Laryngological Association at Washington this year, Bryson Delavan read a paper which contained some very important statistics upon this subject. His claim was that the ideal operative treatment for the removal of fibromata from the nose and naso-pharynx was by electrical methods. Although his article will not be published until the fall, he kindly gave me permission to quote the following statistics. It is a report of 134 cases operated upon in one way or another, with, in round numbers the following result :

	Cases.	Cured.	Died.	Recurred.
By Preliminary				
Operation or excision	27	59%	26%	15
By evulsion or cold snare.	41	95%	5%	
By electrical methods,	61	100%	No deaths	

Electrical methods meaning operations within the nasal cavities by electrolysis, galvano cautery loop, electro cautery knife, etc. etc.

Pro tanto, what would be preferable treatment in fibroma should apply when it can be used at all to the more serious disease of sarcoma. When not operated upon it is uniformly fatal ; and when removed by ordinary surgical methods the outlook is very little brighter. The disease usually soon recurs to be quickly followed by a fatal issue. The outlook when treated intra-nasally by Delavan's method is certainly more promising ; and I am happy to say that I have the record of three cases of sarcomata treated upon these lines, before I knew anything whatever of Delavan's report.

One of these I treated eight years ago. It was reported at the time in several medical journals. The man is perfectly well to-day, and there has been no recurrence. The second case was treated sixteen months ago. It occurred in a man aged 58 years. It also was reported. There has been no recurrence. The third I have the honor of showing you to-day. He is a private patient aged 22 years, who kindly came from Toronto to be seen by the members of this association.

Three years ago last May this case was diagnosed after microscopical examination to be one of nasal sarcoma. A surgical operation by external incision was advised, as the best method of treatment. Even then the prognosis was very wisely expressed as doubtful, and he declined to submit to the operation. Two years and a half later the growth had grown enormously, and the man came to me for treatment. I will

not take up your time by describing the work, but simply say that the tumor of which these bottles contain segments was removed entirely intra-nasally, and the main part by electro-cautery operations. . . . On April 2nd., the last of a series of operations was done, the whole of the tumor being apparently removed, and the patient was well enough to return to work.

By July, however, it had commenced to recur, and electro-cautery treatment was resumed. The last burning was two weeks ago, and I believe the disease is again under control. He and I intend to keep it there if we can.

As you will notice when you examine the left nasal cavity, the complete removal of the enormous growth that at one time filled it, has left ample space to deal as successfully as possible with anything that may again develop.

I would close by saying that if in this case recurrence should finally be so severe as to be uncontrollable, and a fatal issue should result ; still the immense improvement in his condition which the operative treatment has produced, is sufficient to endorse the plan, while it is a direct evidence of the correctness of Delavan's teaching.

A PROVINCIAL SANATORIUM FOR MANITOBA.

By J. O. TODD, M.D.,

Professor of Anatomy, Manitoba Medical College, Winnipeg, Man.

I AM not sure whether I have a reputation for prolixity or not but our secretary made it painfully evident to me that I was to "cut it short." Five minute papers he said, is the order of the discussion ; so much as I might feel inclined to enlarge, in a laudatory way, upon the benefits to be derived from this gathering I must deny myself the pleasure.

I think it would have been better to have had, as the introducer of this discussion some one who had given more specific attention to its subject than I have ; for I can claim but the interest that every citizen should have plus that which attaches to a professional connection. However, I don't feel called upon to touch on the many points that arise, since the majority of them have been so thoroughly threshed out and settled within the last few years. For instance, it seems to me needless to discuss the utility of a sanatoria : for, to my mind, their great usefulness is absolutely proven, I firmly believe that

* Read at a recent general meeting of the Profession of Winnipeg and the Province in moving the recommendation for a Provincial Sanatorium for Tuberculosis.

incipient pulmonary phthisis is curable by the application of the principles of sanatorial treatment, I quite admit that the term incipient phthisis is lax but I am satisfied that the ordinary acceptation of the term is sufficiently clear to establish upon it useful, if not absolutely scientific statistics.

In the present growing state of this great western country, with its scattered population, it cannot be fairly charged as a reproach that we have no systematized sanatorial homes: but the day is not far distant when such a stigma might attach to continued indifference. It is well then that we should be preparing ourselves and the public for a step that seems to be imperative. In speaking thus somewhat emphatically I would not wish to be classed as a faddist on the question of sanatorial treatment because personally I am of the opinion that sanatorial institutes are not the permanencies that many would have them to be in the treatment of pulmonary tuberculosis: but that they are rather educative establishments of vital present benefit and while not for a moment minimizing the great good that patients directly derive from the treatment, I question, whether the greater benefit will not come from the general application of the principles exemplified in sanatorial management. At any rate it is my own observation and I think that the past sanatorial records of patients treated conclusively establish its correctness, that unless a patient is placed under conditions favorable to the continuation of the lessons so well taught at the sanatorium, the tendency is to relapse. There is a wonderful virtue in an institution, we see that demonstrated in our schools. It would be quite possible for us all to have learned at home the principles taught us in the different schools and colleges, yet who would disparage the benefit of their concentrated effort. Analyse the methods of sanatorial treatment and we find they consist of one great essential factor and several secondary ones. This central feature of sanatorial therapeutics, is fresh air. Let the air be dry, if possible, but it is not imperative since success has followed treatment in moist as well as dry atmospheres. Air of high altitude is probably better than that of a lower and yet marked recoveries attend either. Climates with moderate, equable temperatures favor, no doubt, more speedy recoveries from tuberculosis than their opposites and yet highly satisfactory results are obtained by sanatoria doing their work in rigorous climes. Sunlight air can be said, with little fear of contradiction, to be more desirable than cloudy, dark skies and yet practical results from sombre-skied England have been made to approach, within easy distance, those from Italian districts. Next to fresh air, proper feeding is of importance and succeeding this, in order of merit, judicious exercise, drugs tip the tail of the therapeutical kite.

With these accepted as the necessary factors in sanatorial treatment, it does not need dilatation on my part to prove that in all essential features the climatic conditions of Manitoba are favorable to the average tuberculous patient; and with glowing statistics accruing from the states in Northern Europe as well as from portions of our own continent, where snow, ice, cold and rain are qualities of the winter's season, it seems scarcely necessary to defend a climate the air of which is dry, rarified and brightened by much sunlight, of course one readily acknowledges that owing to the rigor of our winters, the conditions are not the most favorable but if that fact had influenced other localities than ours then the majority of the present day efficient sanatoria of the East would not be in existence and many thousands of the tuberculous patients would to-day be on the road to speedy deaths instead of being rejuvenated and rapidly gaining restoration of health through the effective training received at the local sanatoria. Sir James Grant has boldly disclaimed our absolute dependence upon a "California Climate" in treatment and Dr. Elliott, of the Muskoka Cottage Sanatoria in an extremely fair analysis of cases extending over a five years term shows results that fully answers the somewhat impertinent inquiry of a California enthusiast relative to the feasibility of open air treatment in Canada. My view of our position in the case is that in this, as in other diseases, our patients divide themselves into private and public ward classes. The first class has the means to enable its victims to seek the most highly favored localities but the other class must stay at home. It is for these that provision should be made in Manitoba and unless such is done a larger percentage of tuberculous patients must go untreated by the best methods developed by modern medical science. In order to bring this discussion to a point, I beg to move the following resolution which aims at committing this assembly only to the general principle of the feasibility of local treatment of pulmonary tuberculosis in Manitoba.

Resolved by this meeting of medical men representing important districts of Manitoba, that the establishment of a local sanatorium for the treatment of pulmonary tuberculosis is imperative.

During the course of erection of the new wing to the Winnipeg Hospital, a storm blew the walls down, causing great loss and much delay in the work.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MACKENZIE, B.A., M.D.

THE MATAS TREATMENT OF ANEURISM.

In *Guillards Medical Journal*, September, Bullock reports a case of femoral aneurism of traumatic origin, treated successfully by this method which is as follows:—

Control circulation by compression on the proximal side of the tumor. Incise the sac longitudinally its entire length, avoiding dissection of the sac more than is necessary to expose and protect important over-lying structures. Evacuate the blood and clots and examine carefully for openings of the vessels. There are two large openings in a fusiform and one in a sacculated aneurism. Look closely for mouths of collateral vessels, and close these at once by suture if there is hemorrhage. Scrub the interior of cavity gently with gauze soaked in sterile saline solution, close all visible openings of the sac by sutures with chromicized catgut on round full curved needles. The continued suture, as a rule, will do well in all cases. Eight or ten sutures to the inch are more than sufficient. In dealing with the larger openings the needle should penetrate one-fourth inch or one-sixth inch beyond the margin of the orifice, and then after reappearing at the margin dip again into the floor of the artery and continue to the opposite margin as in the start. It is frequently advantageous to continue the line of suture from one orifice to the other; these sutures include the floor of the sac and are applied on the Lembert plan. The constrictor should now be removed, and oozing will usually be stopped by pressure, and the subsequent part of operation. A second row of Lembert sutures over the first is sometimes useful when the sac is very large. The skin flaps lined on their inner surface with smooth sac wall, can, as a rule, be made to touch the bottom of the cavity by one or two relaxation sutures on each side. The sutures are best applied with a large-size, full curve intestinal needle, which is made to grasp a considerable portion of the sac wall in its bight. The needle should penetrate the entire thickness of the sac. The ends of the hoop thus formed are carried through the skin flaps by transfixion with a Reverdin needle and tied firmly over a loose pad of guaze. A few sutures through the skin complete the operation.

