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Queen's Medical Quarterly

Published by the Medical Faculty of Queen's University

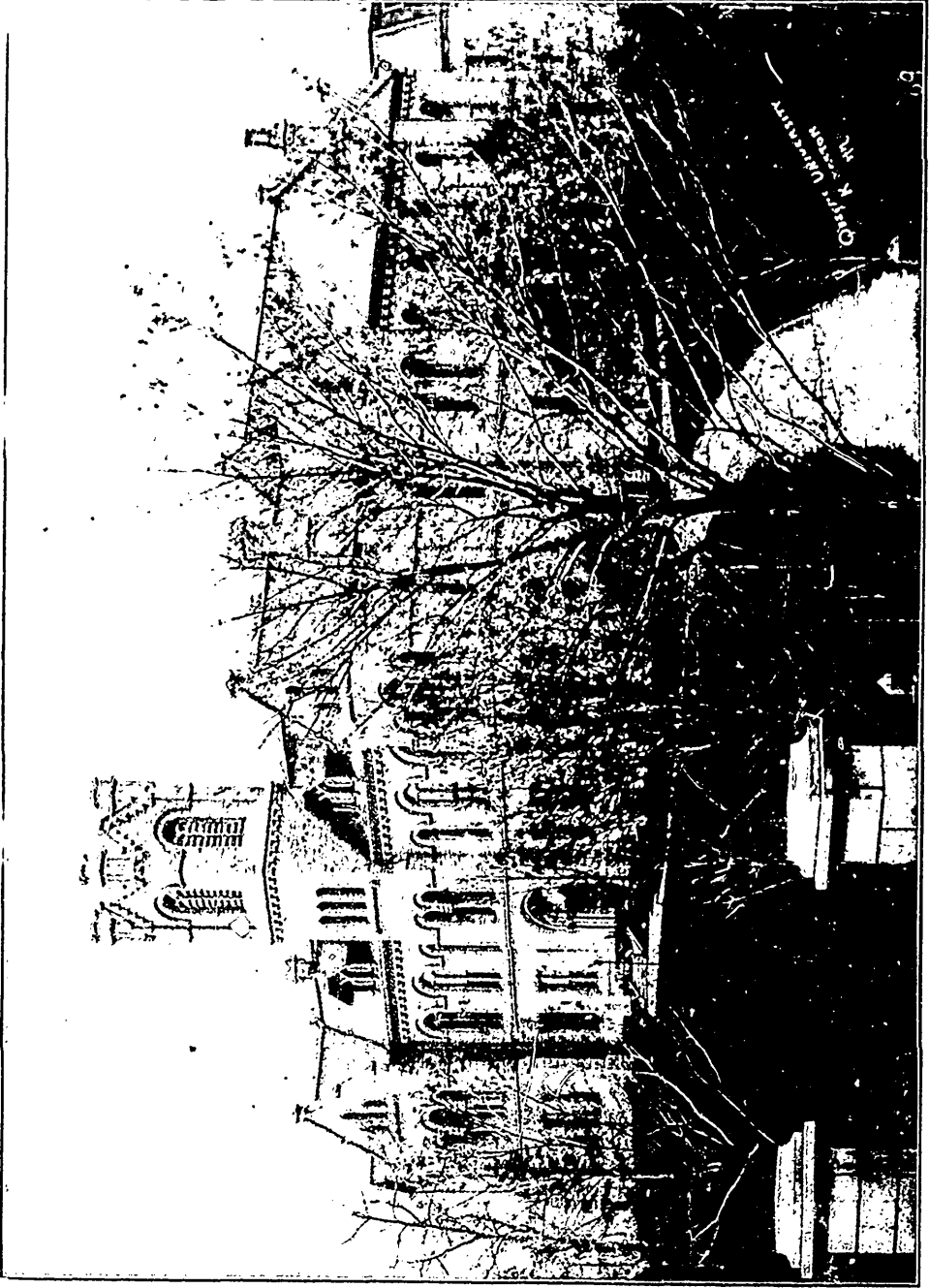
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OLD ARTS BUILDING.

QUEEN'S MEDICAL QUARTERLY.

VOL. XII, No. 1
Old Series

OCTOBER, 1907.

VOL. V, No. 1
New Series.

QUEEN'S MEDICAL QUARTERLY is presented to the Medical Profession with the compliments of Queen's Medical Faculty. Contributions will be gladly received from members of the Profession and willingly published.

BUSINESS MANAGER: F. ETHERINGTON, M.D.

This number is issued under the supervision of
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QUEEN'S MEDICAL SCHOOL.

REGARDING the origin of this school, Dr. Fife Fowler writes thus: "In the early summer time of the year 1854, the Medical Faculty of Queen's University was formed under somewhat remarkable circumstances. Several students of Medicine, who had spent three sessions pursuing their studies in a city west of Kingston, were unable to obtain a degree in Medicine unless they subscribed to certain religious tests which were obnoxious to them. A petition, headed by Robert Douglas, was presented to Queen's College and the Medical profession of Kingston, praying them to establish a Medical School. The Trustees of the University and the members of the Medical profession held a conference and decided to organize a Medical Faculty of the University. It was at the same time provided that no portion of the funds of the University be devoted to the Medical Faculty: the school was to be maintained and the professors paid from the fees and from such other sources as the liberality of the Government or individuals should provide especially for that purpose."

The school opened its first session in November, 1854, in a small building on Princess street in the rear of what is now Elliott Bros.' store. The members of the first faculty were: James Simpson, M.D., Professor of Clinical Medicine and Surgery, and President of the Faculty; J. R. Dickson, M.D., Professor of the Princi-

ples and Practice of Surgery; Horatio Yates, M.D., Professor of the Principles of Medicine; John R. Stewart, M.D., L.R.C.S., Edin., Professor of Anatomy, Physiology, and Practical Anatomy; Fife Fowler, M.D., L.R.C.S., Edin., Professor of Materia Medica and Pharmacy; L. P. Litchfield, M.D., Professor of Midwifery, State and Forensic Medicine. The first graduates of the School were: Daniel Chambers, Robert Douglas, Samuel Dunbar; Weston L. Herriman, William Hillier, John F. Mercer, William Limmer Scott, and H. W. Spafford.

The second session opened with forty-seven students, and the faculty, feeling the need of better equipment, petitioned the Legislature and obtained an annual grant of £250. Soon after this, the Trustees of the University invited the Medical Faculty to share its home in the buildings now occupied as a residence by the Principal and some of the professors.

The rapid growth and increase in numbers in the various faculties soon made it imperative to provide more accommodation. After due consideration, the Trustees of the University passed the following resolutions:

I. That whereas the present College buildings are not sufficiently large to accommodate the Literary and Theological Classes, the Library and Museum and also the Medical Classes, it is desirable that suitable accommodation be provided for the Medical classes in a separate building.

II. That such accommodation could be most easily and cheaply provided by the erection of a building behind the present buildings, inasmuch as from its position no architectural ornamentation would be at all necessary.

III. That such building might along with suitable rooms for the Medical classes comprise a hall for general meetings of the College, for Divine services and for granting degrees.

IV. That to insure the payment of the capital, so expended, a sum be annually set apart from the Legislative grant to the Medical Faculty. Plans for this building were prepared and accepted in 1857 and the new building now known as the Medical Building was erected in 1858 at a cost of about \$10,000.

The Medical Faculty, having now sixty-four students in attendance and ample accommodation for carrying on its work, naturally looked forward to many years of growth and prosperity—such was not to be. In 1855, the Government withdrew the annual grant from both the University and Medical Faculty. Soon after, the failure of the Commercial Bank robbed the University of its en-

dowment and other available funds, leaving it in a state of financial collapse. The Trustees became panic-stricken, even the brave MacKerras wrote to a friend that "it seemed as if the only thing remaining to do for Alma Mater was to bury her decently." A meeting of the Trustees of the University was called, and a policy of retrenchment adopted. Regarding the Medical Faculty, it was decided that as it was now dependent upon the fees only, it could not be self-sustaining—it certainly could no longer be an asset—that it must be cut off; and they cut it off without any recognition of its vested rights in the new building or in the equipment belonging to the Faculty. Thus ended the brilliant prospects and the first period of the history of Queen's Medical School.

The Medical Faculty was now without the prestige and fostering influence of the University, without a home, and without money. "To be or not to be" was the question that required an immediate answer. The members of the old faculty were summoned, the situation discussed, and to the honor of these men it may be said that without dissent a resolution was passed to continue the school. A charter was at once applied for, a faculty appointed, affiliation with the University secured and a lease executed for the rooms they had previously occupied in the new Medical building. Here the first session of the Royal College of Physicians and Surgeons of Kingston opened in 1865, and here it continued its work until 1869, when the University, feeling that it needed the Medical Building for its own classes, terminated the lease, and the Royal College found temporary accommodation in a building on Montreal street at present known as the House of Industry. Meantime the faculty purchased a large stone building near the foot of Princess street, formerly used by the Commercial Bank and at present used as a salesroom for farm implements. This was refitted and occupied until after the erection of the Arts Building in 1880, when the Royal College returned to the Medical Building on the University grounds, its present home.

It would lead one too far afield to review in detail the struggles, the progress and the achievements of Queen's Medical School from its reorganization as the Royal College of Physicians and Surgeons in 1865 until it again became a Faculty of the University in 1892. For more than a quarter of a century the Royal College kept step with the progress and development of Medical Science—it held its place in the front rank of Medical Schools—it stood for all that was best in the Medical teaching of its day.

It may be remarked that Queen's Medical School has had a rather unique experience. During the first period of its history it was a faculty of the University, and receiving Government aid. Then for more than a quarter of a century it was independent of the University and independent of the Government. Now again it is a Faculty of the University, and again it is receiving substantial aid of the Government.

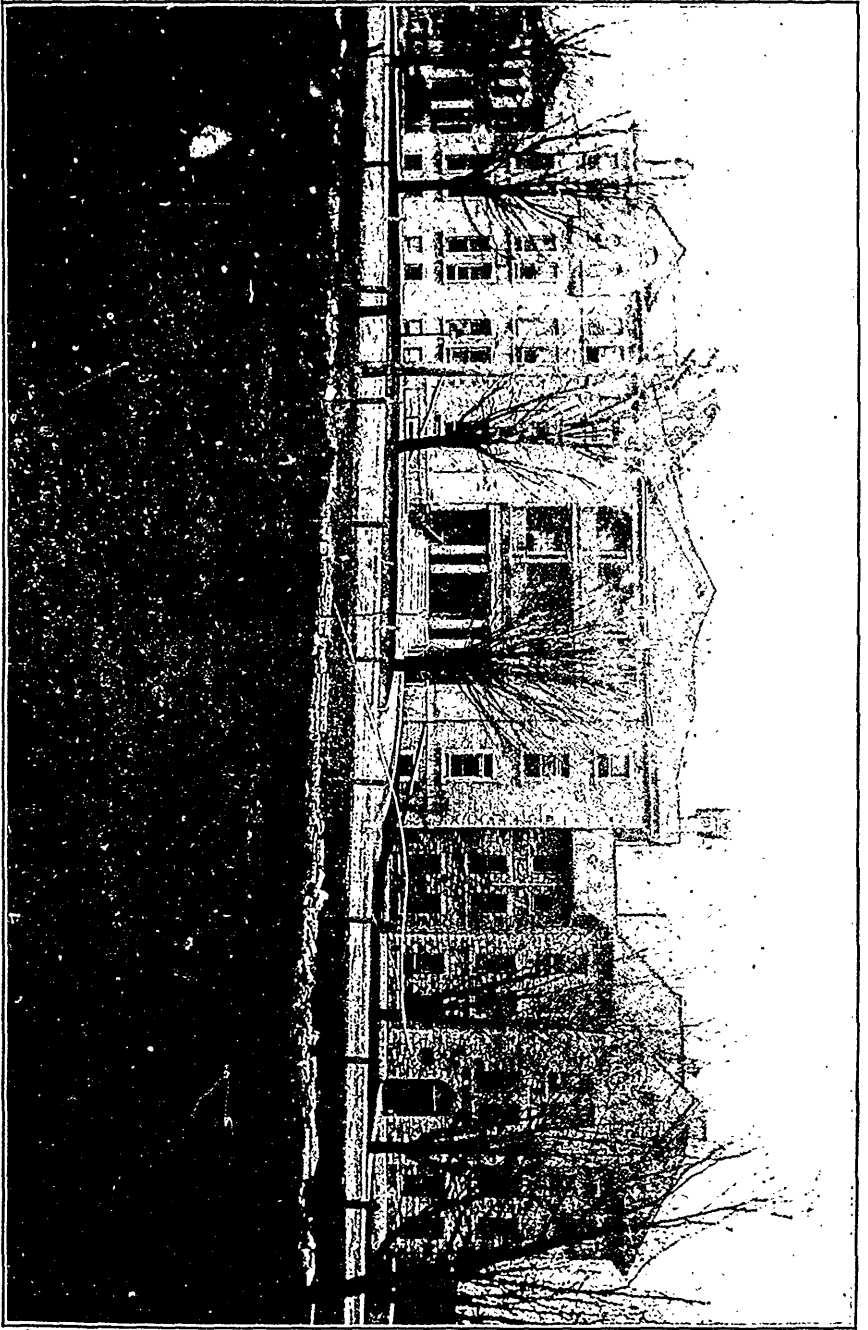
During the past fifteen years, Medical Science, by her own efforts and by the contributions of sister Sciences, has been wonderfully developed and enriched. Its growth and expansion during these years in each department of Queen's Medical School will be set forth in the following pages of this Journal.

