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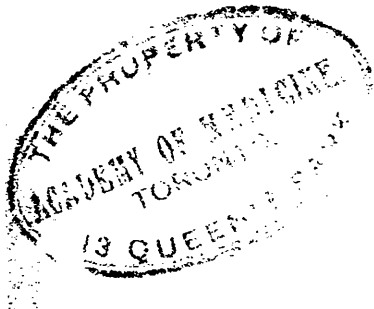
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Kingston

Medical Quarterly

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The KINGSTON MEDICAL QUARTERLY is presented to the Medical Profession with the compliments of the Editorial Staff. Contributions will be gladly received from members of the Profession and willingly published. JOHN HERALD, Editor

UNIVERSITY DEGREES AND PROVINCIAL LICENSES.

ONCE again the season has come round when the Universities grant their degrees to successful candidates. Once again those who have been successful in obtaining their degrees from the University of their choice will be busy preparing themselves for another examination ordeal in order to secure a license to practise their profession. At such a time there naturally occurs to anyone interested in Medical Education the questions: Is there any necessity for this multiplicity of examinations, is there any advantage to be gained by either the Universities or the Council by this dual test, is the student by this complicated process likely to be made a better practitioner, has the public any greater guarantee as to the fitness of the young licentiate for the practice of his profession on account of this two-fold examination test than it would have if the candidate for a license had to undergo but one such ordeal? We are free to admit that if a candidate had to undergo but one examination for both his degree and his license and if such examination were to be conducted by each of the Universities independently there might be some risk of too great leniency being shown to some of the candidates. We see no probability that either the Council or the Universities will entirely forego their privilege of examining their students. The thought has often occurred to us, however, that these two sets of examinations might be combined without either the Council or the Universities giving up any of their rights or privileges. At present the Education Department conducts a

Matriculation Examination which all the Universities accept and no one contends that either the Department or the Universities lose any of their prestige by the arrangement or that the cause of education suffers thereby. Why could not some such arrangement be made between the Council and the Universities? Why could not the Council and the Universities combine and conduct a joint examination? The Council at present appoints its own examiners, some being chosen from among the University teachers and some from the profession outside the Colleges. Those examiners now appointed by the Council from among the University teachers are so appointed on the recommendation of the Universities. Would the Council be willing to increase the number of University teachers on the examining Board? If so would the Universities be willing to accept this examination in lieu of one conducted by themselves and to grant their degrees to those who successfully passed such an examination? If these two concessions were made, the one by the Council—the other by the Universities, a student who wished to secure both his University degree and his Provincial License could do so by undergoing but one examination. Would either the Council, the Universities or the public suffer by some such arrangement as we have suggested? We think not. The student would gain. With something to gain and apparently nothing to lose why should not some arrangement of this nature be tried? We respectfully submit this matter to the Council and the Universities for their careful consideration, feeling confident that both will act for what they consider best in the interest of education and the public.

But some one will say many students go up for their degrees who do not wish to take the license of the Council. True. At present many students do not pass the matriculation conducted by the Education Department but take instead the matriculation examination of the University they propose attending. Just so with those students who do not intend to take the license of the Council. They would have to be examined independently by their respective Universities and be granted their degrees if successful. Such students would be in exactly the same position as they are in now. They would obtain their degrees but not their licenses. They would neither gain nor lose by the arrangement

proposed. Those students who wished to obtain both a degree and a license would be the gainers.

How about the expense of this conjoint examination? Should the Council or the Universities bear the expense or should each bear a proportion of the expense to be mutually agreed upon? This is a matter of detail which can safely be left to the contracting parties to arrange.

Again it may be asked what about the students fees for this combined examination? This, we have no doubt, could be easily arranged to the satisfaction of both the Council and the Universities and with justice to the students. These matters of detail may very well be left to be arranged after the main question has been determined and an examination arranged the passing of which will entitle the successful candidate to both his degree and his license.

NEW MEDICAL PRACTITIONERS.