BACTERIOLOGY OF THE PUERPERAL UTERUS.

Marx of New York reports the results of a series of investigations on this subject in the *American Journal of Obstetrics* for September. To determine the sterility or otherwise of the puerperal uterus a method of technique was used which it will suffice to say seemed well suited to its purpose and reduced the possibility of error to a minimum. Fifteen cases were examined on the day of delivery, and on alternate days thereafter and of all the forty-seven examinations made the results were negative except two and these, in the opinion of the investigator, were possibly due to external contamination a result which the author thinks justifies the conclusion that the puerperal uterus is a sterile organ and the following deductions:

1. The presence of bacteria in the puerperal uterus in the absence of general evidence of a constitutional disturbance such as fever and pulse rise, etc., means the introduction of such bacteria by accidental contamination.

2. The presence of bacteria in the puerperal uterus accompanied by fever, rapid pulse and other disturbances means in all probability a sepsis arising from the uterus.

3. The absence of bacteria in the puerperal uterus in the presence of general symptoms (temperature and pulse rise) means the necessity of looking for the source of the disturbance in some organs other than the uterus; sepsis from vagina or vulva, or some general disturbance independent of the puerperal condition.

PREGNANCY IN A DWARF.

In the *American Journal of Obstetrics* for September, Willard reports a case of pregnancy in a dwarf weighing thirty-nine pounds and of the height of 28½ inches. The patient was much deformed from a series of spontaneous fractures during infancy and the pelvic measurements were only—external conjugate 12½ cm., diagonal conjugate 6½ cm., transverse diameter of pelvis 4 cm. She presented herself for treatment at the fifth month and a hysterectomy by supra-vaginal amputation was done, from which she made a good recovery.

DISEASES of the EYE, EAR, NOSE and THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville, Fellow of the British Laryngological, Rhinological and Otolological Society.

CHARACTERISTICS OF OCULAR HEADACHES.

(1) Forty per cent of all chronic headaches and eighty per cent. of all frontal headaches are partially or wholly of ocular origin.

(2) Their site, in order of frequency, is (a) supraorbital, (b) deep orbital, (3) fronto-occipital, (4) temporal, or (5) a combination of these.

(3) Near work is their chief exciting cause; reading, writing, drawing, painting, fancy work, typesetting, typewriting, sewing, music, etc.

(4) Patients suffering from headache often observe that other eye symptoms (6 and 8) also result from the use of their eyes for near work especially with artificial illumination.

(5) Shopping, theatre and church going, as well as riding in street cars and railway trains, often induce it.

(6) The letters and lines in reading and notes in music blur, run together and get "mixed up."

(7) The patient with ocular headaches is generally astigmatic or far sighted, or has some other refractive error, or has some weakness of his ocular muscles.

(8) Patients with ocular headache often complain of lachrymation, photophobia, foreign body sensations, specks floating before the eyes, itching and burning of lids, redness of eyes, etc.

(9) The signs of eyestrain above mentioned may be present and the headache of ocular origin, *although the vision is normal and there is no manifest astigmatism*. The patient in such a case overcomes his hypermetropia, or astigmatism or both, by continuous muscular effort.

(10) About ten per cent. of all ocular headaches are incurable and some of these are hereditary.

In connection with his paper, Dr. Wood published a small card with directions by which one can very easily detect the presence of astigmatism or some other defect of vision. This chart should be in every general practitioner's consulting room. The family doctor could then inform his patients of the necessity of having proper glasses before he has exhausted all the headache cures he can think of and not be forced to refer his patient to some travelling professor, or the local jeweler or drug-eye specialist, who invariably aims to make "a sale."

THE PREPARATION OF THE PATIENT FOR NOSE AND THROAT OPERATIONS UNDER LOCAL ANÆSTHESIA.

The preparation of the patient for nose and throat operations is too infrequently neglected, probably because we cannot render, or keep the area of operation aseptic. Better results, however, would ensue if patients had more preliminary attention. Ward in *N. Y. Med. Jour.*, Sept. 12, summarizes as follows:—

- (1) Local treatment to free the nose and naso pharynx from mucus and relieve congestion.
- (2) Laxatives, diaphoretics and diuretics, to stimulate elimination.
- (3) Tonics to tone up the nervous centres and restore general functional activity.
- (4) Atropin to prevent reflex inhibition.

Rest in bed, with the exhibition of a mixture of soda salicylate and pot. brom. for a few days, appears to greatly lessen the dangers of post operative complications. It is almost invariably advised by English rhinologists.

THE TREATMENT OF CHRONIC CATARRHAL DEAFNESS.

Dr. Geo. W. Hopkins discusses this subject in the *Medical News* of August 22nd. After insisting on the necessity of a careful regulation of the patient's mode of life, habits, dress, etc., he discusses the various vapors used as stimulants to the tympanic mucous membrane. They act by causing an increased flow of blood to the parts favoring absorption of the recent inflammatory deposits, or relieving chronic congestion, due to lack of tone. Warm vapors are greatly preferred to cold ones, and Hopkins thinks have a much better therapeutic effect.

Compressed air, heated and charged with ozone, constitutes, he thinks, one of the best agents known for inflation of the Eustachian tube. In long standing cases of tubal obstruction, Dench's gold electrode, properly applied, gives gratifying results. A sound knowledge and training in electro-therapeutic principles is absolutely essential to good results. Superheated air has also given very satisfactory results.

FACIAL NEURALGIA.

Peyre-Porcher *Laryngo-cope* holds that the most frequent cause of severe facial neuralgia is localized inflammation in the nose, antrum, or teeth. In the last six cases treated by him, the chief and only cause of the trouble was found in these organs. In two of the cases which he reports there had been removal of the Gasserian ganglion without effect and the nasal conditions had been entirely overlooked.

PRESCRIPTIONS.

℞ Hydrarg. oxid. rub.
 Hydrarg. ammoniat aa. gr. vi.
 Adipis benzoat. ʒi.
 Ol olivæ opt. ʒii. ℥.

For dry scaly eczema of the auricle, also for eczematous thickening of external meatus, when the ointment is applied on cotton plugs.

BARR.

℞ Yellow oxide of mercury, 1 grain.
 Sulphate of atropine, $\frac{1}{4}$ grain.
 Vaseline (pure), 1 dram. ℥.

A small portion to be introduced between the lids night and morning, during subacute, or torpid state of corneal ulcer.

DE SCHEWEINITZ.

 A PLEA FOR A MORE EXTENDED USE OF MYOTICS.

The editorial of the *Ophthalmic Record* for August deals with this important question. A few cases are cited in which an attack of glaucoma followed the instillation of homatropine for a more thorough examination of the eye, which suggests the query: Do ophthalmologists do their duty in allowing patients upon whom a mydriatic has been used for testing refraction or examining the fundus, to leave their offices without using some myotic. While the occurrence of glaucoma in such instances is very rare, still we should not subject our patients to its risk without using eserine, 1 per cent. freely before dismissing them.

 OCULAR COMPLICATIONS OF SCARLATINA.

Ocular complications of scarlet fever are quite rare and appear late in the disease or during convalescence. In an epidemic occurring in Wilna in 1902-3, Strozeminski (*Rec. d'Ophthalmologie*) observed two cases of corneal ulcer, three of phlyctenular kerato-conjunctivitis, one of paralysis of accommodation and of the sphincter pupillæ and one of diphtheritic membrane on the conjunctiva. Other complications noted by various authors include orbital phlegmon, abscess of the lachrymal gland and sac, embolism of the central artery of the retina, inflammation and atrophy of the optic nerve, following scarlatinal meningitis, paralysis of both facial nerves and ulcers of both corneæ with a bilateral scarlatinal otitis.—(*Medical Review of Reviews*.)

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

The Montreal Medico—Chirurgical Society opened the year's work on October 2nd, with a smoking concert. This innovation was most successful, and a large gathering was the result of the venture, auguring favorably for future meetings. The business of the evening, which occupied the first part of the programme, was the installation of officers, and reading of the president's address. The society has honoured the officers who were elected last December by re-electing them for another year's service. Previous to this year the society elected their officers in December, and installed them in January. This only gave them two or three weeks to prepare their plan of action for the ensuing term, consequently the system was changed, and in June last another election was held, so that, as the first meeting of the society would not be until October, the officers might have three or four months to arrange work for the new session. According to the new system those who had been elected in January would have held office for six months only, but their excellent arrangement and enthusiastic performance of their duties were so appreciated that they were unanimously re-elected, and will therefore hold office for eighteen months.

The following are the names of the officers:—President, Dr. H. S. Birkett; Vice-President, Dr. J. A. McDonald; Treasurer, Dr. D. J. Brazin; Secretary, Dr. A. M. Forbes; Trustees, Dr. F. J. Shepherd, Dr. James Perrigo and Dr. James Jack.

The president, in his address, reported that twelve regular meetings were held in the past six months, with an average attendance of forty. At these meetings, ten papers and thirty-four case reports had been read and a large number of living cases shown.

Several new names have been added to the list bringing the membership up to 196.