THE GENERAL HOSPITAL.

IN the lifetime of every individual there appear milestones at varying periods which seem to mark the progress of time and accentuate certain periods of life. One of these presented itself on the 27th of April, 1907, when attending Convocation in Grant Hall. On that day exactly twenty-five years before, the writer, with eleven others, stood before the dais in the old Convocation Hall—just as those who were standing to receive their degree—and there promised to keep the obligations imposed upon us. Following backward along the line of these years, which formed a quarter of a century one mentally became reminiscent.

The graduating class then was small, but about the average size for that period of the School's existence. Out of that number five are now dead. Professor Williamson who obligated us, Dr. Bell who presented us, Principal Grant who capped us, Dr. Fowler who robed us, all have passed from our view. The same may be said of every medical professor, with one exception, who signed the diplomas.

Instead of twelve graduates thirty are now presented, and, as each passed beneath the cap, those looking on who have been actively interested in medical education, and have watched the progress of medical science, on reflection, could not help but be deeply impressed with the expansion made in the art of healing the sick during this quarter of a century. Those who attended lectures in the old Bank building at the foot of Princess Street will well remember the course in Medicine then given. We always prided our-



KINGSTON GENERAL HOSPITAL.

selves on our Anatomy, our graduates were always known as good anatomists, and why, because there was always plenty of material, and it was *practically* taught, and every student was compelled to dissect for himself. Physiology was taught from the written manuscript when sufficient students could be persuaded to leave the amusements of "the den" to attend. Biology and bacteriology were unknown. I only remember one lecture in histology, and that was a demonstration on the circulation in the frog's foot, but unfortunately the frog died at the hands of the anæsthetist before the microscope was focused. There were no demonstrations in pathology, nor even lectures. Many other examples might be given, not with the idea of minimizing the work of the School at that time—it was the best the times afforded—but to contrast the then curriculum with what is expected from the present day graduate.

Probably the greatest change to be found in the teaching of Medicine is the *method*. In those days a student listened to a lecture and then finished his knowledge, if he had acquired any, by reading up the subject in a book. To-day he must take his dissecting knife and his microscope, he must attend and study at the bedside of the sick, and in the post-mortem room, and with these acquire his knowledge. It is for these purposes that additions have been made to the Medical Buildings so that separate dissecting rooms might be available for special research, rooms and equipment for practical pharmacy and therapeutics, and now another large building is being erected for animal biology, bacteriology, histology and physiology. Of all practical means which have been devised to acquire a complete and thorough knowledge of disease, in all its varied forms, none are so great as bedside experience, clinical instruction and personal observation. If I am correctly informed, at The Johns Hopkins Hospital, Baltimore, students are taught by practical methods alone, and they imbibe their knowledge of Medicine not by class room instruction, but at the bedside, in the operating room and in the morgue, carrying from there to the various laboratories the products of their investigation for further research. This is the correct method, and is being recognized by teachers and clinicians more and more every day. Hospitals, too, are vying with each other how best to afford the present day student every facility for practical work, and it is with feelings of pride to be able to state, when reviewing the past and present record of the Kingston General Hospital, and the advantages offered for clinical instruction, that its Governors, medical officers and clinical instructors have not lagged in the race for first place.

During each year, as time rolled on, changes and improvements were made. The visitors who entered its portals twenty-five years ago, were they suddenly transported to the scenes of to-day, would be struck with amazement at the gigantic strides that have been made.

In days gone by the work was considered complete when it furnished food, shelter and medical attendance for the sick poor, supplying in cleanliness those comforts which their own surroundings denied them. Thus it was that our Hospital was filled with the poor only. Few beyond such occupied a bed in the wards or applied for medical treatment. Those in other stations of life only darkened the threshold to perform some kindly office, or to speak some word of comfort to its occupants.

Within the last twenty-five years the whole features of hospital work, too, have changed. As an outcome of recent research a new work had risen up for it, which demanded for its success a thorough technique, skilful nursing, good hygienic surroundings, equipment, and buildings of such proportions and modern structure as would afford ample opportunity for carrying on the work and guaranteeing the safety, comfort and well-being of those who sought for assistance.

To make a commencement a change in the nursing was urgently demanded, and thus it was that a small training school, with one superintendent and two nurses in training, was initiated. The great vantage ground thus gained was soon seen in the improved nursing in the wards, while the general public was not slow to see the benefits of a trained nurse. The demand for educated, intelligent women, specially trained to wait upon the sick, has become so urgent, that to-day, to supply the requirements of the wards the services of thirty-three nurses are demanded.

A Medical Superintendent was added to the staff to oversee and manage the general internal arrangements and to have constantly on hand a properly qualified practitioner to meet urgent demands. Originally there were four Medical Officers and two House Surgeons; now there are eleven, divided up into various departments, and four House Surgeons.

For years it has been felt that there should be some classification of patients according to their diseases, or in other words, that those suffering from infectious and contagious diseases should be isolated. For that work Mrs. Nickle generously donated sufficient money to erect that massive building known to all of us as the Nickle Wing. This building is approached by a separate stairway

and is cut off from the main building by double stone walls with an air space between. Each flat is entirely cut off from the others, has its own separate sanitary fittings and diet kitchen, so that perfect isolation is accomplished.

Up to October, 1891, no special provision had been made for the reception of children; they were scattered throughout the wards, which for obvious reasons was considered undesirable. With the erection of the Nickle Wing the Governors were able to set apart for a children's ward, a large, bright, airy room, in the old Watkins Wing. For the name, "St. Andrew's Children's Ward," the children belonging to St. Andrew's Church undertook to prepare, furnish and fully equip the ward with everything necessary, and to take an abiding active interest in it.

The old Mott ward was taken in hand by the ladies of St. George's Cathedral and fitted up for a medical apartment for women. The transformation that has taken place here is truly marvellous. The high modern iron bedsteads, enamelled white, spring mattresses, spotless white linen, and scrupulously clean hardwood floor, give one, on entering, a feeling that is at once refreshing and full of hope.

Sampson, Yates and Strange wards have all been similarly improved. Tables especially constructed for the purpose are at each bedside, on which the meals are served in tasty dishes.

The main entrance has been brightened by plate-glass doors; the old, small-light windows have been replaced by windows in plate and oramental glass, the effect of which has been to give an improved tone to the whole building.

In place of the old stairway a modern elevator has been erected which permits of patients and others reaching the wards and private rooms without exertion. The great advantage of this is to be seen in the care of those distressingly ill, or who are going to or from the operating rooms.

The Doran Building is a model in every respect and provides for the special care and treatment of women. The main entrance presents a handsome vestibule and staircase, furnished in hardwood. On the right is a room for visitors, on the left is a large semi-private room. Passing on we come to the operating room on the right, a room which has been much admired for its completeness by expert judges. On the left are six private rooms, each one with a gas grate and neatly though plainly furnished. On the second floor are the maternity wards, so arranged as to classify the inmates, a public ward and semi-private room. The whole building is heated by hot

water and ventilated by a fan kept in motion by an electric motor. It would be hard to find a more complete building for the purposes for which it was intended. Here, daily, operations of the most serious proportions are performed with gratifying success.

The next addition to be made to the Hospital's fine group of buildings was the Fenwick Operating Amphitheatre, claimed to be among the finest of its class on the continent. It is situated in the rear and slightly to the east of the main building, from which it is easily reached.

The building is semi-circular in form and covers an area of 1,580 square feet. The walls are of local limestone, rock-faced ashlar work, with cut limestone dressings. The interior of the building is finished in white pine, and the walls are plastered with rock-wall plaster, from Hillsborough, N.B. The floor of the arena is of slate and its walls of polished Italian marble. The ceiling is of ground glass, containing about three hundred square feet, through which the light is diffused from a large sky-light in the roof. In addition to the sky-light, the arena is lighted by ten circular headed windows placed in the walls of the building. Rising above the marble dado enclosing the arena, at a good elevation, there are three rows of semi-circular seats, affording ample accommodation and view for one hundred students.

The interior is approached from the main corridor by another corridor, on the right of which, as one walks down, are the surgical supply rooms, one of which is fitted up with a large Kny-Scherer steam sterilizer. Next are the recovery and anæsthetic rooms, while on the left is a dark room for eye and throat work, and the surgeon's room, fitted up with apartments for operating robes and containing a handsome instrument case, and the "X" ray outfit. The recovery room is equipped to treat all accidents or complications that may occur during or after operations, and in this room patients are delayed until recovery from the anæsthetic is complete. The anæsthetic room is equipped with all the necessaries required during the administration of an anæsthetic, and the usual restoratives in case of threatened danger.

A pathological room adjoins the anæsthetic room, and is so furnished that microscopical and other investigations can be undertaken and completed at any stage of an operation.

A large beautifully lighted room below, 33 by 26 feet, furnishes a waiting room for students and others, while adjoining it there is a cloak and wash room. The stairway leading to the room above affords easy access to the seats in the amphitheatre or to the wards.

Even with the accommodation offered by this large operating room, and that in the Doran Wing, it was found insufficient to meet the demands made upon them for surgical work, and thus a few years ago a room just across the corridor, and which had been previously used as a house-surgeon's room, was fitted up with the necessary equipment, and is now named the Louise Operating Room. In these three operating rooms in 1906, over five hundred operations were performed.

In addition to the advantages offered from a surgical and obstetrical standpoint, the medical wards are, during the session, well filled with cases most desirable from a clinical standpoint. During the year just closed over sixteen hundred cases were admitted, and on looking over the Hospital records of cause of admission every class of disease is well represented.

On Christmas morning, 1897, a serious fire occurred which completely destroyed the Watkins Wing. What at first sight appeared a serious set-back in the march of progress only proved a blessing in disguise, for there arose, Phoenix like, from the old building a huge three story one, erected upon the most modern architectural plans and furnished and equipped with the best. In this building are private rooms, each having an open coal grate and neatly but simply furnished. With a southern outlook, on the top flat are two bright cosy rooms—the St. Andrew's Children's Wards.

Another building to be added to the group of Hospital Buildings is the Nurses' Home, completed and turned over to the comfort and enjoyment of the nurses in 1904. It is decidedly an ornamental building, the style being early colonial. The pillars forming the front entrance are of solid limestone. Besides the bedrooms it contains a drawing room, library, reading and recreation rooms and gymnasium.

On the grounds, but well out of sight, has been erected a morgue, part of which is arranged in amphitheatre form for students to witness and take part in post-mortem examinations.

The termination of this brief description of the progress of the General Hospital does not mean that the work is completed, or that it is at a standstill. While this is being penned there is being conducted in the Armouries, a huge "Made and Produced in Canada Sale," conducted by the Women's Aid Society and the countless friends of the Hospital found throughout the City and neighboring districts, the enormous proceeds of which are intended for further Hospital improvements and extension.

"THE PRESENT COURSE IN ANATOMY WITH REFER-
ENCES TO SOME RECENT CHANGES."

“THERE is this advantage in your subject,” a worker in one of the other University departments once said to me, “it does not change.” While it may be true that the structure of the human body has remained practically the same for some considerable period of time, yet it is no less a fact that the manner of description, the system of nomenclature, and the methods of teaching, have undergone extensive modification even during the last ten years.

One has only to compare the books of ten years ago with such works as Cunningham or Morris' recent editions to become impressed with the fact that the descriptions have been materially altered. This is particularly noticeable with reference to the viscera. Says Cunningham in his excellent text-book published in 1902, “The recent introduction of formalin as a hardening and preserving agent imposed an especially arduous duty upon the writers who had undertaken the chapters dealing with the thoracic and abdominal viscera. The possibilities of establishing a more accurate topography and improving our conception of the forms assumed by the viscera under different conditions, have by this means been greatly extended. . . . Much, therefore, which appears in this book on the topographical relationships of the viscera departs considerably from the older and more conventional descriptions hitherto in vogue.” Also our knowledge of the Nervous System has made marked progress. The embodiment in the later works of the results of the researches of Flechsig, Elliot Smith, and others, has resulted in many changes in the more recent articles dealing with this system; and the careful reader will not fail to note that even to the accounts of the bones and muscles, whose features have long been described with fair accuracy, considerable alteration has been made. In fact it can be safely said that in the past ten or fifteen years the whole subject of anatomy has undergone extensive revision.