ANOTHER class of Medical Students have just received their degrees from Queen's University. As similar events will soon be taking place at the other Canadian Universities we deem the time not inopportune to offer a few words of advice and we venture to do so even at the risk of being charged with preaching an oft repeated sermon. A young practitioner's success depends upon several factors :—

His knowledge of his profession, his associations and the principles which he adopts for his guidance in the practice of his profession. His Degree and his License ought to be a sufficient guarantee that he has the requisite knowledge. His associations he has to make for himself. In selecting a location in which to settle he must take many things into consideration. Is the place already sufficiently supplied with practitioners? Is the town progressive? Are the inhabitants likely to be congenial? These questions being satisfactorily answered and the practitioner having determined on a location the next and the most important question is how shall he conduct himself. The Medical practi-

tioner has a three-fold duty—one to himself, one to his patients, one to his fellow-practitioners. At all times he must remember that he has a professional reputation and standing to maintain. While he must be kindly and courteous to all, his intimate friends and associates must be such as will tend to raise rather than to lower him intellectually and morally. As to his habits he must be like Cæsar's wife, above suspicion. Another point of considerable importance and one likely to be overlooked is that on no consideration must the practitioner allow his office to be used as a meeting-place for his friends. No matter how unobjectionable his friends may be, no patient likes to come into his physician's office and find a number of young men sitting around. This is not to be wondered at. Everyone likes his physical ailments to be considered as a private matter. Especially is this true of female patients and as a very large proportion of our patients are females we readily see how important it is that we do not allow our friends to be a cause of offence. The principle which a young practitioner should adopt for his guidance is that the patient's ailments are the patient's private business and do not concern anyone else. The doctor has no right to talk to anyone about any patient's troubles. Many a time the doctor will be tempted to violate this rule. Sometimes, perhaps, he will feel like mentioning a peculiar case or one that has occurred in a family of some prominence, hoping thereby to add to his reputation and incidentally to his practice. He must resist the temptation. If he has done good work, given satisfaction and earned the gratitude of his patient and the patient's friends, they will do the advertising more successfully than he can and without any loss of his professional reputation. Again he will be tempted by the busybody who will always be enquiring affectionally about everyone who may be sick in the neighbourhood and in repeating what he learns from the doctor will always make additions which will astonish the doctor when he hears them. The young practitioner will also be plied with questions by the reporter. The reporter is not to be blamed for seeking information but the practitioner is to blame if he gives it. How can the doctor refuse the information thus sought in the interest of the public? Quite easily. Refer the reporter to the patient's friends. They will give him all they wish to have published. In this way you

avoid giving offence to the reporter, if he is a sensible fellow, and at the same time you do not become guilty of a breach of trust. Another point under this heading.—It is a doctor's duty to give the best advice possible. Sometimes the young practitioner will have charge of a case which he does not thoroughly understand, or which, though he feels that he has made a correct diagnosis, does no progress as favourably as he and the patient's friends could wish. In such a case what is his duty? Manifestly there is but one course to follow. Advise a consultation. The patient's condition demands it and the doctor's reputation will not thereby suffer. Far better in such a case to suggest a consultation than to have the patient or the patient's friends demand it.

On the subject of a doctor's duty towards his fellow practitioners much has been said and much has been written. Many specific rules have been laid down for the young practitioner's guidance in this respect. These we do not intend to consider. These the beginner will learn as his practice increases. No better general rule can be given than the Golden Rule, "Do unto others as you would that others should do unto you." Any one living up to this rule need never fear that he will violate Medical Etiquette.

THE SCIENCE AND ART OF SURGERY; ITS PROGRESS DURING THE NINETEENTH CENTURY AND ITS PROSPECTS FOR THE TWENTIETH.

Address delivered at the afternoon services in Convocation Hall, Queen's College, March 24th.

SCIENTIFIC addresses have of late been largely reminiscent in character. At the close of one century and the opening of another it is natural that we should mark time, count our gains and losses, seek to determine our present position, and cast a glance at the road already traversed, and at the path which opens in front.

Has medicine, one of the oldest of the arts and one of the youngest of the sciences, made solid progress during the century; progress commensurate with the notable advances in physical science, in industrial development, and in imperial expansion which have rendered this epoch illustrious? Has our profession grown in scientific precision, in practical utility, in efficiency, and in repute? Has it developed new resources and lopped off those decayed or outworn?

No nation can be truly great if unmindful of the sanitary conditions of its citizens. Civilization and the arts of domestic life march hand in hand, and as is the one, so necessarily must be the other, so indissolubly are they interwoven and bound together.