As a feature of the coming winter's work it was proposed that papers should be delivered by well known outsiders, several times during the session. Last year one of the evenings had been set apart for this purpose, when Dr. Kinghorn of Saranac read a paper on tuberculosis. The keen interest aroused by this meeting amply repaid the committee in charge for the work involved in making the arrangements, the discus-

sion being most interesting and representative, and the attendance one of the largest in the history of the society.

In touching upon the subject of discussions on papers and cases brought before the society. Dr. Birkett regretted that they were limited as a rule to remarks made by two or three members, whose names cropped up regularly in the minutes of each meeting. This was not as it should be, a great many more should take part and not leave everything to the faithful few. No feeling as among teachers and students ought to have influence in such a society. All were students, and all might be teachers. This was an old complaint, and many of the past presidents had spoken about it, and tried to remedy the evil. He hoped that the young members would step forward and take their share in all the work that was being done.

Another change which had been proposed was that all the living cases should be demonstrated in the side rooms between 8.30 and 9 o'clock, in order to save time and avoid confusion. A synopsis of each case would be type-written and placed beside the patients, and the paper and discussion of the case would be conducted in the main hall. A similar plan would be carried out in regard to pathological and microscopical specimens.

The financial condition of the society he was pleased to say was flourishing, but the treasurer's report would be held over as usual until the end of the year.

The rest of the evening was devoted to music and conversation, a light supper being served at eleven p.m., after which the meeting broke up to the strains of God Save the King.

At the recent meeting of the Quebec Board of Physicians and Surgeons held in the city of Quebec, several very important points were brought up for discussion. First, the lengthening of the medical course from four to five years. Second, the prevention of men having British licenses from registration in the Province of Quebec without examination, that is, abolishing the law now in force. Third, the question of a compulsory B. A. course, or "*cours classique complet*" before admission to the study of medicine.

The report of the meeting has not yet been published, but in regard to the first point the vote resulted in the adoption of the five year course. This is a step in the right direction, and as is well known the faculty of McGill University has had this question under consideration for a number of years, in regard to the regular course at that institution; doubtless this move on the part of the Quebec Board will bring the subject again to the fore in college circles.

The second point has been forced into the notice of the Board by the irritating spectacle of a man already rejected, coming before the committee for admission to practice, some months later, with a British license, which of course must be accepted, notwithstanding how irregular his previous training may have been. The law which has been in force up to this time was repealed by the vote of the members.

In regard to the third question, the committee in charge saw the full injustice of trying to force the measure alike on French and English. As far as the French Canadian element is concerned the obligation of a complete classical course would be an advantage, as fewer students would leave their preliminary studies to pass an examination and enter medicine, in an unprepared state. On the other hand outside of large cities there is no chance for an English speaking student to obtain a similar education. And even in the cities the fees are very much greater in the English schools. The question was discussed at length, and an amendment put to the motion, to the effect that the law would remain unchanged for the Protestant or English speaking candidate, while the Catholic or French speaking candidate would have either to present his diploma for the "*cours classique complet*" or be prepared to pass an examination equivalent to that which would have been required for admission to the "*baccalauréat*."

These changes do not come into force until passed by the Quebec Legislative but the probability is that they will become law without alteration.

The McGill Medical Faculty has suffered through sickness of some of its members. Dr. Stewart has been ill with blood poisoning, Dr. Morrow with typhoid fever, and Dr. Blackader has also been very ill.

Dr. T. Wesley Mills, of McGill Medical Faculty, was married in England to Miss Samuels, known as Madame Benda, a celebrated singer.

Queen's University conferred the degree of LL.D. on Dr. Roddick recently.

UNIVERSITIES AND COLLEGES.

THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

The opening of the session of the University of Toronto Medical Faculty was an event of far more than ordinary importance. Two great events were centred in it. In the first place, there was celebrated the union of the two medical colleges of Toronto. Toronto and Trinity Medical Faculties struck hands together, having decided to work as one. The other great event was the dedication of the new medical building, which is admitted to be the finest of its kind on the continent.

The proceedings were commenced by a luncheon given by Dr. R. A. Reeve, Dean of United Medical Faculty, in the main college building. At this luncheon were the distinguished visitors, many of the friends of the university, and the members of the medical teaching staff.

After the luncheon, Professor C. S. Sherrington delivered, in the large lecture room of the new building, the inaugural lecture, which appears in this issue. It was the worthy effort of an eminent scientist.

Following the address of Prof. Sherrington, professors Welch, of Johns Hopkins; Chittenden, of Yale University; Porter, of Harvard, on behalf of Professor Bowditch; Roddick, Dean of McGill Medical Faculty; A. C. Abbott, of the University of Pennsylvania; McMurrich, of the University of Michigan; L. F. Barker, of Chicago University; Roswell Park, of the University of Buffalo; and Hon. Senator Sullivan, of Queen's University, Kingston, spoke in congratulatory language of the good work that was being done by the University of Toronto, and of the bright future ushered in by the union of the two schools and the opening of the new building.

In the evening, in the large auditorium of the gymnasium, to an overflowing house, Professor William Osler, of Johns Hopkins, delivered a most brilliant address, dealing largely with matters that touch upon the welfare of the medical student. Those who heard the address will be ready to admit that Professor Osler, always good, was at his very best on this occasion. His address appears in this issue.

Dr. J. A. Temple said in behalf of his Trinity confrères who had entered into the union that they were able and energetic teachers, that they would prove loyal to the university, and that they all hoped the new arrangements would be attended with great success in the future.

Dean R. A. Reeve expressed the hope that the students would lay to heart the words of Professor Osler and acquit themselves like men in the matter of work; but, even more important still, to acquit them-

selves like gentlemen in their conduct, and in the avoidance of all unbecoming acts.

The degree of LL. D. was conferred, *Honor's Causa*, upon the following gentlemen : W. W. Keen, M.A., M.D., LL. D. professor of surgery, Jefferson Medical College, Philadelphia ; W. H. Welch, M.A., M.D., LL.D., professor of pathology, Johns Hopkins University, Baltimore ; W. Osler, M.D., LL.D., F.R.S., professor of medicine, Johns Hopkins University ; R. H. Chittenden, Ph. D., professor of physiological Chemistry, Yale University ; Charles S. Sherrington, M.A., M.D., F.R.S., Professor of Physiology, University of Liverpool : and, *in absentia*, H. P. Bowditch, M.A., M.D., D. Sc., LL.D., professor of physiology, Harvard University.

Professors Keen and Welch spoke strongly in behalf of the need of a hospital entirely controlled by the University ; and the Hon. R. Harcourt expressed the opinion that, under the new conditions, it would be possible to avoid much of the waste of the past, when there were two rival schools.

So far, students have registered in the department of medicine. The two days' proceedings were very successful, and sent abroad an influence which will redound to the good of the medical department of the university.

MANITOBA MEDICAL COLLEGE.

Manitoba Medical College opened its doors for the 21st session on the 21st September with the largest attendance in the history of the college. There is even a larger freshmen class than last year, when there was over 40. In the second year there are about 30. The third year has 32, and the final or fourth year, about 15. There are usually two or three third year students of eastern universities added, taking their final year, in view of which the following extract from the regulations may be of interest :—

“ In the case of a student from another university taking *Ad Eundem Statum* in this university, it shall be at the option of the Board of Studies, to admit such a student, even although his tickets may conflict with the foregoing regulations, but no student from another university can be admitted to the fourth year examination unless he had attended one full eight months' winter session, taking out all the fourth year tickets of a medical school in Manitoba affiliated with this university.”

The most salient feature of medical education in this province is that there is no “ council ” examination for graduates of our own university. On payment of the registration fee of \$75.00 to the Registrar of the College of Physicians and Surgeons the graduate of Manitoba University is licensed to practice in Manitoba and on a further pay-

ment to the Medical Registrar of the North-West Territories at Calgary he is licensed also for the Territories without any examination. This applies only to the graduates of Manitoba University. All others, with one or two trifling exceptions with regard to English graduates which will shortly be abolished, must take an examination for license which is the final year of Manitoba University. The College of Physicians and Surgeons here is not an examining body.

Arts men may get through in three years as follows: When a student is a graduate in Arts of any recognized university in His Majesty's Dominion, he may complete his medical course in three winter sessions of eight months each, and shall not be compelled to produce a ticket for Inorganic Chemistry, or to pass an examination in Inorganic Chemistry for the first year, provided he shall satisfy the Board of Studies that he has already passed on such subjects in his course of Arts. The tickets of such students in Medicine, Surgery, Obstetrics and Diseases of Children, Diseases of Women, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, Pathology, and Sanitary Science must all be for attendance subsequent to the end of his first full winter session at college. Honor graduates in Natural Science shall not be required to present tickets, or pass an examination in Chemistry or Practical Chemistry.

A graduate of Arts may take either his second year and third year, or his third year and fourth year examinations at the same time.

Some steps will probably be taken this coming year to do away with this as quite a number of Arts graduates have voluntarily taken the four years course.

The standard in matriculation will likely soon be raised also. At present it is equivalent to an Arts Matriculation the same as in the East, but there is no higher standard of matriculation maintained by the College of Physicians and Surgeons as is done by the Ontario Council. Neither is there any fifth year in medical education, unless one chooses to take a hospital appointment, but this is a defect which can be remedied.