A perusal of Morris' recently published “Treatise of Human Anatomy,” or a glance through the magnificent “Atlas” of Spalteholz, will forcibly impress upon the student of ten years ago, the great change that has taken place in the system of Anatomical Nomenclature. To find the supinator longus muscle termed the Brachioradialis, the cuneiform bone called the os triquetum, the familiar fissure of Rolando designated the sulcus centralis, is at first quite bewildering. The introduction of the revised nomenclature (termed

the BNA, Basle Anatomical Nomenclature) is a matter of importance not only to the students of Anatomy, but also to the students and teachers of all subjects in which anatomical terms are used. A new generation will shortly appear using the BNA perhaps exclusively, and, unless those at work in other branches make it their business to become familiar with the changes, confusion must necessarily result. It would be outside the present purpose to enter into a discussion of this question; those interested will find a full account in L. F. Barker's little work on "Anatomical Terminology."

But it is more especially to the changes in the methods of teaching that I wish to make brief reference. Again, the improved methods of preserving the material have permitted marked advances. When subjects came to the dissecting room improperly cared for, perhaps in a state of partial decomposition, it was impossible to carry out minute and careful dissection. With the intra-vascular injection of formalin, carbolic or other preservative, the material is clean and wholesome and can be kept so, indefinitely. Instead of the old dissecting room filled with objectionable odors, blue with tobacco smoke, noisy and at times even hilarious, the modern anatomical laboratory is kept as clean as the surgical operating room and the conduct of its occupants does not differ from that of the workers in any other department. And there is no good reason why the future physician and surgeon should not get the principles of cleanliness and order as well as neatness and thoroughness inculcated early in his career.

The tendency to the elimination of didactic lectures is general throughout the course of medical studies. It has come to be recognized that laboratory methods taken in conjunction with bedside work ensure the best results. The custom of lecturing has come down from a time when good books were not available. There can be small profit in listening to a lecture often little better than an indifferent rendering of an excellent text-book article within the reach of every student. No doubt there are subjects in which the formal lecture will continue to hold its place, and many will be disposed to lean towards the view expressed by Oliver Wendell Holmes in his question and answer, "Why do men attend Universities to listen to lectures which they might read with so much less expenditure of time and money? Why have they always done so? Because no printed page has ever given or ever can give to teaching the force of words spoken by a great instructor." At any rate, no one will question the utter futility of lecturing to a class of fifty or more on such a structure as the ethmoid bone or on the ramifications of the

seventh nerve or lingual artery. Anatomy has followed the general trend and in our own course, for instance, didactic lectures have been almost wholly abandoned. They have been crowded out by dissecting room demonstrations given to small sections of the class.

Perhaps a brief outline of the present course may be of some interest even to those who seldom open a "Gray" or rarely visit a dissecting room. According to one of the leading anatomists of America, the teaching of anatomy on this continent can be classified under four heads. "The first and lowest order is found in those schools which give a course of crude lectures on anatomy with a dissecting room, in which the work is not directed but is carried on in a superficial way. . . . The teaching of anatomy is of a higher order when it follows closely some text-book, especially Gray, when it has lectures and recitations and enough work in the dissecting room to enable the students to pass the state examinations. Most of the medical students desire courses of this order. In a third and higher order of medical schools, about twenty of which may be counted, the course is given to aid the students in their subsequent medical studies. Both teachers and students work pretty hard and at the end of the course all feel that much good has been done. . . . In a fourth order of anatomical course, it is considered that there are others to be satisfied besides the teachers of a few practical branches, . . . there are the teachers in the other sciences, physiology, neurology, pathology as well as anatomy itself. A student told me recently that he had been studying one thing to help him in another all his life and he was dead tired of it; he now desired to study those things which were worth studying for their own sake. For him anatomy could not be considered an ancillary science. In presenting a science to students no attitude can be defended, except that in which the science is studied for its own sake." It is to be premised then that our object is to give a thorough course in this fundamental subject with the view that anatomy is worth studying "for its own sake" and not with the hope that this or that fragment of knowledge may possibly be of some use in the student's future career. Who knows, indeed, anything of the future of a first or second year medical student? He may be destined to lead the laborious and useful life of the general practitioner; he may possess in his mental make-up those qualities which are to develop into a Donald McLean or a Charles Purdy. For each a thorough foundation in anatomy is essential to the highest success. Specialization may or may not be overdone at the present time; this is a debated question, but there are few who would say that it should begin dur-

ing the undergraduate period. Such a course in anatomy undoubtedly entails the expenditure of considerable time and energy on the part both of students and of teachers, yet I doubt that the students would have it otherwise; the teachers certainly would not.

To return from this digression to an outline of the present course. Doubtless many who read this article worked under the unsatisfactory system of doing the muscles, bones and joints during the first year, adding the arteries and nerves and abdomen and thorax during the second year. This method was wasteful both of material and of time. The loss of material, though no small item, was not so serious, but the loss of time was a very serious matter. No man could thoroughly dissect the whole body during his second year and at the same time do justice to his other classes. At present the first year's work comprises only the study of upper and lower extremities. The following is a statement of the work:

- (a) Eight lectures giving the history of anatomy and a general outline of the whole subject.
- (b) The study of the bones of the extremities, upper and lower.
- (c) The complete dissection of these extremities following closely Cunningham's "Manual of Practical Anatomy."
- (d) Review and demonstration in the dissecting room, twice weekly.

The introductory lectures are general in their character. A brief resume of the history of anatomy is given, touching only on the main epochs, as those of Hippocrates, Galen, and Vesalius. The nature, structure, and function of the animal cell are discussed, the different systems, osseous, muscular, nervous, vascular, are then taken up, and their main features and their relationships to each other pointed out. This gives the new student a broad and necessarily imperfect view of the whole subject. At the same time, in another department, that of animal biology, he is engaged in the dissection of a mammal, usually the cat. This materially aids him in understanding the general body structure. Meanwhile also he has been at work on the bones of the part to which he has been assigned, either upper or lower. Before being allowed to proceed with dissection, he must prove himself thoroughly familiar with the bones, as familiar as was a certain Mr. Venus who assured his friend, Mr. Silas Wegg, "I've gone on improving myself in my knowledge of anatomy, till both by sight and by name I'm perfect. Mr. Wegg, if you was brought here loose in a bag to be articulated, I'd name your smallest bones blindfold equally with your largest, as fast as you

could pick 'em out, and I'd sort 'em all, and sort your vertebrae, in a manner that would equally surprise and charm you." This intimate knowledge has many advantages: it makes him conversant with the new names that he will meet in dissection and greatly simplifies the task of learning the origin and insertion of muscles. As Holden long since wrote, "Whoever would become a good anatomist or a skilful surgeon must make himself a master of osteology. It must be not only his first but his principal and constant study."

Having obtained some idea of the structure of the body and having mastered the bones of his part, the student is now prepared to begin dissecting. This beginning is made under constant supervision and with what might almost be considered an undue emphasis on details. Previous notice having been given, all students assigned to a subject are on hand at its arrival. The hairy parts are shaved, the hard skin is removed, and the whole body thoroughly washed and well rubbed with a solution of carbolic acid in glycerine. This not only has an antiseptic value, if such were needed, but it also renders the skin soft and prevents drying. The body is then wrapped with cheese-cloth wrung in carbolic solution, and the whole carefully bandaged. The subject is not again removed from the table until in the progress of dissection the different extremities are disarticulated.

When the work is begun such seemingly unimportant matters as the proper methods of holding a knife, of locating superficial structures, of cleaning muscles, are insisted upon. Why all this attention to detail? The answer is not far to seek. As Barker well says, "The very first dissection may be all-important as regards the subsequent dissections. He who fails in his earliest dissection to acquire the habit of working according to a definite method seldom learns later to become an exact, quick and careful dissector. It is almost hopeless to try to make a man do exact and clean work after he has formed inaccurate and dirty habits." At different stages of the dissection he must prove to one of the demonstrators that he has gained a knowledge of the structures met with—this being known as a "preliminary grind," also on completion he must satisfy the chief demonstrator that he possesses a sound knowledge—"the final grind." If the preparation has been insufficient he is "referred" for another period of study. It is a matter of some importance to the student both that he displays a sound knowledge and that he makes a good dissection, for records are kept of the marks made at this oral examination and of those given for excellence of dissection. Of a total of a hundred marks, sixty are awarded for the work done dur-

ing the session; the remaining forty for the final examination in the spring. This system of marking aims at doing away with the injustice of judging a year's work from an hour or two's writing, it tends to prevent cramming, it ensures high standing to those who work steadily throughout the session, and guarantees a pass to the student of average ability and industry. During this period no class-room lectures are given. Twice-a-week a demonstration with review is held in the dissecting room on the dissections done by the class. The class sections work together, as nearly as possible all subjects are placed on the table, work is begun and positions are changed on on the same dates. A student must either keep up with his class or drop out for the session, and the comparison of the different dissections forms a healthy incentive to good work.

Little need be said of the work in the second year. The same general plan is followed, which may be indicated thus:

- (a) The study of the bones of head and trunk.
- (b) The complete dissection of head and neck, abdomen and thorax, as given in Cunningham's "Manual."
- (c) Twenty lectures on the development and structure of the Central Nervous System.
- (d) Special demonstrations on the organs of sense and the viscera.
- (e) Dissecting room review, etc., twice weekly.

Those who have gone through their work in practical anatomy, having used no other book than "Gray" will hardly grasp the significance of the words, "as in Cunningham's Manual." The advantage of having a regular plan of dissection with definite instructions for carrying it out will be appreciated only by those who have worked under both systems. The retention in the latest "Gray" of the directions for dissection of the muscular system alone, seems to show on the part of those responsible an unfamiliarity with present day methods.

The lectures on the brain are given because of the inability to procure a sufficient number of brains to permit of individual dissection. However, fresh dissections as well as mounted preparations are always available for the purpose of reference and study.

The mention of mounted specimens leads me naturally to refer to the place of a museum in connection with the study of anatomy. Such an adjunct is a necessity, but unfortunately museums are of remarkably slow growth. In the crowded session there is little time to devote to this branch, but, thanks to the carefulness of the stu-

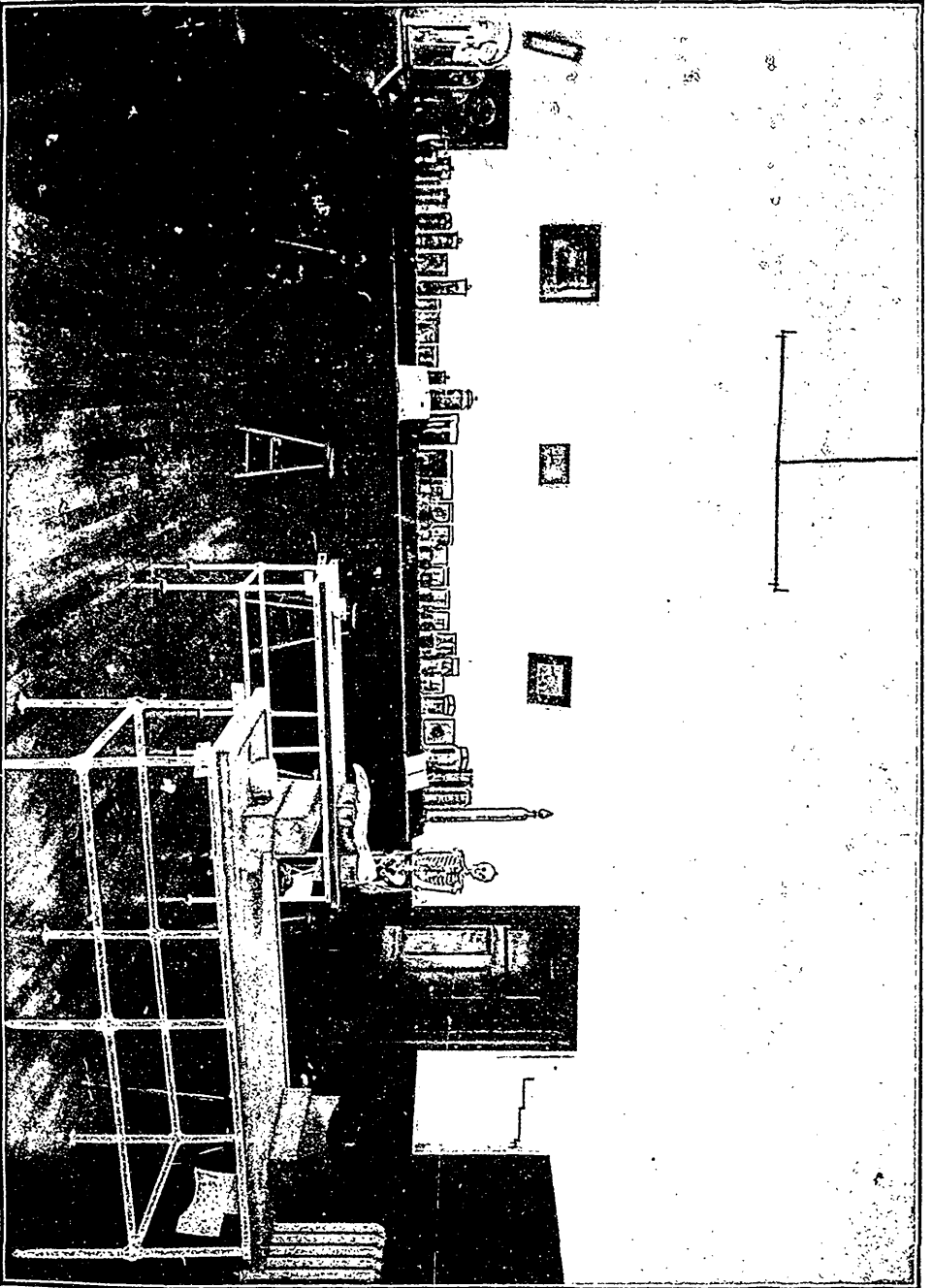
dents and the assistance of one or two friends, we have managed to get together a few specimens, which it is hoped, will form the nucleus of a useful collection. Really of more value than bottled specimens on the museum shelf are wet dissections available for use, that is, for handling. "Anatomy is to be learned through the fingers," some one has very well said, and to this view I readily subscribe. It is, in fact, the key to the present system of teaching. In crocks, bottles, and small vats, all the viscera, the brain and preparations of every part of the body can be kept for study purposes.