To answer these questions one has only to place himself in the position of the practitioner of a hundred years ago. We might, for example, imagine a professor called upon in the year 1801 to give an address on the progress of medicine. He would probably congratulate his hearers on the progress of the science and art since the days of Harvey and Sydenham. He would refer in the most kindly terms to the life and work of John Hunter, and to the light thrown upon surgery and pathology by his powerful and penetrating intellect. He would recount the rise and progress of the great Edinburgh School of Medicine, and tell of Cullen, of the Munros and the Gregorys. He would

probably refer with becoming reserve and caution, and perhaps with some sarcasm, to the startling assertion of a country practitioner—one Edward Jenner by name—that he had discovered a cure for the greatest scourge of the age—small-pox. But granted that this eminent lecturer was endowed with the most vivid imagination, and permitted his mind to soar in the highest flights of theory and speculation, he could have related but a fractional part of the triumphs the historian of medicine is called upon to record to-day as the outcome of the progress of the past century, and more particularly the latter half. It may be likened to the Renaissance in the age of Augustus, or in the “spacious times of great Elizabeth.” Virgil, the elect poet of Augustan Rome, contains an excellent text for a discourse in its praise:—

Redeunt saturnia regna ;

Jam nova progenies cælo demittitur alto.

While our imaginary lecturer was relating with befitting pride the advances of his time, were he given a glimpse of the present golden age, and of the resources of to-day, he either would have been confounded with surprise or consumed with envy.

He knew nothing of chloroform or ether, he never heard of antiseptic surgery, he would expect nearly every wound, including those made by the surgeon, to heal by suppuration, and would express his approval of “healthy” and “true and laudable pus.” If a wound healed by primary union he would exhibit it as something out of the common, a sort of freak of nature. He did not know typhus from typhoid fever, nor scarlet fever from diphtheria. He had no stethoscope, and never heard of auscultation. He knew of opium and quinine but never heard of the blessings of the hypodermic syringe. He never saw a lithotrite. He never counted the corpuscles in the blood, or inspected a skiagraph of the bones of his hand or of the vertebral column.

When reviewing the medical literature of the past one is attracted by the story related that when Boerhave, the most accomplished and celebrated physician of the eighteenth century, died, he left behind him an elegant volume, the title page of which declared that it contained all the secrets of medicine. On opening the volume every page except one was blank, and on that was written his legacy to suffering humanity. It was, in affect, to

tranquilize the nervous system, to equalize the circulation and regulate the excretory organs. This summed up in crystallized form, not inaptly or unjustly, the really scientific acquirements of the medical art of the eighteenth century.

Wise practitioners like Boerhave, Sydenham, Morgagni and a few others were content to live within these modest limits, but the vast majority blindly followed the past, and bled and dosed by the book, or adopted some strange theory of planetary influence, signatures, animal spirits or occult force.

In making these statements it must not be forgotten that there had been real progress in many departments of medical science. Harvey had discovered the circulation of the blood; Haller had discovered the fact of muscular irritability and its connection with the nerves; Albinus had introduced exactness, as far as the means and instruments accessible at that time would permit, into anatomical investigation. Morgagni had founded the science of pathology which has since rendered such magnificent results. Astruc had announced the reflex phenomena of the nervous system; Boerhave, Sydenham, Mead, Hoffman and Stahl had rendered good service to practical medicine; Franklin and others had brought electricity, magnetism and galvanism into the domains of science, though their relations to medicine and physiology were not then recognized; and chemistry had entered upon a career of investigation which it has since followed with extraordinary success. But all these discoveries were in the form of isolated facts, more like islands surrounded by an unknown ocean, than parts of a continent connected with each other and forming a portion of a grand and systematic whole. In spite of these achievements however it must be acknowledged that theory, empiricism, and authority ruled the medical world at the close of the eighteenth and beginning of the nineteenth century.

It was evident that if medical science was to advance some new element or force must be introduced. This new element appeared in the form of John Hunter of England and Bichat of France. These great minds, slaves to no theory, emancipated from authority, and dissatisfied with the results of empiricism, busied themselves with the accumulation of facts whose value they scarcely recognized, but which the future was only too glad

to use and appreciate, and which have justly entitled them to be called the founders of modern physiology and pathology. Hunter and Bichat represent the turning point in medicine from idealism speculation and theory, to accuracy and close observation. From that time to this the progress of medicine in all its branches has been of the most gratifying character.

Although it is true, as Tennyson says, that "Science moves but slowly, slowly creeping on from point to point," yet as we look back upon the past one hundred years we find that its march has been one of extraordinary rapidity. During this period more of nature's great resources have been discovered, and more of her secrets mined out, than ever before. A thousand doubtful suggestions have ripened into facts, medicine has been enfranchised from superstition, quasi-charlatanisms, bald empiricism and speculation, and has developed into a symmetrical science, studied by the same methods and the same appliances as they are, and like them has been planted upon the solid basis of fact and demonstration.