The examinations are fairly stiff, and, in the springtime—exams. being held but once a year—"many are called, but few are chosen."

There have been some changes on the Faculty of the College since last year. Dr. Todd has been elected to the chair of Anatomy, rendered vacant by the death of Dr. Neilson. Dr. James McKenty and Dr. James Pullar have been appointed Assistant Demonstrators of Anatomy. Dr. W. L. Watt will conduct the Practical and Physiological Chemistry, and Mr. J. S. Pierce will teach the Inorganic and Organic Chemistry of the first and second years.

THE JUBILEE OF THE MEDICAL DEPARTMENT OF QUEEN'S UNIVERSITY.

The Medical Department of Queen's University, Kingston, celebrated its Jubilee, on the 14th, 15th and 16th of October.

The full fifty years of its existence will not be completed until the close of the present session, but it was thought advisable to hold the function this autumn and at the same time as the ceremonies in connection with the installation of the Rev. D. M. Gordon, D. D., the new Principal of the University.

The causes that led up to the establishment of a medical school in Kingston were not numerous.

At the time of its birth, Trinity University, Toronto, required her graduates to subscribe to the "thirty-nine articles." This, some eight of her undergraduates refused to do, and petitioned the physicians of Kingston to establish a medical college in connection with Queen's University, where classes &c., would be opened to all irrespective of creed.

So great was the opposition that in the following year, Trinity abandoned the "obnoxious tests," so far at least as the medical graduates were concerned.

The petitioners were: Daniel Chambers, Robb Douglas, Samuel Dunbar, Weston L. Herriman, Wm. Hillier, Jno. F. Mercer, W. S. Scott and H. W. Spafford.

Of these all but Dr. Herriman, who was a central figure in the jubilee proceedings, have passed to their reward.

The first faculty consisted of Dr. Sampson, Dr. Horabis Yates, Dr. Stewart, Dr. J. R. Dickson, Dr. Wm. Hayward and Dr. Fife Fowler. The last of these, Dr. Fife Fowler, long the dean of the medical faculty, passed away but a few months ago.

During the Session of '65-6 the relations between the medical and other departments of the university became somewhat strained and the medical faculty stepped out to form the Royal College of Physicians and Surgeons, a charter for which was granted to Drs. John R. Dickson, John Mair, Fife Fowler, Michael Sullivan, Roderick Kennedy, Donald McLean, Michael Lavell and R. A. Reeve. Of the eight, three only survive—Hon. Dr. Sullivan, Kingston, Dr. R. A. Reeve, dean of the Toronto University Medical Faculty and Dr. Kennedy, Bath, Ontario.

In 1891 owing to the efforts of the late Principal Grant. The original status was resumed, additions were made to the staff and an interchange of services arranged between the arts and medical faculties which has proved mutually advantageous.

The number of students has steadily increased. During the first session there were twenty-three including the eight Toronto students, last session there were in actual attendance, not including occasional students 205, and the session of '03-4 promises to surpass all others.

In the early days, classes were held in a small section of the building, now the Principal's residence. To-day, the home of the faculty is to be found in several Commodious and well-equipped buildings scattered over the campus.

The Jubilee addresses which were advisory, congratulatory, or reminiscent in character were delivered by Dr W. B. Geikie and Prof. Ramsay Wright, Toronto, Sir William Hingston, Montreal, Dr. H. H. Chown, Winnipeg, Dr. W. L. Herriman, Lindsay and Dr. McMurrich, Ann Arbor, Michigan. Their names are sufficient guarantee of the standard of excellence of their addresses.

The Jubilee proceedings closed with one of the best banquets ever held in the Limestone City.

MONTREAL MEDICAL COLLEGES.

The Medical Faculty of McGill University opened on September 23rd, and some 350 men had by that time registered, over 90 of these being freshmen. Including those who have sent there fees but not yet registered, the list will be fully as large as last year by the time the list closes. that is about 425 men. The regular class lectures commenced at once as the opening lecture has been postponed until later in the session.

For the first time in its history, Bishop's College commenced its working year in the middle of September, but notwithstanding this change of date from October 1st to September 15th the attendance was well up to the average already and it is expected that there will be an increase in the number of students this year over last. The faculty has rearranged the time table in order that the students may have more time for clinical instruction and individual work and have fewer hours to spend in the lecture room. Owing to the accident to the dean, Dr. Campbell there was no opening lecture.

LONDON MEDICAL COLLEGE.

The attendance this session is larger than it was last year, and there are indications of a successful year.

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EDITORIAL.

THE NEW ERA OF MEDICAL EDUCATION IN ONTARIO.

It may truthfully be said that the teaching of medicine has entered upon its final stage in the Province of Ontario. The union of the two teaching bodies in Toronto, and the saving that must arise through concentration of efforts, will enable much more thorough work to be done. Three sets of persons stand to gain by this : those who teach, inasmuch as they will realize that, under the new conditions, their work is far more effectively done ; the students, whose opportunities for obtaining a thorough knowledge of that profession to which they have pledged themselves will be multiplied manifold ; and the general public, which will gain by the steady elevation of the standard of university medical education, rendered possible by the recent changes. This will work for good with the other colleges in the Province, and throughout the Dominion.

But with these added advantages, there must come new and great responsibilities. A university is great mainly because of the quality of work it does and the kind of men it brings to the front. A university is a centre of culture, as well as a centre of learning. While the university professor should live true to the ideals of Socrates, he should also follow in the footsteps of Eryximachus : the scholar and the gentleman must ever be found together.

The student of medicine in Toronto has now an opportunity for the pursuit of his studies never enjoyed before in either of the schools. The union that has been brought about will far more than double the results to be obtained from the labor and money formerly expended in furthering higher medical education. There will be the maximum of strength with the minimum of friction. But more, the student body can now accomplish greater things for their own welfare than they ever could have hoped to do while divided into two separate bodies.

Perhaps the happiest result of the arrangements that have been consummated will lie in the fact that it brings the time near to hand when post graduate work will be taken up in Toronto. A scheme could very easily be devised, whereby the members of the various hospital

staffs might cooperate in such an undertaking. Such a plan would have the happy effect of interesting many in the work of teaching that do not at present take any part in such work; and it would have the further, and desirable result, of multiplying the friends of the University. It would bring about a cooperation of the hospitals—a union of clinical material—as there has been a union of the schools. It only requires a little of that finer cement, to which Professor Osler referred, which has the power of binding men together, of making a corporate whole out of animate, rather than of inanimate, things. *Plus ratio quam vis caeca valere solet*,—reason, rather than blind force, is wont to prevail.

PROFESSOR SHERRINGTON'S ADDRESS.

It does not often fall to one's lot to hear so able an address as that delivered by Professor Sherrington, on the inauguration of the new medical building. Professor Sherrington has made for himself a wide reputation in physiology, and, more especially, in the physiology of the nervous system.

He called attention to the value of medical science to the community at large. It has been shown that preventive medicine has reduced the death rate in Britain, as compared with that of some years ago, so as to save annually 60,000 lives. Or, putting it another way, the duration of life has been increased by about 6 years.

The lecturer pointed out the three kinds of workers in science. The investigator, who seeks truth and knowledge; the teacher, who diffuses the knowledge won; and the applier of knowledge to practical needs. A protest was rightly entered against the opinion that the pursuit of science made men unpractical. It is the investigator in science that has been the greatest wealth producer in the world, as he has discovered principles and truths that have been turned to the advantage of trade, commerce and art.

Much stress was laid upon the value of laboratory work and research in medicine, as a means of counterbalancing the other side of medical advance, the empirical. The scientific side of medicine has now come to predominate over the empirical. The study of the body as a chemical machine, shows that the indestructibility of matter is really a question of the indestructibility of energy.

But these very advances in the science of medicine that have done so much for the community, have laid upon the community heavy obligations. In order that there be persons competent to carry on research, there must be the means at hand to train them in the proper methods,

and this requires buildings and apparatus, in other words efficient laboratories. But these cannot be obtained without money. It is clearly the duty of the state, the municipality, and the wealthy to aid scientific research, for in no other way can they get so sure and large a return for their investment. As medicine is the most precious of all the sciences, it should receive first and fullest aid.

Teaching has now become a laborious affair. He who would teach a subject must first learn it, and this requires much labor of both body and mind. There are some subjects that can only be properly taught by those who give up their whole time to them. This expert knowledge must be paid for; and, if good, is cheap at any price. With the growth of science, more and more of the work of a medical college must be placed on a solid financial basis: for no man can do thorough scientific work, whose time is broken in upon by other pursuits. There should not only, therefore, be laboratories and apparatus, but there should also be paid experts to man these, and teach those who are to care for the health of the people.

Laboratories become schools of thought. It is in them that men are taught and those discovered with the potentiality for future investigation on their own account. Suitable laboratories encourage post-graduate work. Genius cannot be made to order. All a community can do is to afford it the opportunity to blossom. This is the highest of all the functions of a University, and especially of its laboratory department.

PROFESSOR OSLER'S ADDRESS.

Dr. Osler is always good, but, in his address to the students on the opening of the session this year in Toronto, he was specially good. He preached a lay sermon of unusual power on the subject of the student's duty to his college, himself, and the public; and the sum of it all was "work." In order to do this to greatest advantage, it would be necessary to divide the day into portions for each study, so that none might be overlooked.