The place of modelling in clay as carried out in some of the leading American colleges should here come in for discussion. but notwithstanding its many advantages, lack of time alone would prevent its present adoption. Drawing forms an essential part of courses in kindred subjects and the wonder is that more attention has not been paid to it in the department of human anatomy. It requires no undue expenditure of time, is useful from many points of view, and will soon receive greater attention in our work.

To obtain a thorough knowledge of the structure of the adult body some attention must be given to the study of its development. For who can understand the formation of the inguinal canal, the course of a hernia, the coverings of the testis, without knowing the changes that occur in this region during the later part of intra-uterine life; or who can comprehend the ventricular system of the brain, without being first acquainted with the phenomena of its development? Or again, in the matter of the various malformations, such conditions, hare-lip, spina bifida or hypospadias are appreciated only by those who are familiar with the embryonic changes occurring in the respective regions. The questions of development is considered in the demonstrations only where it bears directly upon and in necessary to the understanding of the normal adult structure. Clearly more attention should be paid to this important branch. (The subject of embryology is taught in the department of physiology but only a general outline is attempted.)

Other relevant and interesting points could very properly be discussed in this paper. Lack of space permits merely a reference to such matters as the tendency towards the extension of the course along the lines of Comparative Anatomy, and the somewhat anomalous position of Histology, a subject most closely related to Anatomy but retained as an appendage to Physiology.

These remarks already extend beyond the bounds of the writer's original intention. It is his hope that enough has been said to show



A PORTION OF ONE OF THE DISSECTING ROOMS.

that the staff in charge of the department of Anatomy are endeavoring to provide the students who attend Queen's, a course in this subject worthy of the large place it must always occupy in the Medical Curriculum.

F. ETHERINGTON.

PHYSIOLOGY AND HISTOLOGY.

MANY improvements have been made in the department of Physiology and Histology since 1892. In that year the classroom accommodation was ample enough, but the equipment was inadequate in some branches and entirely wanting in others.

There were only ten microscopes for the use of students. Of these, one was a most interesting specimen. It was procured when the late Dr. John Stewart was a professor in the Medical School, and it must be now nearly fifty years old. The Hon. Dr. Sullivan humorously narrates how Dr. Stewart first used this microscope to demonstrate the circulation of the blood. The frog's foot having been duly prepared beforehand, the class were lined up with their hands behind their backs, and ordered to march one after the other, and take a peep through the wonderful instrument. As they were allowed only the one peep, it did not follow that the students had any clear conception of what they were looking at.

But to return to histology. During the early summer of 1892, the new professor of physiology and histology took stock of his equipment and accommodation. As regards the latter, the whole first floor of the medical building was at his disposal. Here there were four rooms, two large and two small ones. Besides these, what was formerly the chemistry room of the old arts building was also set apart for biology.

But in the matter of equipment, there was nothing but the ten microscopes already alluded to, and two physiological instruments, a spirometer and a sphygmograph, neither of which was in working order. There were also two microtomes—one a student's, for cutting paraffin embedded specimens, and a Cathcart freezing instrument.

Otherwise, the equipment was nil. The late Principal Grant was informed of the defects, and promptly responded by sending his cheque to the writer, who was at the time in Glasgow, Scotland, for

\$800. This sum was expended in the purchase of additional microscopes and in procuring such fundamental pieces of apparatus as a muscle lever, recording drum, time marker, tuning fork, DuBois Raymond induction coil, and non-polarizable electrodes. These were used by the professor in demonstrating the more important facts in the physiology of muscle and nerve. It was not until 1903 that six sets of these were added so that these demonstrations could be seen at close quarters on each of the six tables in the practical physiology laboratory.

But this is anticipating matters a little. As the attendance in medicine gradually grew, the accommodation became inadequate, and the department was transferred to the old Arts building. This was rendered possible by the erection of the new Arts building, and the consequent transfer of the arts classes to it. Physiology and histology in the old Arts building was splendidly housed, the only drawbacks being the lack of adequate lightning, and the need of more furniture. Laboratory tables were needed, and many of them. But laboratory tables cost money, and much money, if they are to be useful and effective. Money, however, was never plentiful at Queen's, and, in order to economize, the professor improvised fairly useful tables by buying up about fifty old sewing machines. The machinery of these having been removed, two carpenters made twenty-five table tops, and screwed these upon pairs of the sewing machines. When these tops were stained and varnished, the twenty-five laboratory tables looked resplendent. At least, visitors were too polite to suggest that the tables looked either 'inartistic' or ineffective.

Nevertheless, they had their drawbacks. They were without cupboards or drawers, and could not therefore be used in storing away the apparatus with which each student should be supplied in order to do individual work.

Another development in this department that took place on the removal to the old Arts building, was the purchase of improved microscopes. These were fitted with 1 eyepiece, 2 objectives, iris diaphragm, and rack and pinion adjustment. The makers, Messrs. R. & J. Beck, of London, England, have manufactured these so that they can subsequently be fitted with an Abbe Condenser. All that will then be required for bacteriological work will be an oil immersion lens. Students have the option of paying \$5.00 a session for the use of these microscopes, or \$35.00 in three equal annual instalments, and thus owning the instruments at the beginning of their third year.

From 1892 up to 1906, students were furnished with cut specimens in normal histology, and were then required to mount them. Last session, this was changed, and all the first year students were furnished with about 25 specimens all ready mounted. Second year men were furnished with about 50 specimens. The reason for this change was that the mounting, when done by students, was very unequal. A few slides were good, many were middling, and many were bad. Under the new system, all the specimens being made by Thomas Little, the skilled laboratory assistant, are equally good, and are, in many cases, much better than those figured in most textbooks in histology. They are quite artistic in mechanical execution, and in every instance have been prepared so carefully from fresh tissues as to ensure perfect accuracy of detail.

The equipment of the new building will mark still further improvements, especially in the department of physiology. When the laboratory tables and equipment are completed, it will be possible to arrange that each pair of students will do most of the experiments in muscle and nerve. The tables will be fitted with lockers, drawers, water, gas, and the necessary apparatus for repeating all the historically important experiments in physiology. When all this has been completed, many an old graduate will wish, with the writer, that they had their medical course to take over again.

A. P. KNIGHT.

CHEMISTRY.

THE teaching of Chemistry at Queen's University began with the foundation of the Medical School in 1854, and for the next nine years it was a purely medical subject. In 1863 it was adopted by the university authorities as part of the Arts curriculum.

When it was decided in 1854 to establish a medical faculty at Queen's the trustees were not prepared to make an immediate appointment to the chair of Chemistry, and the Rev. Prof. Williamson volunteered to do the work for a session until other suitable and permanent arrangements could be made. His offer was accepted, and he gave courses of lectures for the first two sessions. The field covered was a general review of inorganic and organic chemistry. Owing to lack of equipment the practical work was limited.

In 1857 the trustees appointed Dr. Lawson, then an assistant to Prof. Balfour of Edinburgh University, to the chair of Chemistry at Queen's. During Prof. Lawson's tenure of office the subject remained purely medical, and the work done was both theoretical and practical, as with the building of the Medical College; a room was set apart and furnished as a Chemical laboratory. Prof. Lawson resigned the chair in 1863, and was succeeded by Robert Bell, C.E., and in 1867 Prof. Dupuis was appointed assistant to Prof. Bell, with full control over the Medical course, while Prof. Bell took charge of the Arts course, which was now instituted. The work done was a general review of Inorganic and Organic Chemistry and Chemical Physics in the lecture room and practical work on Saturday mornings in the laboratory.

When the Medical Faculty was forced by circumstances to resolve itself into the Corporation of the Royal College of Physicians and Surgeons of Kingston, Prof. Dupuis remained in charge of Chemistry, and when a short time afterward they were forced to leave their own building and seek other quarters, Prof. Dupuis went down each evening for one session to lecture in what is now the House of Industry, which was then the temporary home of the Medical School. In this place there was no equipment of any kind, all apparatus and chemicals required for the purpose of illustrating the lectures had to be carried down by the professor. An arrangement between the University authorities and the Corporation of the Royal College permitted the medical students to occupy their former chemical laboratory on Saturday mornings. After a short tenancy of the House of Industry the medical men took up their abode in the old commercial bank building on Princess St., and here the lectures on Chemistry were delivered until 1880, when the followers of Aesculapius returned to their old home on the University grounds.

During the last session in the old commercial bank building the work was directed by Prof. Morrison, who remained only a short time and was succeeded by Dr. Goodwin, the present professor.

Shortly after their return to their old home the Medical classes in Chemistry were united with the Arts classes for lecture purposes and for a part of their practical work, and this arrangement is in force at the present time.

From the very foundation of the Medical faculty the necessity for practical work in Chemistry was appreciated by those in authority, and its scope was limited only by lack of equipment and money to purchase the same. With the building of the Curruthers Science Hall in 1890, first class laboratory equipment and facilities were



JOHN CARRUTHERS SCIENCE HALL.

placed at the disposal of the students, and the work assumed a more practical character. The course of instruction has necessarily changed with the development of Medical Science, and from a purely academic view of the subject it has been transformed into an adaptation of the science to the needs of Medicine, for while a general view of the whole subject is necessary as a groundwork the demand for a greater knowledge of Organic, Physiological and Pathological Chemistry, both theoretical and practical, has from time to time caused a modification of the course in these directions so that in so far as it is possible to do so without interfering too greatly with the purely educative aspect of the subject the course in Chemistry is kept in touch with the advances in Medicine.

A. R. B. WILLIAMSON.

EYE, EAR, NOSE AND THROAT.

PREVIOUS to 1889 there was no systematic teaching of these special departments. In the course of lectures on Surgery some mention was made of diseases of the eye in general and a few cases were to be seen at the Hospital. In 1890 a lecturer was appointed to give an optional course during the summer session, and this arrangement continued till 1894. In that year a Professorship was created by the University Trustees, and clinics were then continued throughout the winter session, but the course remained optional. About 90 per cent. of the students attended the optional class during these years. It was not till 1902 that the course was made compulsory for all students. The teaching now in these departments consists of lectures, demonstrations, operations and clinics twice a week in the Fenwick operating room at the General Hospital. The students are required to write up the cases and are individually instructed in the use of the instruments for diagnosis. No attempt is made to go beyond the knowledge of the eye, ear, nose and throat, which ought to be in possession of every practitioner. Classifications are made and general principles laid down without too much technical detail and as much practice as possible is given in the use of the ophthalmoscope and laryngoscope. Every graduate from Queen's now-a-days has a fair acquaintance with the diseases of this special department and their treatment. During the period under review about five hundred students have attended the class. Of

these fourteen, at least, trained themselves for special practice by studies carried on in England, Germany and the United States, and these are now in successful practice.

J. C. CONNELL.

MEDICINE.

DURING the past fifteen years, the science of medicine has been progressing with extraordinary rapidity. Suspicions and half-truths of even a decade ago, are now arranged on the side of facts. The progress has been most marked, perhaps, in our knowledge of the causation of disease, and especially of the acute infectious diseases. This has led to a better system of therapeutics and the advance has thus been general.