Pathological anatomy, through the early labors of Morgani and Baillie, and later through the researches of Rokitansky, Cruveilhier, Virchow, Recklinghausen and Conheim has become a fundamental branch of medical science. Obstetrics, rescued from the hands of ignorant midwives, has been with its allied branch gynecology, raised to its legitimate position as a science. Preventative medicine and hygiene, cultivated to an extent previously unknown, have prolonged the average of human life. Organic and physiological chemistry have been substantially created, and achieved important and brilliant results. Physiology has grappled with the abstruse problems of structure and life, and has revealed so much as to make timid people tremble at the audacity of its efforts. The reflex action of the nervous system, by its thorough investigation, may be ranked next in importance to the discovery of the circulation of the blood. The secrets of digestion and assimilation have been disclosed. The interior of the chest has been laid open to examination, so that the condition of the lungs and heart can be marked out with an accuracy like that with which the engineer marks out the topography of a mountain. The microscope has penetrated the secrets of structure and tissue. The spectroscope has traced the

devious wanderings of drugs from the stomach to the remotest organs of the body. Chemical analysis has traced the transformation of food into various forms of force, such as motion, heat and thought. Materia medica has been made rational and effective, by cleansing it of hundreds of its filthy compounds and useless formulæ and superstitions, and by adding to it numerous agents that botany and chemistry have discovered. Through the study of bacteriology, and the practical knowledge obtained of the effects of micro-organisms in the production of disease, the practice of surgery has been regenerated, and medicine has received a stimulus, the great effects of which it will be difficult to foretell. The adaptation of electricity to lighting purposes has assisted in illuminating portions of the body; while the Rontgen rays has rendered visible to the eye the deepest or most obscure structures with a degree of accuracy that can scarcely be appreciated by those who have not had an opportunity of witnessing the effects of its penetrating powers.

This increased knowledge has led to increased power to cope with disease, as may be shown in detail by pointing to the practical extinction of small-pox and typhus fever, to the success in keeping cholera at bay, to the enormous reduction in the mortality following the performance of major surgical operations, and finally to the fact that during the reign of our late beloved Queen the average duration of life has been increased by three and one half years.

Though every branch of medicine has felt the stimulus of the nineteenth century progress, in none have transformations been so great, or success so signal, or the progress made so evident as in surgery. Into a few of these it may not be uninteresting to look.

Amputations. At the present time, when the success following amputations is so great, and when one scarcely ever sees a person die as the result of the operation, unless performed when the patient is *in extremis* from injury or disease, it can scarcely be credited how such surgery was looked upon by our forefathers. A prominent Prussian surgeon advocated doing away with amputations altogether as a method of treatment. Mons. Tisot wrote a monograph "*Sur l' inutilité de l' amputation des membres*" in which he set aside the operation as useless, speaks of it in the

most opprobrious terms, is shocked at the horror of it, and exhorts surgeons to abandon the murderous and cruel method of amputation. Nelaton, when speaking of amputation of the thigh, relates that he was forced to ask himself the question whether morally he ought to undertake such an operation, for every case died a few days after from septic absorption.

The high mortality following amputations may be studied from another standpoint. After the battle of Fontenoy in 1745 the French Royal Academy offered a prize for an essay on the best method of performing and treating amputations. The prize was adjudged to Mons. Faure who states in his essay that of three hundred amputations of all kinds after the battle only thirty were successful. Larrey contrasts this with his own success in the Napoleonic wars in which he says he saved three-fourths of the cases. Even such a mortality, in the hands of the most successful operator of the day, must be viewed by us, in the present light of aseptic surgery, as criminally high.

The Head. All that is known of the surgery of the head has been brought to light within the last sixty years. Previous to that time nothing was known of cerebral localization; all the science and art that are connected with the names of Hughlings Jackson, Ferrier, and Victor Horsley were yet in the future. The use of the trephine was almost unknown. Now, owing to the accurate knowledge of the topography of the brain and of cerebral localization, tumors are successfully removed from within it, and abscess cavities explored and opened, and cases of apparently hopeless spinal disease cured by operation.

The Eye. In attempting to make a survey of the development of ophthalmic surgery only the briefest reference can be made to the landmarks of progress. The discovery of the ophthalmoscope in 1851 by Helmholtz, and its practical application, has accomplished much in the elucidation of intra-ocular disease, and the benefits which it has conferred upon general medicine and surgery cannot be too fully estimated.

The valuable local anæsthetic properties of cocaine added another great boon to this special department of medicine. By the installation into the eye of a two per cent. solution complete anæsthesia of the cornea and conjunctiva follows some moments later. This discovery has wrought wonders in simplifying the management and operative treatment of eye cases.