John Ruskin said that "Labor is the contest of the life of man with an opposite." And further he said, "The greatest thing a human soul ever does in this world is to *see* something, and tell what it *saw* in a plain way. Hundreds of people can talk for one who can think, but thousands can think for one who can see." The late Sir William Gull used to say, "That more mistakes are made by not *seeing* than by not *knowing*."

The great burden of Professor Osler's address, so far as the students are concerned, was regular, systematic work, the avoidance of worry, the proper enjoyment of student life and fellow-student companionship, the maintenance of a good state of health, and keeping free from entanglements of all sorts that divert the mind from regular study. Sounder advice could not be given. He urged on the student to collect a few good books and read them carefully. Professor John Stuart Blackie in his book, "Self Culture," remarks that the next best thing to being acquainted with a great man is to know his writings. Carlyle, addressing a body of Students on a certain occasion, said, "Above all things the interest of your life depends upon being diligent now, while it is called to-day. Diligent! That includes in it all virtues a student can have."

The difficulties and disappointments of student life were referred to from the standpoint of thirty-five years' experience as a teacher. Some must fall by the wayside, some will meet with disappointment just when success seems at hand, some may become distinguished teachers, while others have in store for them the life of a useful general practitioner. But every form of difficulty and opposition can be overcome only by effort, labor, work, diligence, devotion to the duties of the day. Goethe, who saw far into the mysteries and trials and misfortunes of life, has said:—

"The future hides in it
Gladness and sorrow :
We press still thorow ;
Nought that abides in it
Daunting us—Onward !"

Dr. Osler referred to the value of the student being alone, to the importance of sequestration, to the necessities of self-denial, in order that due time might be given to study. Sir Thomas Browne, in his *Religio Medici*, dwells upon this. *Munquam minus solus quam cum solus*—one is never less alone than when alone. "There is no man alone, because every man is a microcosm, and carries the whole world about him." Hear, too, what that great sage, Marcus Aurelius, says: "One's own mind is a place the most free from crowd and noise in the world, if a man's thoughts are such as to ensure him perfect tranquility within, and this tranquility consists in the good ordering of the mind. Your way is, therefore, to make frequent use of this retirement, and refresh your virtue in it. Be quiet, then, and disturb yourself no more. Upon the whole, do not forget to retire into the little realm of your own."

Professor Osler touched upon the very important topic of a student's reading. He urged that every student should have a small bed-side

library, and mentioned a few books that every student should read. It is very clear that he desired to warn his hearers against what the Germans call mere *Brodstudien*. An eminent Edinburg professor, John Stuart Blackie, on this subject speaks thus: "If a man will fix his mind on merely professional study, and can find no room for general culture in his soul, let him be told, that no professional studies, however complete, can teach a man the whole of his profession: that the most exact professional drill will omit to teach him the most interesting and the most important part of his own business—that part, namely, where the specialty of the profession comes directly into contact with the generality of human notions and human sympathies."

"Men may try many things," said the wise old bard of Weimar; "only not live at random." If a student will not live at random, it will be necessary for him to fix set times for calling himself to account.

"And when he's summed the tale, wipe out the bad
With gracious grief, and in the good be glad."

Aller Anfang ist schwer—all beginnings are difficult; and the more excellent the task the greater the difficulty. In moments of depression and despondency, act on the advice of Richter by recalling the memory of one's brightest. The student life is no time for trifling. Every student should constantly keep before his mind the words of the immortal Hippocrates: "Life is short, art long, opportunity fleeting, experiment slippery, judgment difficult."

PROFESSOR W. W. KEEN'S ADDRESS.

As might be expected, the address of professor Keen was able and practical. One would expect that a surgeon of forty years experience in teaching would look to the practical aspect of medical education. By an excellent line of thought, he had from the value of laboratories and dissecting rooms, and a knowledge of anatomy, physiology and pathology, physiological chemistry, and bacteriology, to the application of this accumulation of knowledge to the treatment of disease.

What the laboratories and dissecting rooms are to the primary and scientific branches of a medical education, the hospital wards are to the final and practical subjects of surgery, medicine, obstetrics, and diseases of women. The ideal conditions for medical education are: A university with a high standard of qualification, sufficient and efficient laboratories for the scientific work, and a modern hospital with ample material for clinical teaching. With this exposition of the interrelationship between the scientific and the practical, all will at once concur.

But a hospital for such a purpose must be large ; and a large hospital requires much money for its erection, and a large income for its maintenance. The class of patients, suitable for clinical teaching, do not yield much revenue. Much of the funds for the maintenance of the hospital must, therefore, be found in some other way than that contributed by the patients.

The question at once arises, how is a hospital of sufficient size to be obtained ? In answer to this question several courses suggest themselves. Erect an entirely new hospital, with accommodation for about 400 beds, and the requisite lecture theatres and operating rooms. Or, take over some one of the present hospitals in Toronto, and reconstruct it so as to conform to the ideals of what such teaching hospital should be. Or, make use of all of the present hospitals in Toronto, by arriving at some working plan with their governing bodies.

The cost of maintenance has been steadily increasing for years, and charity patients now are a financial drain upon a hospital. It costs now from \$5 to \$7 per week to carry patients in Toronto. A large hospital, with much of its space given over to clinical and operating theatres, would be even more expensive than any of the hospitals now in Toronto. It would therefore require an income much in excess of that furnished by charity patients, to maintain such a hospital.

This raises the other question : How is the money to be obtained ? And to this query there are again several answers. First, there is the income from pay patients. If a hospital has a considerable number of attractive private wards, a material part of its revenue may be obtained from this source. Secondly, there are the gifts from the rich who erect wings, furnish wards, or create endowments. And thirdly, there are the grants that may be made by the Legislature and the municipality. It must be admitted that the income from a combination of private wards with public wards would be uncertain, as such wards, in a large hospital frequented by 300 or 400 students, might prove unpopular. But, even if they were attractive to pay patients, the revenue from such a source could never be large, when the cost of these private wards, the extra expense for delicacies and special nursing, are deducted from the charges made upon these patients. The income from donations and endowments in hand is definite enough, but to depend upon future bequests is quite precarious, and a hospital's income must be reasonably well assured. It would not do, therefore, to undertake the arduous task of erecting and maintaining a large hospital on the hope that large sums of money may be donated to it.

This brings the matter down to the plain, practical fact, that a hospital, suitable for clinical teaching, must be modern, large, well equipped and up-to-date in every way, and must be almost entirely for charity patients who, in themselves, yield no revenue. The up-keep of such a hospital must largely depend upon the grants made by the government and the municipality, on account of the charity cases treated within its wards. These grants must be made with sufficient generosity to place such a hospital beyond the need of passing around the hat. The city and government now allow a capitation grant on account of needy patients, and it would not require a large addition to these grants to make the revenue from these sources cover the outlay in caring for them.

Who could say that such an expenditure of the public funds would be wrong? In the first place, it would afford the means of treatment to those who cannot now pay for such themselves; and this principle has already been conceded. In the second place, such additional aid would place a new hospital, or those now in existence, on a safe financial footing. In the third place, so far as Toronto is concerned, it should be borne in mind that there are now some 700 medical students in the city. Each student will spend each session about \$150 in fees; \$150 in board and lodging; and \$100 in books, instruments, clothing, etc., or a total of \$500. This gives a grand total of \$350,000 that the medical students spend annually in Toronto. In face of the above facts, the case is more than proven that the charity wards for the purpose of clinical teaching should be more liberally supported in the future than they are at present.

MUNICIPAL SANATORIA FOR CONSUMPTIVES.

Dr. E. J. Barrick, of Toronto, read, at the recent meeting of the Canadian Medical Association in London, a very interesting paper upon the above subject. There are few medical men who do not know how zealously Dr. Barrick has striven for a sanatorium for consumptives, in or near Toronto. If he has not succeeded in inducing the municipality to act, it is not his fault, but the fact is there were strong oppositions and much inertia to overcome. But the educating effects of Dr. Barrick's work have been most valuable.

In 1900, the Ontario Legislature passed an act, without a dissenting voice, that the Government would aid a municipality, establishing a sanatorium for consumptives, to the extent of one-fifth of the cost of the land and buildings. The Government also agreed that the weekly grant to such cases would be \$1.50. The municipal grant towards the site and buildings, and the weekly allowance of \$2.80, together with the payments from patients and their friends, and the donations of the charitably inclined, would be ample to found and maintain such a sanatorium.

In his paper, Dr. Barrick mentions that 8,000 people die annually of consumption in Canada, entailing a loss upon the State of \$48,000,000. Now, this is not a visionary statement at all. The great majority of those who die of consumption, do so in the earlier years of useful life. The annuity value of \$1 on such persons is at least \$20, and it is quite safe to assume that each person, on an average, could earn \$300 a year. This would make every young life lost a loss to the State of at least \$6,000; and 8,000 such lives gives a loss of \$48,000,000. Leprosy was once very common in Britain, but it is now stamped out. Isolation has accomplished this. Vaccination and compulsory isolation have chained that great destroyer, smallpox. With folded arms, however, the people look on and see at least 30,000 sick with consumption, of whom 8,000 die each year. The terrible truth remains that not one of these cases is possible without a previous one from which to obtain the infection. Heredity here, or heredity there, it is a case of infection first, last, and always. No seed, no crop; no germ, no disease! and yet we sleep! Who shall shout into the ears of the people *miseris succurrere disco* with such energy as to break the heavy slumber of indifference, and bring hope to the suffering and protection to the well? Such an event is not far off we predict.