That methods of instruction should change was inevitable. The whole atmosphere of the medical college has changed. The tools and weapons of yesterday are no longer in use. Inventions and improved designs have taken their place. Not only the tools, but the workmen have changed. Especially has this been the case at Queen's. Since reorganization no faculty of the university has been called upon, so frequently, to pay the common debt of humanity as the medical faculty and more particularly the section of medicine. Of the teachers of medicine at the time of reorganization, or shortly afterwards, not one remains—Saunders, Cunningham, Fowler and Herald, all gone—and all but one in the prime of life. It is not our purpose to repeat obituary notices of these lamented members of our ranks, but it seems almost impossible to mention their names without recalling some of their many excellences as teachers. They had all drunk more or less freely, at the wells of foreign clinics and their teaching reflected the best of the continental types of the time. It is safe to say, that had those, whose lives went out in the heat of the battle, been spared, their methods of teaching would have rung true to the general advance of the times and what a glow their rich experience would have imparted to all.

Slowly our methods of instruction have changed. The seat of operation has been gradually transferred from the lecture theatre to the hospital ward. We have not entirely discarded the didactic lecture, but we have greatly modified it. We believe that no text-book however excellent can quite take the place of the living message.

Once during the final years (3rd or 4th) the whole subject is covered in a carefully prepared course of lectures. These lectures are always illustrated by reference to cases in the wards of the various institutions. As far as it is possible, the pathological, the clinical and the didactic teaching keep pace; thus, while the student pursues his studies of the morbid specimens in the laboratory, he correlates his knowledge thus acquired with the lessons of the theatre and hospital ward. Take for example a case of typhoid: the student first familiarizes himself with the typhoid bacillus, its morphology, life history, etc., he next studies the pathologic changes gross and microscopic, to be found in the bowels, &c., he then proceeds to the hospital wards where he studies the clinical manifestations, the variations, the complications, the use of the various instruments of precision, the treatment, assists in giving baths, changing of linen, etc., and finally supplements his notes from a short concise lecture. These notes, he uses for future references and for review. The maintenance of this relationship insures, we believe, not only a better and more lasting clinical picture, but a far greater economy of the time and energy of the student, than is possible under any other system that can be carried out in a four years' course.

Much attention is paid to case-taking. Each student, at the beginning of the session, provides himself with a specially prepared case-book in which he enters the records of his cases under the supervision of the senior house physician. These records are preserved for examination purposes. At the close of the session the case-books are returned to the students.

The teaching staff, which fifteen years ago was made up of a professor of the theory and practice of medicine and a professor of clinical medicine, now consists of five regular teachers, together with the house physician of the Hotel Dieu, the senior house physician and the medical superintendent at the General Hospital—eight in all.

We do not try to turn out a few stars each year to the neglect of the great student-body. We recognize the fact that 96 per cent. of the graduates settle down as general practitioners and we endeavor to fit them for their life work. It is our firm conviction that the majority of the medical schools of this country try to teach the student too much and expect too much of him. We aim to instil sound methods and to give a proper view-point—in a word a solid foundation—and we believe that the number of stories of the superstructure he may add, must ever depend largely on his own exertions.

JAMES THIRD.

ROCKWOOD HOSPITAL.

AT Rockwood Hospital for the Insane, didactic and clinical lectures in Psychology and clinical instruction in medicine and surgery are given.

The lectures in Psychology given by Dr. W. C. Barber, are illustrated by cases typical of the various forms of mental disease, of which the wards of the institution afford ample variety. In medicine and surgery the institution presents a great variety of material, which is made available throughout the session, in clinics, which are conducted by the staff. These clinics were first instituted in 1905, and now afford an exceptional opportunity in physical examination and diagnosis. Especially is this the case in diseases of the chest. There is abundant opportunity for the early diagnosis of phthisis, the study of all forms of heart lesion and also diseases of the nervous system, in addition to other general diseases.

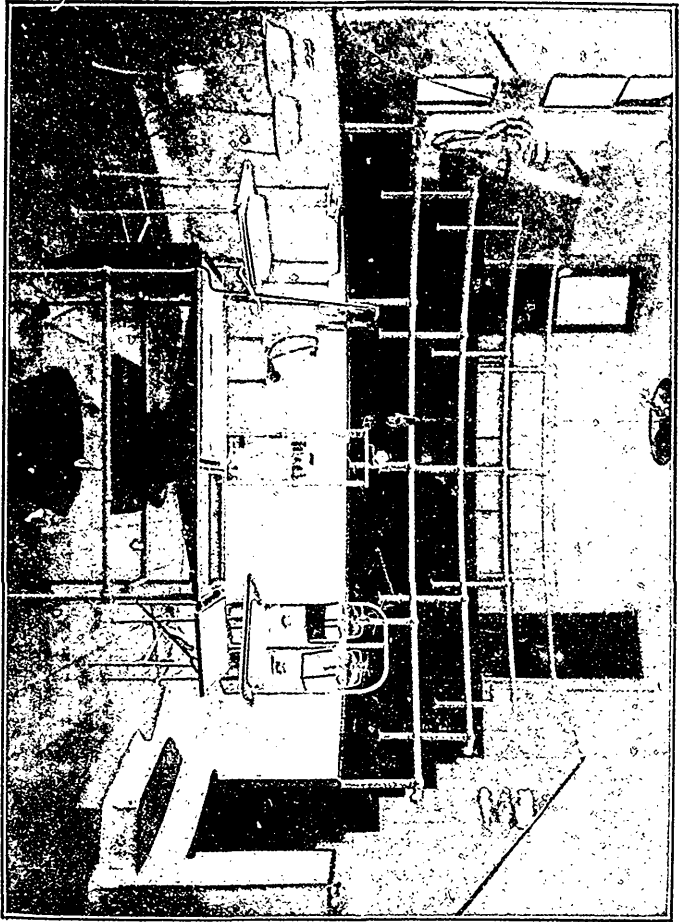
Rockwood Hospital is well up to date in every way. A training school for nurses, of highly efficient character, has been conducted during the past 14 years. A special building was erected in 1893 as an infirmary, and here quite recently a new and complete equipment in the operating room has enhanced the clinical instruction very much.

The installation of hot air cabinets, and the continuous baths provide the most modern applications of hydro-therapy.

The appointment to the staff this year of Dr. W. T. Connell, as pathologist, brings greater efficiency into the work of this department. Dr. Connell has for some years performed the autopsies here, but his present relation to the institution, with the great amount of material available, makes it possible for him to accomplish much more along these lines.

THE HOTEL DIEU.

Probably in no respect has the educational advancement of the Medical Department of Queen's been more marked than in the domain of Clinical Medicine and Clinical Surgery. The Hotel Dieu Hospital has, by its rapid advancement, and marked rise in public favor and confidence, contributed much to this important side of University life. Away back, in the year 1845, a devoted band of Hospitaliers opened their doors to the sick of Kingston, and consecrated their lives and their institution to the "Glory of God and the relief of man's estate." From that day on the Hotel Dieu has steadily increased in usefulness, and in these modern requirements



HOTEL DIET OPERATING ROOM.

essential to the more perfect prosecution of its mission. The old building on Brock Street, even in the pre-historic days, saw many notable triumphs in the field both of medicine and surgery.

In the year 1893 the Hospital took possession of its present commodious premises. The operating room, one most modern in every way, was completed in 1898.

While for many years the Hotel Dieu Hospital has been at the disposal of the Medical Students both of the Royal College and of the Medical Department of the University, it has only been for the past few years that it has had any organic relation. Students of the Royal College will recall with pleasure the surgical triumphs of Hon. Dr. Sullivan, but this work was voluntary in its character, both on the part of the surgeon and the hospital. It was felt by the late Principal Grant that such a wide field of Clinical labor should not be lost to the University. The building of the new surgical amphitheatre by the hospital in 1898 facilitated matters, and now the Hotel Dieu, in its scientific aspect, holds the same relation to the University as do the other hospital clinics. How great the advantage of this wise provision for the advancement of clinical study was, we gather from the fact that in the year 1906 no less than one thousand five hundred and eleven patients were registered in the Hospital. During the same period one hundred and fifty-eight major operations were performed in the operating room. At the present time the hospital contains one hundred and fifty beds with a total nursing staff of forty-five sisters.

Even with this ever increasing capacity, the hospital accommodation is severely taxed.

The nurses are well trained in every department of their professional service. The operating room is especially worthy of commendation. The lighting is nearly perfect, the furnishing excellent, the surgical wants complete, and the nursing technique the most careful and exacting. The students are thus brought into personal relation with the best surgical requirements, with skilful and modern surgical methods, and with a wide and varied range of surgical affections.

In medicine, likewise, the clinical field is just as wide and as interesting, and the value of the clinical work is increasing day by day. It is proposed to further extend the clinical and research aspect of the hospital, so that every case of scientific and educational value may be at the disposal of those who "drink at the fountain of knowledge."

E. RYAN.

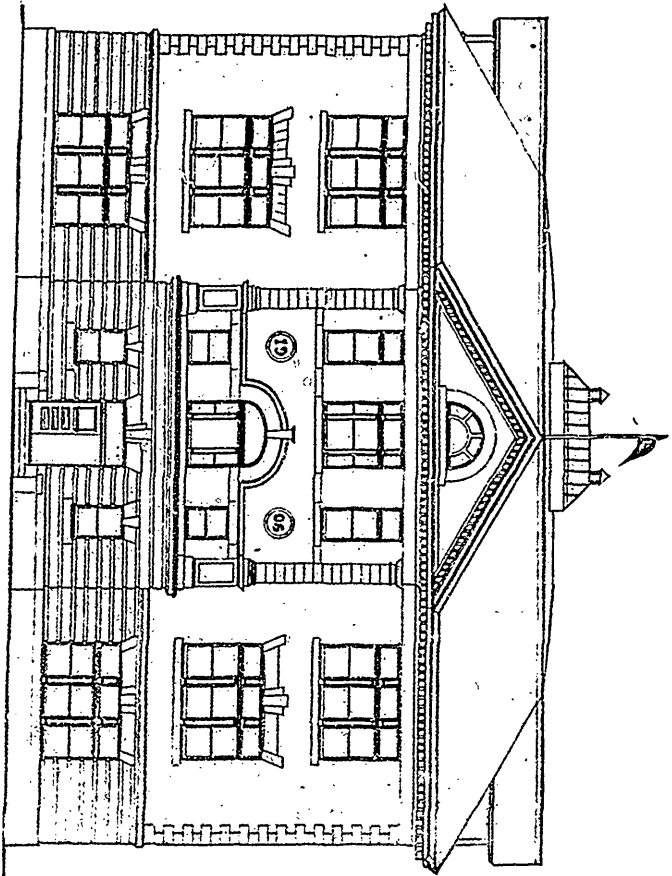
THE WORK IN PATHOLOGY AND BACTERIOLOGY.

A study of the principles which underlie disease processes, their causation and phenomena, constitutes Pathology. As such its place in medicine must necessarily be of prime importance. Its domains are already of vast extent and yearly additions are made thereto, so that to-day it contains such special fields as bacteriology and parasitology, clinical microscopy, neuro-pathology, besides the older fields of general pathology, morbid anatomy and histology. Indeed, bacteriology and clinical microscopy are both of such importance as to demand special classes for their consideration, and it is not improbable that neuro-pathology will some day be similarly situated.

A knowledge of anatomy (including histology) physiology and chemistry is an essential before undertaking the study of pathology. Work is thus begun in this subject in the third year of the Medical course. During this year the student studies general pathology, and then the pathology of the blood and the infectious diseases. This study is illustrated by demonstrations of gross specimens and by the preparation and examination of microscopic sections. Particular stress is laid upon the study of the microscopic specimens as from the alterations in structure or of cell grouping in the tissues, the alterations in function can best be appreciated.

The class work in bacteriology is also taken up in the 3rd year. Each student must learn to make and examine pure cultures, to study the effects of the introduction of bacteria into animals and methods of examination for same in the tissues, secretions and excretions, as the case may be. The examinations are made as practical as possible, covering such work as the examination of sputum for tubercle bacilli, pus for its contained bacteria, blood for the Widal reaction, cultures from throat swabs for diphtheria bacilli, etc. As the bacteriology laboratory examines "Public Health" specimens from all over Eastern Ontario (by arrangement with the Provincial Board of Health), a large supply of material for bacteriological examination is always available.

In the third year, too, a class in clinical microscopy is held. The chemical examination of the urine and gastric contents is reviewed and the microscopical examination of these materials gone into practically. Students also receive practical instruction in the methods of blood examination. The cyto-diagnosis of exudates and transudates (pleural, ascitic, hydrocele and cerebro-spinal fluids) is also gone into as opportunity offers.



MEDICAL LABORATORIES.