To peruse the records of the treatment of cataract in the early portion of the century and place them in comparison with modern methods is painfully impressive. Anæsthesia general and local was of course unknown. Suppuration in a more or less degree was an almost ever present accompaniment of an operation for cataract. Severe reaction, due mostly to septic causes, was the rule, to subdue which patients were subjected to repeated venesections, dosed with calomel and opium until severe salivation supervened, and in the later stages, provided that the eye and the patient had survived, they were extensively blistered behind the ear, over the nape of the neck, and sometimes between the shoulders.

There was another disease of the eye, glaucoma, which baffled all treatment, moreover the most distressing feature about it was that its onset and progress always tended to terminate in blindness. Since then the experience of many years has shown that the most brilliant results have been obtained by a simple operation known as iridectomy, counteracting as it does the destructive effects of the disease upon vision.

The Chest. The surgery of the chest is an example equally vivid. The story of the treatment of empyema as it existed in the early part of the century is one of the darkest pages of the whole history of surgery. Literature streams with the great mortality following the management of the disease. Out of twelve cases under the care of Velpeau not one recovered, out of fifty cases under the care of Dupuytren all but two died, and Sir Astley Cooper complained that he could not get one single cure. To-day if we eliminate complications the mortality may be reckoned below ten per cent.

Abdominal Surgery. This is a field so vast that an account of it is beyond the possibilities of time. Its establishment had its foundation in the operation known as ovariectomy. It was during the first decade of the nineteenth century that Ephraim McDowell, by performing the first successful operation, contributed to surgery one of its greatest triumphs. The establishment of ovariectomy upon a sound basis revolutionized abdominal surgery, and it is difficult to estimate the amount of good which it has bestowed upon humanity. The student of fifty years ago would see an occasional operation for strangulated hernia, there

he would stop. The surgery of the liver, the gall-bladder and the kidney was unknown. Operative interference in affections of the gastro-intestinal tract, obstruction of the bowels, and in diseases of the appendix was scarcely contemplated, the unfortunate sufferers going down to a certain death without even a hope for relief. It may be said that the present vast field of abdominal surgery was scarcely ever trespassed upon, save perhaps once or twice in a surgeon's lifetime. Since then the art has so increased that all over the civilized world, in every capital, town and village, there are surgeons who with honor to their art and credit to themselves perform the most difficult and intricate abdominal operations which half a century ago would have been considered but little removed from murder.

Obstetrics and Gynæcology. The advanced position which these branches of medical science occupy is largely owing to the adoption of the principles of asepticism. In 1843 Oliver Wendell Holmes, whose brilliant reputation as physician and anatomist, as well as poet and novelist, is well known, first pointed out and proved by an accumulation of evidence that "the disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physician and nurse." At the time when Dr. Holmes' paper appeared the works on the subject taught the non-contagiousness of puerperal fever, and thousands of young mothers were sinking into premature graves as a result of this atrocious fallacy. Stimulated by the investigations of Holmes, and later by the more scientific researches of bacteriologists, the disease is now known to be most highly contagious, and as a result of this knowledge such precautions have been adopted for its prevention or spread that the disease is now an exceedingly rare one, and when it does appear is easily mastered.

Surgical gynæcology has rendered possible the successful treatment of the manifold diseases to which woman is heir, and has offered freedom from pain, happiness and contentment to lives which would otherwise have been shipwrecked or reduced to hopeless chronic invalidism. This fact alone stands out as one of the greatest advances in practical medicine. When we remember that "the hand that rocks the cradle rules the world" it will require no flight of imagination to assist in realizing that this branch of surgery has contributed an untold mine of wealth

to nations by increasing the physical and mental powers of its future rulers and citizens.

The Medical Student. The young man who aspired to be a doctor at the beginning of the century considered himself fortunate in having the opportunity to pick up his professional knowledge while serving an apprenticeship with some well known practitioner. Here he combined the duties of a student with those of a servant. He cared for the doctor's office, drove with him in his rounds, ground his powers, rolled his pills, spread his plasters, extracted teeth, and dressed the cuts, bruises and burns which came to his patron's office for treatment. There was no systemized medical examination. The training of the surgeon was paltry, casual and inefficient. His preliminary education was miserably meagre. It was necessary that he should be able to read and write and pretend to some smattering of Latin.

The schools were in no way formidable affairs. Three or four men made up each faculty, in some schools indeed often one man with iron will and massive intellect constituted the whole teaching staff. There were no laboratories, and, so far as hospital practice was concerned, attendance there was well expressed by the phrase "he walked the hospitals."