Dr. Barrick moved and Dr. R. W. Powell, of Ottawa, seconded the following resolution which was unanimously carried:—

“Whereas the removal of cases of tuberculosis, and especially those occurring among the poorer classes of the community, to conveniently located and well regulated hospitals, is in the best interest of both the sick themselves and the community generally, and no doubt goes far towards preventing the propagation of the disease; and, whereas, it is now an accepted fact that municipal sanatoria are the best, the most economical and the most efficient means of providing for their care, it is hereby resolved:—

“That municipal sanatoria for consumptives, in accordance with the Ontario Act respecting such, would be an important factor in checking the spread of this disease, and that, therefore, this association desires to urge such local action by members of this association as will tend to have by-laws submitted in their respective counties or districts, thereby rendering possible Government and Municipal Coöperation in this necessary work.”

We wish Dr. Barrick every success in his efforts to draw the public attention to this vital question. Much education is always required, in such matters, before action is taken; but we think action will soon be taken in many quarters. When the people demand sanatoria, the municipal authorities will act.

QUEEN'S UNIVERSITY MEDICAL FACULTY.

Fifty years ago, the Medical College in Kingston was established, as part of the University. In 1865, under the name of the Royal College of Physicians and Surgeons, the Medical College took on an independent existence and has made an honourable reputation for itself.

But a new step has been taken. The Medical College in Kingston is now The Medical Faculty of Queen's University. This is a move in the right direction. The day for the proprietary form of Medical College is past. Better work can be done and a higher status attained by a college being an integral part of a university. The Medical College in Kingston has very wisely recognized this and become one with the University.

Dr. J. C. Connell has been chosen as the Dean of the Medical Faculty. We wish much success for the Medical Faculty of Queen's and for Dr. Connell, the Dean.

 PERSONAL AND NEWS ITEMS.

Dr. Geo. Fletcher has decided to locate in Petrolea.

Dr. T. Wickert has sold his practice in Petrolia to Dr. Gibson.

Drs. Brown and Towie have opened a hospital at Pigeon River.

Dr. Stewart, a graduate of Queen's, has decided to locate at Rosenroll.

Dr. F. S. Hepworth is very ill, in St. Boniface Hospital, with typhoid fever.

Dr. Vrooman, of Winnipeg, had a month's visit to New York and Chicago.

The funeral of Dr. Hepworth took place on 23rd September, in Winnipeg.

Dr. Roddick Byers and Miss Davis were married, Sept. 28th, at Gananoque.

Dr. Archibald Moir, of Dunnville, was married at Baillieboro to Miss Edna Byers.

Dr. J. A. Dickson has been appointed an associate coroner for Wentworth county.

Dr. W. A. Gray, Smith's Falls, has gone to New York for a month in the hospitals.

Dr. J. M. McCallum, of Toronto, and Miss McMaster were married 30th September.

Dr. G. S. Richardson, Newmarket, and Miss Laura B. Elliott were married on 7th October.

Dr. F. Parker, formerly of Bruce Mines, intends going to Europe for post-graduate study.

Dr. Rogers, Winnipeg, has returned from the London meeting and a trip through the U. S.

Dr Woollard, Winnipeg, has about recovered the use of his arm after 9 months invalidism.

The engagement of Dr. L. F. Barker, of Chicago, and Miss Halsey, of Baltimore, is announced.

Dr. W. F. Templar, of Brantford, and Miss Westbrook, Echo Place, were married 21st October.

Miss Alice Gilmour and Dr. E. B. Moles, of Brockville, were married in the early part of October.

Dr. A. Newman, of Montreal, was married a couple of weeks ago to Miss Cruickshank, of Pictou.

Dr. Sinclair, of Manitou, and Miss McBeth, of Fort Ellice, were married in Winnipeg recently.

Dr. Morrison, of Walkerton, has purchased the property and practice of the late Dr. McArton, of Paisley.

Dr. J. E. Campbell, Montreal, has been appointed house surgeon at the civic isolation hospital, Ottawa.

Dr. Ephraim Sherwood, of Omaha, recently visited friends in Brockville, after an absence of 36 years.

Dr. J. L. Huffman, formerly of Aylmer, now of Arkona, was married in September to Miss McCollum, of Lakeview.

Dr. James R. Cox, of Ottawa, is going to West China as a medical missionary. He graduated from McGill in 1900.

Dr. Sinclair, of Walkerton, is recovering from the recent severe injury which he sustained by being thrown out of a rig.

Dr. E. Hull, who has spent more than a year studying in Edinburgh, London, and on the Continent, has returned to Winnipeg.

The many friends of Dr. R. A. Reeve, Dean of the Medical Faculty, University of Toronto, will be glad to hear of his recovery.

Dr. Irving, of Yorkton, and Miss R. E. Teeple, lately head nurse in the Winnipeg General Hospital, were married a short time ago.

Dr. E.W. Montgomery, of Winnipeg, left a few weeks ago for a visit to his California estate after an illness of some months duration.

Dr. James A. E. Steeves, of St. John, N.B., was married a short time ago to Catherine, daughter of the late Dr. Murphy, of the same city.

Surgeon Brice, of the White Star liner Germanic, has crossed the Atlantic 804 times, sailing 25,000,000 miles. He hopes to make 900 trips.

Dr. Duncan, of Union, was thrown out of his rig, his horse taking fright. He was injured slightly, and Mrs. Duncan had her arm broken.

Dr. Macdougall King, well known in Toronto, has gone to Denver and has been appointed instructor in physiology in the Medical College.

Dr. Chown, of Winnipeg, after attending the Canadian Medical Association Meeting at London, paid a visit to Kingston and Montreal.

A pretty wedding took place in St. Thomas on 16th September, when Miss McLean was united in marriage to Dr. D. A. Cameron, of Dutton.

Dr. J. M. Watters, for the past year house surgeon at the Hospital for sick children, Toronto, and his wife have gone as missionaries to Central India.

Dr. Morris Baily, of Titusville, Pa., on celebrating his 85th birthday, stated that \$42,000 on his books would be wiped out as a birthday present to his patients.

Dr. Dan A. Sinclair, son of Dr. Sinclair, of Toronto, was made the recipient of a pocket case of surgical instruments on the eve of his going to London for post-graduate study.

Dr. Geo. M. Hall, who had charge of the ambulance corp that was summoned to the aid of President McKinley, has left Galt and will locate in Buffalo. He was paid \$2,000 for his services to the President.

Dr. D. L. Herriman, of Lindsay, who graduated from Queen's in 1854, took an active part in the recent celebrations of his alma mater. He was one of eight who left Toronto because of the religious test and petitioned Queen's to form a Medical Faculty.

In spite of the difficulties and disappointments encountered at the beginning, in trying to obtain funds for the same, some arrangements have been made whereby the directors are enabled to rapidly proceed with considerable extensions and additions to the Winnipeg General Hospital. It is hoped to have the roofs on before the snow comes.

Typhoid fever seems to be even more prevalent than it usually is at this time of the year in the Province of Manitoba. One of the Industrial Exhibition buildings, Winnipeg, has been pressed into hospital service for typhoid fever cases. The building will accommodate 35 patients and is in charge of a house surgeon and staff of nurses from the Winnipeg General Hospital.

OBITUARY.

R. A. BUCK, M. D.

Dr. R. A. Buck, who had for the past seven years been a member on the Public School Board of Toronto, died on 3rd October, at his residence, 195 Dunn Avenue. Death was caused by paralysis, which first attacked Dr. Buck 18 months ago, other strokes following at intervals. After sustaining the first attack, Dr. Buck relinquished his practice, but he continued to attend to his duties in connection with the School Board. He acted as Chairman during the absence of Chairman Godfrey in Europe, and in this capacity he presided over the Board at its meeting of September 3, and he attended a meeting of the Management Committee about three weeks before his death. He was one of the most efficient members of the Board, and for three years had been Chairman of the Management Committee.

W. I. GOODWIN, M. D.

The many friends of Dr. W. Irving Goodwin will be grieved to learn of his death which occurred on the 24th September, at his late residence Oxford, N. S., in the thirty-sixth year of his age. He had been in failing health for some years, and about four months ago was obliged to give up work.

E. G. SIMPSON, M. D.

Dr. E. G. W. Simpson, age 27 years, son of A. F. Simpson, Collector of Inland Revenue, died at his home in Lennoxville, September 23rd, of typhoid fever. Dr. Simpson was a graduate of McGill, and last year was a member of the Montreal General Hospital staff.

GEORGE MENZIES, M. D.

Many persons will regret to learn of the death by plague at Mhow, India, of Dr. George Menzies, son of Mr. Wm. Menzies, of Ailsa Craig.

Dr. Menzies went to India less than a year ago and was appointed to care for the famine boys, for which work his medical knowledge and industrial aptitudes specially fitted him.

DR. CARNEGIE.

Dr. Carnegie, a well-known young physician attached to the Allan Liner Bavarian, died rather suddenly on board the vessel 20th September. Dr. Carnegie was out with the Bavarian to South Africa when she was a transport, and contracted enteric fever, from which he never fully recovered. He was a general favorite.