In the fourth year stress is laid on special pathology of various organs and tissues. Here again free use is made of gross specimens for illustration. These specimens are stored in jars and are open for examination by students at any time. The clinical side of pathological work in this year is in connection with the cases to which students are assigned as clinical clerks in the wards of the General and Hotel Dieu Hospitals. Each student must make a urine and blood examination of the cases he is assigned and must make special examinations as required, such as examinations of pus, gastric contents, blood for Widal reaction, swabs from suspicious throat, sputum, etc. This work is of course done under the directions of the clinical professors, but has to be checked by the instructors in clinical microscopy. Demonstration of treatment by vaccine therapy are given in suitable cases, controlling same by estimation of the opsonic index after the methods of Wright and Douglas. Instruction in autopsy work and methods are given as material is available at the mortuaries of the General, Hotel Dieu and Rockwood Hospitals. At the latter institution considerable general material is available and also material which affords a basis of instruction in neuro-pathology. An average of twenty autopsies per session are open for student instruction.

W. T. C.

MATERIA MEDICA AS IT IS COVERED IN THE DIFFERENT CLASSES.

THE teaching of *Materia Medica* has always proved vexatious to both teacher and student. We find that it is more beneficial to begin with very preliminary work, for the reason that the student enters college less prepared for the study of *Materia Medica* than for any other subject in the medical curriculum. Thus, taking nothing for granted, we begin with the meaning of a drug, the source of drugs and their composition, introducing the parts of Botany and Chemistry required by the student. We, also, believe that in the first year the student should be made acquainted with the preparations of the drug by a few demonstrations. Some contend

that this is a waste of time. However it is beneficial to make a student fully acquainted with all the terms he meets. The class in Pharmacy is thus divided so as to aid students in first and second years.

When the student has completed the list of drugs and their preparations, he has also covered sufficient Anatomy and Physiology to enable him to understand the meaning of the terms used in the classification of drugs according to their Physiological action. Before taking up the drugs comprising the class the student is made acquainted with the general action of a class, example Diuretic, how it affects all the tissues and organs taking part in the function.

In beginning the study of Pharmacology proper, the student must understand the process of absorption and circulation. In short, we try to teach the action of drugs in accordance with the students progress in Anatomy and Physiology, in other words we apply *Materia Medica* to Anatomy and Physiology believing that the better the student understands the structure and the function of tissue and organ, the better he can understand the fate of the drug in the body, its process of absorption and the result of each process on the system. In the second year, in the class of Pharmacy, the student also begins the method of preparing the drug for administration to the body. A large portion of the time in this class is taken up with a study of incompatibles, with demonstrations of all important cases. Then a sufficient number of prescriptions are filled by the students in class so that they can intelligently prescribe for themselves.

At this point, the work could be concluded but Pharmacology goes on to test and so prove the theories regarding each drug. By means of Physiological methods and instruments, we test the effect of drugs on respiration, circulation, blood pressure, heart beat, urine, perspiration, on glands, on sight, mucous membrane, and on the nervous system. This class has supplied a large field for interesting research in some colleges, and has completely knocked out some theories, for example, the supposed benefit of the sulphates in carbolic acid poisoning.

A. E. Ross.

SURGERY.

THE advance in Surgical instruction in the College has been marked, especially in the clinical department. The present teacher of the Principles and Practice of Surgery, Dr. Mundell, was appointed in 1905, succeeding the Hon. Dr. Sullivan, who, after devoting nearly half a century to the teaching of Surgery, relinquished the arduous duties of lecturing, but still maintains his connection with the College as Emeritus Professor of Surgery.

The course of study in the Principles of Surgery covers the third and fourth years. During the third session the subjects to which special attention is directed are: Asepsis, etc., inflammation and its results, erysipelas, tetanus, etc., wounds and contusions, burns and scalds, gonorrhœa, etc., diseases of the bones, dislocations, etc., while in the fourth session attention is directed chiefly to regional surgery, to fractures, to injuries and diseases of the head and spine, to surgery of the mouth, neck, chest, to hernia, to injuries and diseases of the abdominal and pelvic viscera and to the perineum.

The course is made as thorough as possible, full explanation of each subject being given, while each day a review is held of the previous work, so that the student gets as thorough a groundwork in the Principles of Surgery as possible.

The class in Operative Surgery on the cadaver is under the care of Dr. Anglin, and is held once a week for the students of the final year. In this class all the principal operations in Surgery are performed by the student himself. The students of the class are notified of the operation to be performed on the next day, and each student is supposed to familiarize himself with the operation, since he does not know who will be called upon to perform it. Two other students are detailed as assistants and every step of the operation is carried out as carefully and as systematically as though it were being performed on living body. The operating student is taught how to hold the knife, how to ligate vessels and how to suture, and thus has an opportunity of acquiring practical surgery that no amount of reading or lecturing can afford.

In the Clinical department thorough instruction is given in the details of bedside examination, of diagnosis and of treatment of surgical diseases. During the session there are some three hundred cases of surgical disease at the disposal of the teachers in clinical surgery in the different institutions,—a number amply sufficient for the requirements of the class.

This number is exclusive of the operations performed by the surgeons during the year. At the Kingston General Hospital the clinical work is under the direction of Drs. Anglin, J. C. Connell, Mundell and Mylks; at the Hotel Dieu under Drs. Ryan and Morrison, while at Rockwood Dr. Ryan undertakes the work in General Surgery. In view of the fact that in the above institutions some eight hundred operations are performed during the year, two-thirds of which the student is permitted to see through the service of the above-named surgeons or by the kindness of other operators, it can be readily seen that the department of Clinical Surgery is well supplied with material. Bandaging, the application of splints, and the details of the administration of anæsthetics are also included in the clinical work.

Connected with the above institutions are five operating rooms, viz.: the Fenwick, the Louise and the Doran at the General Hospital; one at the Hotel Dieu, and one at Rockwood Hospital. Each of these is built in accordance and is equipped with the latest details for aseptic work, while trained staffs of nurses in each institution render thorough asepsis possible.

As an incentive to application on the part of the student during his course, prizes are awarded at the end of each session. These consist of books, money and medals, while at the end of the fourth session there are additional awards in the shape of House Surgeoncies—there being three vacancies for internes each year at the General, one at the Hotel Dieu, and two at Rockwood.

D. E. MUNDELL.

A BRIEF REVIEW OF MODERN ANAESTHESIA.

IT must be conceded that the subject of anæsthesia is now receiving a great deal of attention from surgeons generally and also from specialists in the larger centres who devote all their time to this important work. It is also very evident that much has been accomplished in the finer adjustment of the different agents according to the indications presented by the patient. Furthermore, there has been marked improvement in the methods of administration.

Since the discovery of ether in 1846 and chloroform in 1847, the name of Clover stands out prominently in the evolution of general

anæsthesia. In 1874 he perfected his first ether inhaler, and in 1876 demonstrated a successful anæsthetization by means of nitrous oxide vapour followed by ether for which he had devised a satisfactory though somewhat cumbersome apparatus. In 1862 Clover had also experimented with a chloroform apparatus by which a percentage vapour and air might be given. His predecessor, Dr. Snow, in his researches with chloroform had pointed out its depressant effect upon the heart, and was the first to demonstrate the advantages of the percentage administration. In 1867 Dr. Junker brought to the notice of the profession his chloroform inhaler which has proved to be a most useful device. Clover's ether inhaler and Junker's chloroform apparatus even to-day leave little to be desired and are in daily use in many of the larger hospitals.

Important physiological studies relative to the action of chloroform and ether were carried on about this time by Snow, Clover and more recently by Sir T. Lauder Brunton, Bert, MacWilliam and others. As to recent progress in anæsthetization I quote from Dr. F. J. Hewitt as follows:

"Of late there has been an increasing recognition of the tendency of all anæsthetics to produce varying degrees of asphyxia. . . . The administration of oxygen with nitrous oxide has constituted another distinct advance for it has placed in our hands an anæsthetic safer than any hitherto known. A proper appreciation of the influence of posture during anæsthetization has improved our results with all anæsthetics. Although no new agent of any importance has been discovered considerable use has recently been made of a substance which has for a long time been known to have anæsthetic properties—ethyl chloride. Finally, we may say, that in addition to the usual anæsthetics we have now so many mixtures and successions of these agents and so many excellent methods of administration that provided the anæsthetist be thoroughly competent anæsthesia may be induced and maintained with a minimum of discomfort to the patient and with practically no risk to life."

In view of the present day status of anæsthesia no one can deny the advisability of taking full advantage of the many useful deductions which have been the outcome of years of study in this important field. To further safeguard the patient and therefore also the interests of the surgeon it is not too much to say that at the present time especially in hospital work anæsthetics should be given by skilled men equipped with the most modern apparatus. It is no part of this paper to decry the simpler forms of anæsthesia for example what are commonly known as the "open" or "semi-open" methods.

The fact that many cases are more expeditiously anæsthetized by the "open" method simply emphasizes the need for an experienced man who should be able to properly adjust the method or agent according to the individual indications of the patient. It may be quite as positively asserted that many cases are more safely and quickly anæsthetized by the close and percentage methods.

In the selection of an anæsthetic our first consideration should be the safety of the patient. Statistics gathered from various sources as to the comparative safety of the general anæsthetics go to show that nitrous oxide with oxygen is practically without risk, and that ether, with one fatality in 16,000 cases is about six times as safe as chloroform, which has approximately one fatality in 3,000 cases.

Other factors however, such as the age and state of the patient, the length and character of the operation, have to be considered before one chooses any one of the general anæsthetics or their combinations.

I may in this connection be permitted to quote some general rules for the choice of anæsthetics which are practised at the London Hospital, London, E. These are a few of the rules which are based upon the observations of eminent anæsthetists and receive wide acceptance.

In rectal operations and circumcisions ether is used in preference to chloroform.

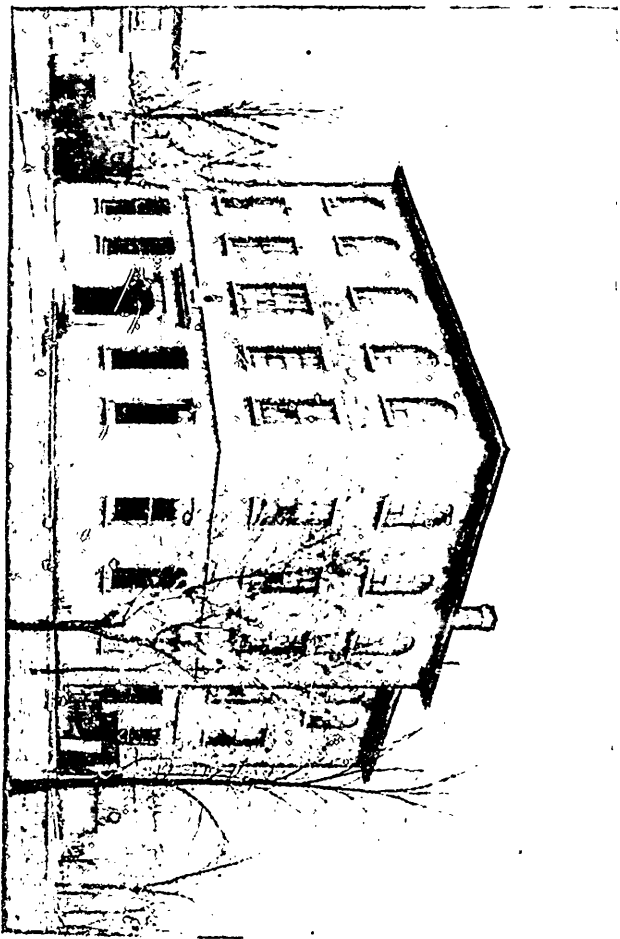
For the removal of tonsils and adenoids nitrous oxide is used in children over three years of age, C. E. mixture and chloroform under three.

In the average man or woman 60 years of age or over, and for an operation of moderate duration chloroform is preferred to ether.

Ether is chosen for long abdominal operations where complete muscular relaxation is required.

It is very often expedient to induce anæsthesia by one agent and then maintain it by small quantities of another. This has given rise to the practice of sequence in anæsthetics.

As pointed out before, Clover in 1876 was the first to demonstrate the advantage of the nitrous oxide ether sequence. Now one sees in constant use several sequences—perhaps the most common being the nitrous oxide-ether and the chloroform ether. Other examples are the C. E.—ether, and the nitrous oxide, C. E.—ether. There are often many advantages to be gained from such a procedure. For example, in an ether administration by the use of gas as an inducing agent: one obviates the disagreeable taste of ether to the patient. The stage of excitement is much abbreviated or may be quite



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absent. The induction of anaesthesia is obtained in a very short time. It will be admitted that the latter is a most important consideration, when as we know, the gravity of post operative shock depends not only upon the nature of the operation, but also upon the *time* the patient has been under the anaesthetic. I saw several nitrous oxide ether sequences at the London Hospital, and the average time of inducing anaesthesia sufficient for washing up the operative field was about three minutes. As this final scrubbing was but a short process the operation would usually be under way five or six minutes after the commencement of anaesthesia.

It has been conclusively shown that the position of the patient during anaesthetization is a most important consideration.