Medical Legislation. The important legislation of the nineteenth century was the Apothecaries' Act of 1815. This Act has proved to be one of the greatest boons ever conferred upon the medical profession. Previous to its enactment medical education was, as has already been hinted at, entirely optional, and although many possessed degrees or licenses of the Universities or Colleges, the greater number possessed no such qualification. Many of them were wholly illiterate or uneducated, and, what seems strange to us now, very few surgeons, even of large hospitals, had personally dissected the human body.

The Surgeon as an Adviser. In the early part of 1800 it might be said that there was no science outside our own in which there was such extreme disproportion between the amount of knowledge assumed on the part of the practitioner, and the amount actually possessed by him, and proved to be exact and sound. The reason for this lay more with the sick man than with the man of medicine. The sick man required absolute and exact knowledge from his doctor. He would accept neither possibilities

nor doubts, nor confession of ignorance, and accordingly the physician made good by fiction what he lacked in fact. The demands of the patient were hopelessly beyond any powers of supply, and the deficiency was made up by the products of invention. It would seem that the less the man of medicine knew the more he invented, and the more diligently he hid his little light under the basket of a ceremonious and mystery-making treatment. The judicial wig, the academic ruffle, the gold headed cane, the reflective snuff-box and the Socratic air, all made an effective covering for the poor few bones which formed the skeleton of his knowledge. The surgeon of the present day as an adviser is in a position which is so greatly improved that it could hardly have been imagined one hundred years ago. For this he has to thank a more intelligent public, and that he has patients whose education to a large extent enables them to appreciate the nature of scientific problems, and with whom it is possible to discuss difficulties, and to own to lapses of information. Further, the additions made to surgical lore have been so substantial that in many departments of surgery it has reached the state of an exact science.

The Surgeon as an Operator. During the nineteenth century the surgeon as an operator has passed through a rapid metamorphosis. The operator of the olden time certainly possessed many qualities which are now falling into abeyance. The success of his craft depended largely upon his daring, upon the alertness of his eye, the steadiness of his nerve, and the rapidity of his movements. He stepped into the arena of the operating theatre as a matador strikes into the ring. Around him was a gaping audience, and before him was a conscious victim, terror stricken and palsied with expectation. The knife must needs move on its way swiftly but steadily, undeterred by struggle or bursts of hemorrhage, the blade must needs pass without faltering or hesitancy. It is little wonder if the older surgeon became rough and stern, if his sense of feeling became chilled and if the sympathetic side of his nature suffered some suppression.

Within the compass of thirty years the whole state of affairs has changed. Consideration for the patient and for the patient's sensibilities has become a matter of the first moment, and the operator has learned that his work is best done if done with

gentleness and tact, and that haste and bluster, coarseness and coarse handling, are out of place around the operating table. Success is no longer to be measured by the number of minutes occupied in the amputation of a limb, but by the state of the patient many days after the measure has been completed. The triumph of the older surgeon was immediate and often scarcely beyond the arena of the theatre ; to-day the surgeon's triumph is seen in the surgical wards or convalescent home.

These great advancements in the science and art of surgery have been the outgrowth of several factors which stand out boldly as nineteenth century achievements. First we may note among these the greater facilities for the study of anatomy through favorable legislation. The Anatomy Act of 1842 in England marked one of the most important dates in the medical education of the century, giving to the student ample facilities to become familiar with the anatomy of the human body.

A more perfect technique in the arrest of hemorrhage is another factor. To the operator at the beginning of the century hemorrhage was a barrier to the performance of many operations that are to-day made without fear. The surgeon has now at hand the precautionary ligature, the pressure forceps and the rubber bandage.

Perhaps the factor which has produced the greatest degree of success is the discovery and practical application of artificial anæsthesia by means of sulphuric ether and chloroform. In every part of the civilized world, and wherever in that region called uncivilized the pioneers of civilization have penetrated, the power to produce anæsthesia is acknowledged and blessed. The knowledge of it is now so universal, and the blessings which attend it so constant, that we are sometimes apt to think as little of its existence and power as we do of the presence and power of light. It is impossible to estimate or form any adequate conception of the amount of human suffering which anæsthetics have relieved and prevented. To this discovery the human race owes the blessing that no pain follows the course of the surgeon's knife ; peacefully and calmly the patient sleeps while the surgeon deliberately, confidently and intelligently does his work. By its use the intense agonies of travail can be attenuated or abolished, sleep produced in spite of intense pain, and at the word of the

physician any sufferer can be rendered unconscious of torture. Such a power which John Baptista Porta strangely prophesied centuries ago, which mesmerism hinted at, which mystics now and then proclaimed, but which the world never dared to expect, was first shown to exist and to be capable of safe and easy application at the Massachusetts General Hospital in 1846. It is perhaps the greatest contribution to practical medicine the world has ever received.