WILLIAM HUNTER, M.D.

Dr. Wm. Hunter had been in failing health for some time. About a year ago he gave up his studies at Queen's University and went to Wyoming, but the change did not prove as beneficial as he hoped and about two months ago he returned to his home in Smith's Falls. His decline since that time was rapid and it was only too evident that the end could not be far off. Dr. Hunter was a young man of unusual attainments and his death cuts off a promising career. He took an Arts course at Queen's and later he took up the study of medicine. He was in his final year when his health began to fail and he reluctantly gave up his studies. In consideration of his previous high standing, however, he was granted by the college authorities his degree in medicine. Personally he was esteemed by all who knew him. Dr. Hunter was only 26 years of age.

A. C. BOURBEAU, M.D.

The death occurred, on 29th September, of Dr. A. C. Bourbeau, at the family residence, 499 Broadway, Winnipeg. Death was caused by typhoid fever, from which the deceased had suffered for two weeks. The late doctor was extremely well known and popular in French circles in the city. He was just on the threshold of what promised to be a most brilliant professional career, for he had taken the highest honors during his studies at Laval, Quebec, of which university he was a graduate. He was little over twenty-five years of age. He had started practice at Lorette, but contracted the illness which proved fatal at St. Pierre, where he went for a murder inquest.

HON. GEORGE LANDERKIN, M.D.

Hon. George Landerkin, M.D., died on 4th October, in Hanover. A month ago he returned home from his labors at Ottawa, and complained of feeling ill. He gradually sank into a comatose condition. He rallied, however, and his recovery was hoped for, but on 2nd October he again sank into coma.

The outstanding facts in Senator Landerkin's life are these: He was born in West Gwillimbury on the old homestead still known by the family name. His father, a Nova Scotian, had settled there in 1824, and the son was born in 1839 and worked on the farm, resting occasionally, till his seventeenth year, when he went to Victoria University. He graduated in 1862 and commenced practising in Huston, Wellington county, removing the following year to Hanover, where he has lived all his life since, bringing as his bride in 1870 Mary, daughter of Joseph Kirkendall, of Elora. He entered Parliament for South Grey in 1872, was defeated in 1878, returned again in 1882 and sat continuously till 1900. He was appointed to the Senate in February, 1901.

When he left Ottawa some weeks before his death he seemed to be in perfect health. Stout of frame, ruddy of cheek, and active in movement, he seemed destined to live far beyond the allotted span of man. To see Senator Landerkin in the cricket field was a matter of wonderment. He batted vigorously and fielded with incredible agility for his age and weight. He often played with the newspaper men, and during the past summer was one of a Parliamentary team that fought against a team from Rideau Hall. Senator Landerkin entered political life at the age of 33, and won his political spurs on many a hard-fought field. He was a very witty speaker, his humor being spontaneous and good-natured. He cracked many a joke at the expense of political friends and foes alike, but his witticisms left no sting behind. The late Senator was always in a happy frame of mind, and had a smile and a jest for everyone.

 G. C. FIELD, M.D.

Police Magistrate Dr. G. C. Field died on October 14th after an illness extending over the greater part of a month. He was 73 years of age and had occupied the post of magistrate for 24 years. Previous to his appointment he conducted a large medical practise in this city. He was mayor for two years and a prominent figure for a long time in municipal life. He leaves a wife and four children.

BOOK REVIEWS.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE.

Sixth Edition, Thoroughly Revised.

A Text-Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition, Thoroughly Revised. Handsome octavo volume of 1300 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, \$5.50 net; Sheep or Half Morocco, \$6.50 net.

This is the sixth edition of this unexcelled work in as many years. Such a sale cannot but be a gratification alike to the author and to the publishers. In this edition the general plan and principles of classification adopted in the previous editions have been preserved. The many tabular presentations of points in differential diagnosis have been retained. Differential diagnosis is a most important branch of diagnostics, and than this tabular method we know of no superior way of familiarizing the practitioner and the student with the outstanding features of simulating diseases. Malaria, yellow fever, bacillary dysentery, cholecystitis, certain animal parasitic diseases, and the use of the x-rays in diagnosis and treatment have been fully discussed, incorporating the results of the most recent investigations. Among the new subjects introduced are Paratyphoid Fever, the Fourth Disease, Trypanosomiasis, Orthostatic Albuminuria, Transcortical Aphasia, Adiposis Dolorosa, and Amaurotic Family Idiocy. Every affection has been treated separately, particular attention being paid to its clinical character, diagnosis, and treatment. Evidently an immense mass of literature has been thoroughly digested, no pains having been spared to bring the entire work down to date, giving special reference to the daily needs of practitioners and students.

In recommending it, we believe we are recommending an excellent text-book on the Practice of Medicine on the market

NERVOUS AND MENTAL DISEASES.

Fourth Edition, Thoroughly Revised and Enlarged.

Nervous and Mental Diseases. By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M. D., President New York State Commissioner in Lunacy; Chief of Clinic, Department of Nervous Diseases, College of Physicians and Surgeons, New York. Fourth Edition, Thoroughly Revised and Enlarged. Handsome octavo volume of 922 pages, with 338 illustrations. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net.

This is the fourth edition of this excellent work in as many years. The Revision, indeed, has been thorough, all the latest knowledge on

the subjects having been incorporated, including the recent work regarding the healing of nerves. The subject of Intermittent Limping, now definitely known to depend upon a lesion of the posterior root ganglia, and Herpes Zoster have been given a section each. Another addition is the discussion of that form of epilepsy marked by myoclonus, furnishing the so-called Combination Disease. Further importance has been given to symptomatology and symptomatic disturbances, and the diagnostic value of astereognosis and of Kernig's Sign has been elaborated.

We also find that there have been added a large number of new and excellent illustrations. A useful addition to the portion of the book devoted to Insanity is a new section consisting of a critical review of the German Schools which have recently made each important advances in psychiatry.

In many ways this work will be found of unusual assistance not only to the specialist, but also to the student and general practitioner.

A TEXT-BOOK OF DISEASES OF WOMEN.

A Text-book of Diseases of Women. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth \$5.00 net; Sheep or Half Morocco, \$6.00 net.

This latest work of Dr. Hirst's is on the same lines as his "Text-Book of Obstetrics." As would be expected from a practical teacher, diagnosis and treatment have been given particular attention. The palliative treatment, as well as the radically operative, is fully described, enabling the general practitioner to treat many of his own patients without referring them to a specialist. A feature which specially impressed us is the thorough manner in which the author has treated modern technic of gynecic surgery. An entire section is devoted to a full description of all modern gynecologic operations, illustrated and elucidated by numerous photographs taken especially for this work. The author's training in the subject of diseases of women has been like that of the specialists in the Teutonic countries of Europe, where gynecology has reached the highest level of perfection: namely, specialization in the diagnosis and treatment of diseases of women has followed a thorough training in the recognition and treatment of the complications and sequels of childbirth. This special training is evident throughout the entire work in the careful and thorough manner in which the subject is treated. The many illustrations are the most magnificent we

have ever seen. With but few exceptions all are entirely original, having been reproduced from photographs and water colors of actual clinical cases accumulated during the past fifteen years. We must heartily congratulate Dr. Hirst and his publishers upon the production of such a magnificent work.

DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY.

Third Edition, Thoroughly Revised.

The American Illustrated Medical Dictionary. For Practitioners and Students. A Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A. M., M. D., editor of the "American Pocket Medical Dictionary." Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Price, \$4.50 net; with thumb index \$5.00 net.

The rapid exhaustion of two large editions cannot but be a gratifying proof to the editor and publishers that this excellent work meets the varied needs of physicians and students better than any other dictionary on the market.

In this the third edition several hundreds of new terms that have been added to the vocabulary of medical sciences have been incorporated and clearly defined. The entire work, moreover, has evidently been subjected to a careful revision, and many of the tables, notably those of Acids, Bacteria, Stains, Tests, Methods of Treatment, etc., have been amplified, and their practical value greatly increased. It is only by such constant and careful revision that a medical dictionary can hope to reflect the progress of medical science, and the usefulness of this work by this present revision has been very largely extended.

DISEASES OF WOMEN.

A Text-book for the use of Students and Practitioners of Medicine. By Thomas A. Ashby, M. D., Professor of Diseases of Women, University of Maryland; Fellow of American Gynecological Society, etc. Price in cloth, \$4.50; half leather, \$5.00. Wilkins & Wilkins Company, Baltimore, Md., 1903.

This work is specially prepared for students and practitioners. In a concise way the main subjects of diseases of women are presented. There is a historical sketch of gynaecology, which forms a good introduction to what has been done in this branch of medical science. The anatomy and anomalies of the female generative organs are fully des-

cribed. There is a very excellent chapter on the function of menstruation, and the relationship of its derangements to female diseases. In the chapter on physical diagnosis, much stress is laid upon the necessity for always making a thorough examination of the organs in detail. Much attention is paid to aseptic surgery and the technique to secure the same, and how to sterilize dressings and instruments. In the regular subjects of disease, the author begins with the vulva and proceeds regularly upwards to those of the vagina, uterus, tubes, ovaries, and pelvic cavity. All useless matter is excluded, and only the most reliable methods of treatment or operating given. The work is intensely practical in its character.