The dorsal, the dorsal with the head turned to one side, the lateral prone, and the Trendlenburg are most satisfactory postures both for the induction and maintenance of anaesthesia. The sitting and propped up postures are objectionable and should be avoided wherever possible. In either of these positions it is inadvisable to use chloroform as an induction agent. The dorsal with the shoulders raised and the head extended is attended by the risk of mucus, blood and vomited matters entering the larynx since this posture has a tendency to prevent the complete closure of the epiglottis. The prone position which is used mainly for the operation of laminectomy limits the expansion of the chest and is thus accompanied by occasional respiratory difficulties.

As to the method of administration one has a choice between the "open," the "semi-open" or "valvular" and the "close." At the outset it is generally agreed that in the hands of inexperienced men the "open" administration for chloroform and the "semi-open" for ether are preferable to the more complicated, close or percentage methods.

The advantages claimed for the close administration of ether as obtained by Hewitt's or Clover's inhaler are: 1, the avoidance of a large waste of the reagent and the unpleasant smell of same in operating room. 2. Excitement and struggling are almost entirely obviated. 3. The risk of post operative pulmonary complications is much lessened. 4. Much time is saved. The "close" method is contra-indicated in cachectic or exhausted individuals and those suffering from advanced heart disease.

The percentage methods in the administration of chloroform by which a 2 per cent. vapour and air are given, are warmly advocated by many who urge their use on the following grounds: The difficulty or impossibility of administering an overdose. The avoidance of struggling and excitement. The even character of anaes-

thetia. The rarity with which surgical shock takes place. The diminished tendency to unpleasant after effects. The chief objection to the percentage method is found in the complicated nature of the instruments used.

Finally, in hospital work there seems to be no question as to the desirability of anæsthetic work being made a special department and placed under the direction of a member of its staff who may be an efficient anæsthetist. Such a man should have charge of the apparatus, and should either give or supervise the administration of all anæsthetics.

When this is done the liability to accidents from anæsthetics on the table or untoward after effects is minimized. Moreover, the responsibility for the anæsthetic rests entirely with the anæsthetist, thus often relieving the surgeon of considerable anxiety during the operation and of the actual responsibility in case of accident.

In other words the responsibility of surgeon and that of the skilled anæsthetist have been described as individual and mutual. Individual, inasmuch as it is the duty of each to perform his work in the most approved and skillful manner;—and mutual to the extent that each should endeavor so to do his particular work as at least not to endanger, and if possible to facilitate the work of the other.

I have intentionally left for a future article the consideration of local and spinal analgesia.

G. W. MYLKS.

THE STUDENTS' POINT OF VIEW.

THERE is now no royal road to medical learning and there never was in the past, but there is no doubt that the path has been greatly improved in the last twenty-five years. It may be somewhat longer than it was but the journey takes one more away from the didactic class room into and through the fields of practical work. In the older days one was obliged to listen, more or less attentively, to the repetition of a course of lectures and to wait two years before writing upon examinations. Now the didactic lecture is held in contempt, and laboratory and clinical work is almost overdone, tho' Queen's has tried to follow a middle moderate course.

If the student of years ago re-entered the medical school now there are some things he would certainly miss. My impression is

that he would first notice the difference in the interior of the building, the absence of a "den," and all that it meant,—“at homes,” the familiar scenes between classes, the groups of players about the card tables, the old stoves and Tom Coffee. He would be struck by the brightness and cleanliness of the place, the much-used reading room, the well-equipped laboratories, the remarkable change in the dissecting room, and the serious air of the students. He would find that the professors of the present day are rarely absent from duty, and are more likely to exceed the hour than to reduce it to twenty minutes. Yet the student life is in many respects the same as it was. The Alma Mater Society stills rules and its elections are as exciting as ever they were. The Aesculapian Society conducts the business affairs of the medical students in a somewhat more formal way than when the “mass meeting” appointed delegates, arranged dinners and dances or signed petitions to the Faculty for the removal of a cow stable or a professor. The Concursus still sits in judgment upon the conduct of presumptuous students and, indeed, by the proper exercise of its prerogatives has retained control of the discipline of the student body. The students govern themselves and rarely does any case of discipline come before the faculty or senate. If an anti-spitting regulation is required the Aesculapian Society frames it and fixes the penalty, and the Concursus sees that it is enforced and does it very effectively. When a student defies the court and declines to be bound by the reasonable regulations of the Society and seeks protection in the city police court, he is quickly informed by the Faculty that he must live peaceably with his fellow students and conform to their rules or withdraw from the college. And so discipline is maintained and probably the ends of justice are secured with more certainty than if the Faculty assumed control. Offences of individual students are regarded as offences against the whole student body and not against the Faculty. The result of such self-government is seen in a rapid development of the Queen's spirit,—something hard to define but very evident to other college men.

The present day students control and keep in order a very fine campus on the University grounds; they own the athletic grounds near by; and they have erected a gymnasium equal if not superior to anything else of the sort in the Dominion. The older students who had nothing but the rough cricket field of the city park for football and the city park itself for the annual games can appreciate the advantages of their children who are now matriculating.

The attendance has so very greatly increased that it every year is more difficult for the professors to become acquainted with the

members of their classes, but the tradition of personal contact between professor and student is generally maintained and counts for a great deal in the life of the student.

For the past fifteen years the medical graduates have had a spring convocation devoted entirely to themselves and for many reasons this was a highly desirable arrangement. Now it has been found necessary to discontinue it. The increased length of the session has made the end of the year's work practically the same as in the other departments of the University.

J. C. CONNELL.

THE WATER SUPPLY OF MILITARY CAMPS.

THE address of the President of the Canadian Medical Association at Montreal contained many points of interest, and particularly striking was the reference to the sanitary condition of the Petawawa Camp. The responsibility for the occurrence of typhoid at that place is laid at the door of the militia medical department. Doubtless Dr. McPhedran is thoroughly seized with the facts, and the charge is a serious one. Those who are acquainted with the affairs of this department are well aware that some changes must be effected if the militia medical service is to become efficient.

It will be well if some of those in high positions will bear in mind that the medical men who take active part in military affairs do so, for the most part, without hope of financial gain, and, while they are willing to pay all due respect to their superior officers, they will not long tolerate an overbearing snobbishness of manner or a Billingsgate mode of address. It is not alone in Canada that the medical branch of the services receives scant courtesy and shabby treatment. Men like Ronald Ross, who finally and conclusively proved the relationship of the mosquito to malaria, and Bruce who is widely known for invaluable work along the line of tropical diseases, were seriously hampered by the jealousy, ignorance, and indifference of their superior officers; and in the American army commissions go begging. If Canada is to possess an army, the question of the medical officer requires careful consideration.

There is no doubt that the condition of the water-supply in some of the camps is far from satisfactory; that of the Barriefield camp should be thoroughly investigated by those competent to do

this work. We do not know that a proper examination of the water as it comes from the pipes has ever been made. Drawn from a long narrow bay, necessarily a somewhat stagnant body, along which the dwellings of campers are yearly becoming more numerous, it is questionable whether the present supply is at all safe. It is no defence to say that a serious outbreak of typhoid has never occurred here. Those who serve the state, no matter how small that service may be, are justified in expecting that every reasonable precaution will be taken for their well-being. This we do know, that at times last June the water was not fit for use, and on other occasions a sufficient supply was not available.

Dr. McPhedran has performed a signal duty in directing attention to this important matter and it is to be hoped that the warning is not allowed to pass unheeded.

OBITUARY.

J. WARD MERRILL, B.A., M.D.

SELDOM are we called upon to record a sadder passing away to the great unknown, of one of our young graduates, than occurred on Wednesday, Sept. 4th, when death called from among us Dr. J. Ward Merrill, B.A. of the class of '98 in Arts, and '02 in Medicine.

Dr. Merrill was born at Ottawa in the year 1877, educated in the Public Schools and the Collegiate Institute of that city, and entered Queen's as an undergraduate in Arts in the fall of 1894. Endowed by nature with superior mental ability and an excellent physique, he at once came to the front among his fellow-students. As early as his freshman year he became identified with the college hockey club, and in the following season took his place as cover-point on the senior seven, which position he filled with honor to himself and his Alma Mater for the succeeding seven years of his college course. In 1901-02 he also played on the back division of the rugby team.

While his ability as a hockey player made him most justly popular with the student body and lovers of sport throughout Ontario generally, yet the esteem in which he was held by his fellow students was in no sense due to his playing abilities alone, but rather to the

true, manly, and honorable traits of his character, which his athletic prowess only served to discover. In him was the embodiment of those virtues which go to form the ideal type of Canadian manhood. He combined the physical power of the athlete with the mental vigor of the student.

He was a member of the university team that won the championship of the Ontario Hockey Association in 1896-7 and 1899, and the Intercollegiate championship of America in 1896 and 1901. In '98 he was captain of the team when it so successfully defended its laurels in a challenge game, against the best McGill could send against us, and again in '02 when the same team tried once more, it was chiefly through Merrill's brilliant playing that the game was won for Queen's. In describing that famous game, the Journal of that year reads thus: "in it all and through it all, hovered a central figure—Merrill. Time and again he stopped dangerous rushes and changed the action to a more dangerous attack. Dodging, running, eluding bodies and jumping sticks, he treated the spectators to the finest exhibition of hockey that has ever been seen in the Kingston rink."

As an undergraduate he was thorough and diligent in his studies and the high stand he obtained in all his classes, marked him as one of the most promising students of his year. In 1898 he graduated in Arts, and in the following year entered the Medical School from which he graduated with honors in 1892. During his final year as a medical student he occupied the position of Clinical Assistant at Rockwood Hospital, and on graduating, immediately entered on the duties of interne at the Water Street General Hospital in Ottawa, which position he held for one year. He then became C. P. R. surgeon with headquarters at Chapleau, Ont., where he labored faithfully in the practice of his profession, until his untimely death from Acute Cerebro-Spinal Meningitis, which occurred in Ottawa on Sept. 4th.

It had been his ambition to establish himself as a surgeon in a Western city, and with that end in view he had put by the necessary money to enable him to take up the special work in Germany whither he had planned to go during the coming winter.

To the bereaved parents, the saddened brother and sister and particularly to the sorrowing grief-stricken young wife of our departed friend and classmate, we extend our sincerest sympathy.

G. F. D.

PERSONAL MENTION.

Dr. W. T. Shirreff, who for the past three years has been house surgeon at the isolation hospital, has handed in his resignation to the board of health. The resignation will take effect on October first, and it is his intention to then begin the practice of his profession for himself. Since coming to Ottawa Dr. Shirreff has made himself deservedly popular, and the efficient manner in which he discharged his duties at the hospital will render it difficult to replace him. Dr. Shirreff, for the past three years, has been one of the mainstays of the Rough Rider football team, and his departure from the city at this juncture will be regretted by all the supporters of the red, white and black.—Ex.

Among the visitors to the city during the holiday season were the following Queen's men: Drs. H. J. Williamson, '05, Fort William; H. N. Gillespie, '96, Iowa; B. B. Bridge, '00, Albert City, Iowa; A. F. Ash, '01, Duke Centre, Penn.; R. S. Minnes, '93, Ottawa; J. R. Shannon, '90, New York; G. F. Dalton, '02; L. W. Jones, '02; J. G. Dwyer, '05; C. W. Graham, '06, Manhattan Eye and Ear Hospital, New York; T. H. Farrell, '05, Utica, N.Y.; A. L. Smith, State Hospital, Albany, N.Y.; H. E. Gage, '02, Paisley.

Dr. W. W. McKinley, '04, Port Hope, is spending some months in England.

Dr. W. W. McKinley, who has been acting 'locum tenens' for Dr. McKinley has left for London.

Drs. R. K. Patterson, '06, and G. A. Greaves, '07, are studying at the East London Hospital, London, Eng.

Dr. Gordon W. Mylks has returned from abroad, after three months' successful hospital work.

Dr. Truesdale has begun duty as house-surgeon at the Kingston General.

Dr. E. A. Ferguson, after a few weeks' visit in the city, has left for West Africa, where he has an appointment.

Dr. W. C. Brown ('04), Lakefield, Ont., will shortly leave for England for post-graduate work.

Dr. W. W. Amos ('02), Lloydminster Sask., who has recently recovered from an attack of typhoid, lately spent a few days in the city.

MARRIAGES.

Fergus J. O'Connor, M.D. ('06), Gananoque, to Miss Francis Keating, Kingston, September 3rd.

Hamilton Mackerras, M.D. ('03), Sierre Madre, Cal., to Miss Jessie Cybella Craig, Kingston, September 18th.

Morley Branscombe, B.A., M.D. ('04), Picton, to Miss Annie Patterson, Brantford, September 10th.

Elmer Bolton, M.D. ('06), Manotick, to Miss Effie Mac Truesdell, Kingston, September 19th.