Next to the discovery of ether and chloroform no event has so profoundly influenced medical practice and teaching as the realization of the tremendous importance of the theory of bacterial infection. Through this theory of the action of bacteria in the production of disease we have gained a practical working knowledge that is of incalculable value in the management of these processes, even though our hopes in securing a specific means of treatment have not yet reached their full fruition. What better illustration of this can be given than the absolute disappearance of hospital gangrene, or of puerperal fever, from the hospitals in which these diseases were a curse to the attendants, and a frightful menace to the patients. In both the gospel of cleanliness according to bacteriological methods has done its work thoroughly, and these diseases have disappeared practically because of our knowledge of the bacteria and their methods of action. Through the possession of this same knowledge it is possible for any surgical procedure to be carried out with absolute certainty that no unfortunate result will follow as far as surgical fevers are concerned. A field for work has thus been opened to the surgeon which was scarcely dreamed of a few years ago, and operations are now daily performed which in the past were done as a desperate and last resort.

The Outlook. So much for the past but what of the future? While relating our gains and triumphs let us not be consumed with pride, and when casting the surgical horoscope let us endeavor to avoid that degree of Pharisaical contentment upon which we might feel inclined to repose. Though we may not be able to see along what lines great advances can be made, and may even think that more outposts have been established than can be successfully maintained, the unexpected may be unfolded to us in the future more wonderful than the past. Let the

statement of Ambrose Paré, made in 1575, serve as a warning not to be too self-opinionated as to our present standing, or too certain as to the impossibilities of the future. He says, "God is my witness, and men are not ignorant of it, that I have labored more than forty years to illumine the art of surgery and bring it to perfection. And in this I have striven so diligently to attain my end that the ancients have nothing wherein to excel us save only the discovery of first principles, and posterity will not be able to surpass us, (be it said without envy or offence) except by the addition of a few things, such as are easily added to discoveries already made." Such was Paré's opinion of surgery in his day and his outlook for the future, yet his description of the mortality among the soldiers wounded at the capture of Rouen is awful to contemplate when compared with the results of our modern field ambulance work, and of our field and base hospitals. Pyæmia, hospital gangrene, acute septicemia, abscesses, and other conditions too sickening to relate, bristle out in every line of his history of the military surgery of that day.

It is not unreasonable to hope that a great future is in store for those leading ideas which are now permeating the theory and practice of our art. Of these ideas we may particularize two :—

First, that disease is to a large extent due to some toxic influence present in the body, either derived from without or generated in the body itself; and *second*, that this toxic influence is in many cases the product of micro-organisms. Those who think that these doctrines do not stand upon a secure basis, and will be merely one of the passing fashions of medicine, have not sufficiently grasped the significance of the life work of Pasteur. The germ theory of disease is not a mere brilliant and barren hypothesis. It has already revolutionized surgery, it has given us a remedy for diphtheria and hydrophobia, and it will give us much more.

A study of bacteriology teaches us an intelligent method of the management of disease, and it may safely be inferred that if our knowledge so attained be properly applied the scourge of infectious diseases may be largely arrested, if not entirely prevented. This is fully proved in the case of typhoid fever, pulmonary tuberculosis, pneumonia, cholera, tetanus, and other diseases, in which we know the specific cause and its site, and accordingly it may readily be assumed that the acute exanthemata,

as scarlet fever, and measles, in which the specific cause has not yet been clearly demonstrated, will soon be placed in the same category.

Along the lines of surgical advances circumstances in the tendencies of to-day foreshadow to some extent what may be buried in the future. The changes which have swept over the world of surgery have extended the possibilities of the art, and have at the same time added a host to the ranks of those who practice it. Some thirty years ago the roll of such as could claim to be accomplished operators was very small. The great deeds of surgery were limited to cities, the general practitioner seldom took up the scalpel. But here at the beginning of the twentieth century the disposition of affairs is wholly altered. The days of the great operator, the one to whom all had to come, or had to suffer or die, are rapidly passing away. The practice of pure surgery, which was limited to the prominent few, is now becoming common to many, and the more ambitious performances of surgery are no longer restricted to the great centres, but are carried out in the little town, in the cottage hospital, and even in the cottage itself. The general practitioner is laying claim to operate upon his own patients, and is carrying out his intention in no hesitating manner. And this change is well. The diseased who were unable to visit great surgical centres, or had not in their possession the necessary means to pay the large fees demanded, had to die unaided, or live in suffering until the great summons relieved them from their misery.