Many of the illustrations have been drawn from nature and from photographs taken from life. They represent true pictures and are reliable in every detail.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER.

By George L. Richards, M. D., Fellow American Laryngological, Rhinological and Otolological Society ; Fellow American Otolological Society ; Associate Editor *Annals of Otolology, Laryngology and Rhinology* ; Otologist and Laryngologist Fall River Union Hospital, Fall River, Mass. Price \$2.00. Published by International Journal of Surgery Co., N. Y.

This book derives especial importance from the fact that the diseases described therein constitute so large a share of the physician's daily routine of practice. It has been the author's aim to teach the practitioner how to diagnose these cases and how to treat them successfully according to modern methods. With this object in view every effort has been made to describe the treatment in such detail as to leave no point obscure, and to simplify the technics as much as possible so as to avoid the necessity of an elaborate and expensive armamentarium. No space is occupied with theory, and the information given is based for the most part upon the author's own extensive clinical experience in diseases of the nose and throat. For the sake of completeness a number of conditions are discussed which properly belong to the specialist, but with these few exceptions the diseases described are such as can be treated by the general practitioner. A noteworthy feature of this work is the large number and excellence of the illustrations.

MISCELLANEOUS.

ANTIPHLOGISTINE VS. PNEUMONIA.

How does Antiphlogistine abort pneumonia, and further, how does Antiphlogistine resolve pneumonic consolidation? These queries are very often made by acute observers who have attended case after case of pneumonia with favorable termination under the influence of Antiphlogistine.

The action of Antiphlogistine is dependent upon well-defined physiological laws,—that a most important reflex association exists between the vessels of the skin and the underlying tissue: that, when the superficial blood-vessels dilate, the deep-seated ones contract. Continuous stimulation of the cutaneous reflex maintains continued relief by persistent contraction of vessels in the inflamed area of lung tissue. Such governing action prohibits extension of the products of inflammation through infiltration by effecting rapid absorption and elimination of toxines. The infected area becomes self-limited as the adjacent blood-vessels supply well-aerated blood to compensate for the surcharged venous blood due to pulmonic consolidation. Under reflex control Antiphlogistine resolves hepatization of lung tissue and through osmosis and dialysis assists the superficial blood-vessels and lymph spaces to drain the hyperaemic parts by direct capillarity. Lessened blood-pressure prevents administration of irritating medication to the overburdened heart.

TO PREVENT INFECTION.

A practical and helpful series of rules for the sanitary management of contagious and infectious diseases, has been prepared by The Palisade Manufacturing Company of Yonkers, and issued in pad form with a cover.

It is intended that when called to a contagious case, the physician shall sign and hand to the attendant one of these printed sheets of "Precautions to be Observed by Patient, Family and Attendants." This series of rules, couched in plain, every-day English, has been carefully prepared, and the information given is accurate and up-to-date. The delivery of such a signed code of instructions not only impresses the family favorably, but also relieves the physician of all responsibility should any of the necessary precautions be omitted. The advertising of Berolypsol is so arranged that, if the physician desires, he can detach all reference to the preparation before handing the directions to the family.

One of these pads (thirty-two sheets) will be mailed to any physician who may apply for same.

“THE LAW AND THE DOCTOR.”

Amid the multiplicity of his daily duties, the physician has but scant time to cultivate more than a passing acquaintance with the collateral branches of his profession; the average practitioner, therefore, knows but little of the legal aspect of his relations to the body politic, or his rights and privileges, or his liabilities and responsibilities to his patients and the community at large. While pursuing the “even tenor” of his professional way, the doctor may suddenly be confronted with a summons and complaint in an action for malpractice, or may be called as an expert witness in a similar suit against a colleague. While it is not our intention to urge the physician to become his own lawyer, we believe that he should acquaint himself with the fundamental principles of medical jurisprudence, so that he may be reasonably well prepared to defend his own or his brother physician’s rights and privileges on the witness stand. With a view of placing such information at the immediate disposal of the doctor, The Arlington Chemical Co. has arranged to issue under the title “The Law and the Doctor,” two 48-page booklets which shall present in condensed form and succinct style, an epitome of the essentially important features of (1) “The Civil Liability of the Physician for Malpractice” and (2) “The Physician as a Witness.” These exceedingly practical monographs have been expressly prepared by an eminent member of the New York Bar, who is well recognized by the legal profession as an expert in this special branch of practice. The first of these reference text manuals is now ready for distribution, and after a reasonable interval will be followed by a second monograph.

Copies may be had by applying to the above Company.

“HOME NURSING.”

We have recently received a book entitled “Home Nursing,” published by Davis & Lawrence Co., Ltd., Montreal. This publication contains practical instructions for the performance of all offices pertaining to the sick. It tells what to do in case of accidents, treats with nearly all the diseases to which human flesh is heir, as well as containing many recipes for preparing solid and liquid food for the sick. No home should be without a copy of it. It is a very attractive book of about 50 pages, and can be obtained on application to the publishers, Davis & Lawrence Co., Ltd., Montreal, enclosing to them 5c. in stamps to cover the expense of mailing, etc.

NASO-PHARYNGEAL CATARRH.

Edmond John Melville, M.D., C.M., Bakersville, Vt., writes that for the treatment of this disease he usually follows these lines: Have the patient take a hot mustard foot bath, followed by a hot pack, where practicable, administer a saline laxative and a Dover's powder and put the patient to bed between warm sheets and keep him there for at least twelve hours. In conjunction with the above, he makes it a routine practice to prescribe Glyco-Thymoline used in the K. & O. Nasal Douche every two hours, diluted one to four with warm water. This bland solution remains in contact with the mucous membrane for a considerable period of time, on account of its oily consistency and relieves inflammation by exosmosis, depleting engorgements rapidly. The above treatment followed out faithfully and well by physician and patient, will cure the most severe case of acute naso-pharyngeal catarrh in twenty-four hours. This means in a great many cases the breaking up of an incipient case of la grippe, bronchitis, or even pneumonia, as we all know the tendency of acute inflammation of the mucous membranes to extend to adjacent structures by contiguity of tissue.

All of his patients who are at all susceptible to colds are now equipped with a supply of Glyco-Thymoline and a K. & O. Nasal Douche, with instructions to begin its use upon the first symptom of a naso-pharyngitis coming on.

CLINICAL EXAMINATION OF THE GASTRIC CONTENTS.

We have received a copy of "Clinical Examination of the Gastric Contents" and are confident that it is worthy of more than a passing notice. This publication is the third of a series of scientific monographs, those already distributed to the profession being the "Essentials of Hematology" and "Syllabus of Bacteriology," published by the Palisade Manufacturing Company and the New York Pharmacal Association.

MELANCHOLIA, INSOMNIA AND GENERAL LOWERING OF NERVE POWER.

In a very forceful and exceedingly interesting paper on this subject, published in the *Cincinnati Lancet Clinic*, Dr. T. D. Fink of Louisville, Ky., writes the following:—"I am convinced that there is no other remedy so useful and attended with such satisfactory results in the treatment of melancholia with vasomotor disturbances, anemic headache, emotional distress, and active delusions of apprehension and distrust as Antikamnia Tablets. These tablets also increase the appetite and arterial tension, promote digestion, and are particularly serviceable in reliev-

ing the persistent headache which accompanies nervous asthenia. In neurasthenia, in mild hysteroid affections, in the various neuralgias, particularly ovarian, and in the nervous tremor so often seen in the confirmed drunkards, they are of peculiar service. Patients who suffer from irritable or weak heart, needing at times an analgesic, can take them without untoward after-effects, knowing that the heart is being fortified. In delirium tremens, they relieve when there is a great restlessness with insomnia and general lowering of the nerve power. The pain of locomotor ataxia yields to treatment with Antikamnia Tablets in a remarkable degree, their analgesic power being of a peculiar kind, in that they will relieve painful affections due to pathological conditions of the peripheral nerves, as neuritis, etc., also lumbago, sciatica and myalgia. In chronic catarrh of the stomach, with its often accompanying headaches, in cardiac dropsy, and in ascites, they are of decided benefit."

GUDE'S PEPTO-MANGAN.

The Dietetic and Hygienic Gazette, commenting upon the dietetic value of Iron, says :

"Pathologists have given pointers as to the special condition of the iron in the system and in the circulating medium, and the newer preparations aim to imitate that condition. Most of them have a brief day of fame and then drop out of sight, for the reason that they lack some element of reliability. Few are standing the test of time and the critical ordeal of the clinicians. Foremost among these it is safe to name Gude's Pepto-Mangan. It is probably the nearest approach to a physiologic reproduction yet devised. It deserves its universal popularity, and its manufacturers do well to restrict its sale to strictly ethical channels."

From *Medical News*, New York :— 'Iron preparations spring up like mushrooms in a night. The one backed by clinical evidence in hospital practice is the old stand-by GUDE'S PEPTO-MANGAN, which is the standard of known worth and which gives positive results.'

CLINICAL EXAMINATION OF THE GASTRIC CONTENTS.

The New York Pharmacal Association have issued a handsome little booklet under the above title. It gives in brief form much excellent information, and contains some very attractive illustrations. The medical profession will no doubt appreciate this little book from the manufacturers of Lactopeptine.