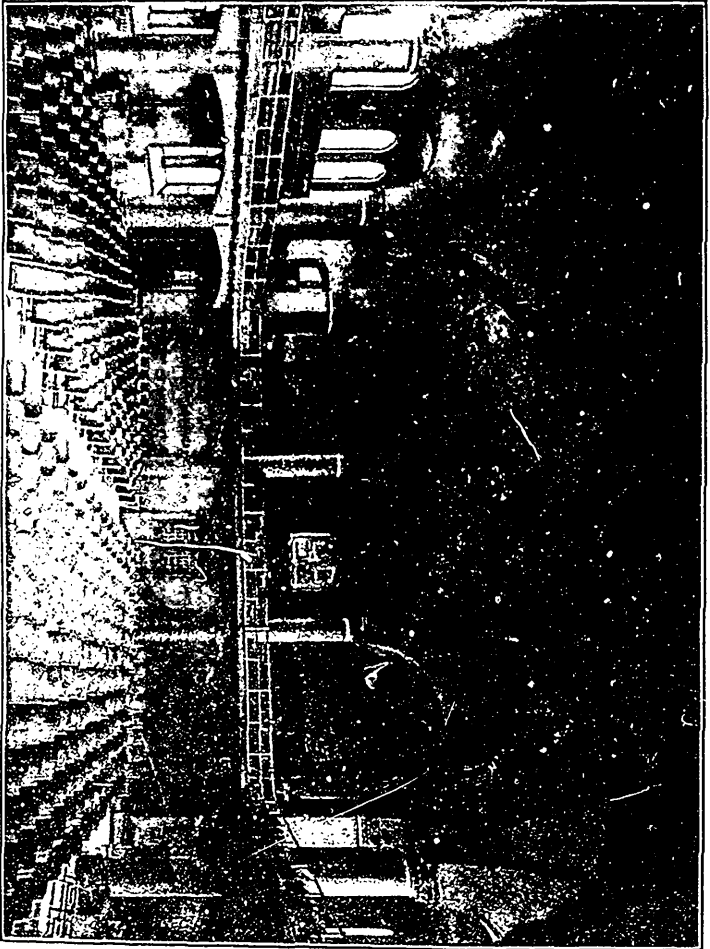
BOOK REVIEWS.

A copy of "Rough Notes on Remedies," by Wm. Murray, M.D., F.R.C.P., London, has just come into our hands. This small volume is well worthy of perusal, representing, as it does, 30 years of careful observation in general practice.

The keynote of the whole volume is well expressed by a sentence in the Introduction: "Although my faith in medicines received a rude shock, when I began to apply the teachings of the schools in my earliest years of practice, a more strict study and years of carefully repeated experiment have convinced me that our failures are not so much due to the impotency of the drug, as to a want of the proper application of it." Again, in the Introduction the author deplores the vagueness of such directions, seen so often in text-books under 'treatment' as 'Arsenic is useful in the above condition' or 'the acute pain may be allayed by belladonna, opium, &c.' These sentiments will, we should judge, find an echo in the hearts of most practitioners, particularly the young. Further on in the Introduction, the author champions the cause of combinations versus the single drug in that there is an analogy between the 'good combiner and the good cook.' The author further advocates that practitioners publish their 'notes,' so that the facts as regard to clinical experiences with drugs may be winnowed from the chaff.

Chapters I, II, III, IV, V, VI and VII are particularly interesting. In Chapter I, the author discusses the use of Arsenic in chorea, diabetes and asthma. In chorea one notes the heroic doses given to children (viz., 15 m. Fowler's Solution t.i.d. with the food), but this is permissible only for one week, when it must be entirely

INTERIOR GRANT HALL.



discontinued. In diabetes arsenic is given after reduction of the output of sugar per diem by diet and codeine, while in asthma the administration of arsenic is begun only when the stomach is in suitable condition.

In Chap. II, the author discusses belladonna and its uses in intestinal obstruction and renal calculi. Belladonna is given up 'to the point of atropism.'

In Chap. III 'On Mercury in Heart Disease,' one is rather startled by the following heading, printed in italics: "A case of dilated and hypertrophied heart treated by 20,000 grains of blue pill; recovery from advanced cardiac dropsy, followed by 10 years of good health." The mystery is somewhat cleared up, when one learns that after the patient's recovery, he persisted in taking his blue pills daily for the remaining 10 years of his life—and without ill effect.

Chapter IV, 'Calomel in large doses,' and Chap. VI 'on "Our Mistakes,"' bear the same impress of sincerity and clear-headedness, as is borne by the rest of the book, though we must confess 80 grains of calomel *pro dosi* was beyond our wildest dreams before reading this little book.

The book, which concludes with some dissertations on the climate in various parts of England, has given us in the perusal 'a renewal of faith,' in drugs, which we feel is good in these days of 'therapeutic nihilism.' A careful perusal of the book will well repay the time spent.

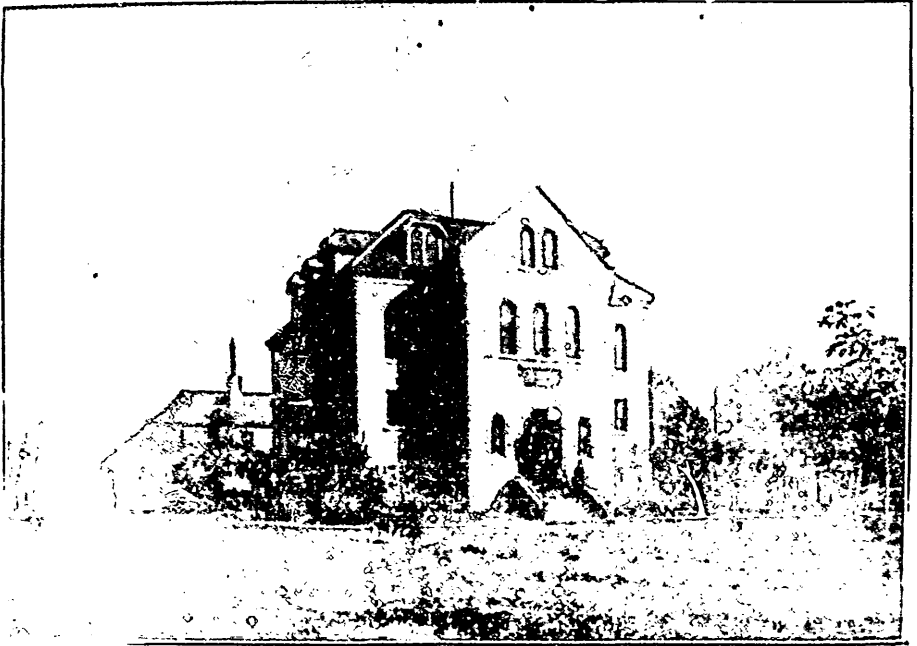
W. G.

"Materia Medica and Pharmacology," by Osborne, issued by Lea Bros., is a most useful book of 166 pages. It gives beginners in the study of Pharmacology and Therapeutics a preliminary training required by many to enter on advanced work as presented in the larger text books.

"Dose Book and Manual of Prescription Writing," by Thornton, issued by W. B. Saunders & Co., deals minutely with the preparations of drugs and metrology. It deals with the parts of Materia Medica which to our idea should be taught in a first year class of Materia Medica. The action of drugs is left to larger text books.

"Materia Medica and Therapeutics," by Scheif, issued by Lea Bros., is intended to present the whole subject in a very condensed and concise form. It has a very noticeable red cover.

A. E. R.



QUEEN'S UNIVERSITY FACULTY OF MEDICINE

The Fifty-fourth Session will open on September 30th, 1907.

Certificates of attendance are recognized by the Royal Colleges of Physicians and Surgeons of London and Edinburgh, and by the University of Cambridge, so that those possessing the Degree of M.D. from Queen's University, are entitled to all the privileges in Great Britain that are accorded to the students and graduates of other Colonial Colleges and Universities.

The Medical Department occupies commodious premises adjacent to the other University buildings and the General Hospital.

Instruction in Chemistry is given in the John Carruthers' Science Hall, and in Physics, Physiology and Biology in other University buildings immediately adjoining.

The complete course of study in Medicine extends over four sessions, and leads to the Degree of M.D., C.M.

The Degree of B.A. and M.D., or of B. Sc. and M.D., can be obtained in six years.

Medical Matriculation Examinations begin September 1st, 1907.

Supplementary Medical Examinations begin September 20th, 1907.

DR. J. C. CONNELL,
DEAN.

DR. F. ETHERINGTON,
SECRETARY.

FACULTY OF MEDICINE.

FIFTY-FOURTH SESSION, 1907-'08.

D. M. GORDON, M.A., D.D., Principal.

J. C. CONNELL, M.A. M.D., Dean.

F. ETHERINGTON, M.D., L.R.C.P. & S., EDIN., Secretary.

Surgery.

HON. MICHAEL SULLIVAN, M.D., Emeritus Professor.

D. E. MUNDELL, B.A., M.D., Professor of the Principles and Practice of Surgery.

W. G. ANGLIN, M.D., M.R.C.S. ENG., Professor of Clinical Surgery.

EDWARD RYAN, B.A., M.D., Associate Professor of Clinical Surgery.

G. W. MYLKS, M.D., Assistant Professor of Surgery.

C. A. MORRISON, M.D., Clinical Lecturer.

Medicine.

JAMES THIRD, M.D., Toronto ; M.D., C.M., Trinity ; Professor of Medicine and Clinical Medicine.

J. W. CAMPBELL, B.A., M.D., C.M., Associate Professor of Medicine and Professor of Therapeutics.

EDWARD RYAN, B.A., M.D., Associate Professor of Clinical Medicine.

A. E. ROSS, B.A. M.D., Professor of Materia Medica, Pharmacology and Pharmacy.

W. C. BARBER, M.D., Tor., M.D., C.M., Vic., Clinical Assistant.

W. C. HERRIMAN, M.B., Tor., Clinical Assistant.

Obstetrics and Gynaecology.

R. W. GARRETT, M.A., M.D., Professor.

ISAAC WOOD, M.A., M.D., M.R.C.S., ENG., F.O.S., EDIN., Associate Professor.

Pediatrics.

ISAAC WOOD, M.A., M.D., M.R.C.S., ENG., F.O.S., EDIN., Professor.

Ophthalmology, Otology, Laryngology, Rhinology.

J. C. CONNELL, M.A., M.D., Professor.

Medical Jurisprudence and Toxicology.

A. R. B. WILLIAMSON, M.A., M.D., M.R.C.S., ENG., L.R.C.P., LOND., Professor.

JOHN McINTYRE, M.A., K.C. Lecturer.

Sanitary Science.

W. T. CONNELL, M.D., M.R.C.S., ENG., L.R.C.P., LOND., Professor.

Pathology and Bacteriology.

W. T. CONNELL, M.D., M.R.C.S., ENG., L.R.C.P., LOND., Professor.

A. R. B. WILLIAMSON, M.A., M.D., M.R.C.S., ENG., L.R.C.P., LOND.
Demonstrator.

WILLIAM GIBSON, M.D., Demonstrator.

Mental Diseases.

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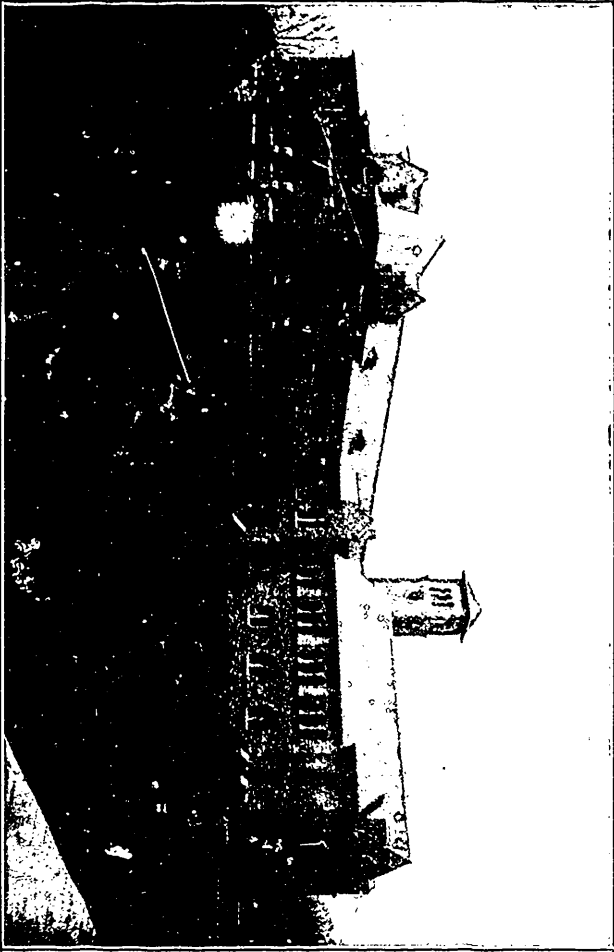
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