The democratic movement is the active power of the day, and an oligarchy in the community of the surgeons has been replaced by an earnest democracy. Thus the manifold blessings arising from the twentieth century surgery will be carried to and administered in every hamlet, as well as in every city, and will be available alike to those who live in the hovel as in the mansion.

R. W. GARRETT.

PREVENTION OF THE SPREAD OF INFECTIOUS DISEASE BY ISOLATION.

THE biological sciences which deal with the microscopic causes of disease have within the last few years, been the means of great progress in sanitary science. Much progress has been made in the accurate knowledge concerning the causation, modes of spreading, and measures effective for the prevention and restriction of, especially the infectious diseases, and as much of this advance is the result of the extensions and outgrowths of medical science, it is quite evident that our leading sanitary officials should necessarily be medical men. It is not my object however to go thoroughly into the medical aspect of these diseases but rather to take them up from a social-science standpoint and give a general view of the necessity of a perfect isolation hospital for the prevention of the spread of infectious diseases and for the protection of mankind.

The evidence that sickness and death from such diseases, can be prevented, is of several kinds and very conclusive. Not many years ago scurvy was a common disease, its cause became known, preventive measures were adopted and now it is rare. Good drainage of countries and the cultivation of soil have almost stamped out intermittent fever. The lessened mortality from small pox following the method established by Jenner is well known. All know the result quarantine has had in preventing the spread of cholera to other countries. The effect of cleanliness, water works, and sewage is lessening the amount of typhoid.

The record of the saving of human life and health in the state of Michigan in recent years, is one to which its Boards of Health can justly point with pride. It is a record of the saving of over one hundred lives per year from small pox, four hundred lives per year from scarlet fever, and six hundred lives per year from diphtheria, an aggregate of eleven hundred per year or three lives per day saved from these three diseases.

The nature of infectious diseases, the manner in which they

spread, the loss and misery caused by them and the measures that should be adopted to prevent them are but imperfectly known to the majority of those entrusted with the administration of the public health. The question of devising proper means for the isolation and treatment of such diseases is of even more than national importance. Until a very recent period the nature of these diseases and the modes in which they spread, were but little inquired into. In early days people with weak lungs adopted certain means of preventing their catching colds but were not aware that various diseases might be prevented from attacking whole communities. That "Prevention is better than cure" was a by word yet its scope was not fully understood, and in no case is this maxim so applicable as in that of infectious diseases.

Infectious diseases have been aptly compared to a fire and the population to the combustible material. In towns and cities the combustible material is lying in heaps and when the spark falls if not extinguished its spread and destruction are more rapid.

When a fire breaks out in a house, the alarm is given, the firemen are notified and the water works are made use of. So should it be in the case of an infectious disease, the alarm should be given to the Board of Health and they should employ the means of preventing its spread, which can only be done safely by a perfect isolation hospital. In towns and cities where the people come into daily contact and where frequent communication exists with other places, infectious disease of one kind or another usually prevails. The seeds of infections are probably never extinct. Houses, furniture, articles of clothing, &c., contain the germs, these infect persons who infect others and thus the epidemic. The movement of persons is so varied, communication between them so frequent, the seeds of infections so tenacious of life and ubiquitous, that unless the utmost care is taken the disease will continue to spread and cause the utmost misery and mischief. Its rate of mortality is not evenly distributed. The poor suffer the most and in many localities the periodicity of infectious diseases is so regular that the poor unfortunates look upon them as the natural order of things, much as they suffer and dread them. The misery following epidemics of these diseases among the poorer classes cannot well be calculated. In many cases where the wage earner of the family

dies, the rest of the family are brought to the verge of starvation and thus become for years perhaps dependent for subsistence on parochial relief. "Premature death is an evil and a loss to the state, but sickness is, from an economical aspect, a still greater evil; for sickness adds an additional burden, while death can but remove the bread winner." The loss incurred even by the interference with labor through the enormous amount of sickness caused by infectious diseases can scarcely be computed and "the consequences which are left behind, in the survivors, in the loss of health, sight, hearing and other faculties which render life happy and useful are lamentable." Dr. Russell of the city of Glasgow has stated "In my experience epidemics never cover the whole area of the community at their incidence, they begin in one patient or district and if not checked they eat their way through the mass, while if they are vigorously attacked they may be stamped out in that one patient or district." We should always be ready with our isolation hospital and means of disinfection to quench such sparks as may be projected into our premises.

Usually the period of seclusion in cases of infectious diseases varies between three and eight weeks. In an ordinary house and average sized family, it is almost if not impossible to isolate a patient suffering from one of these diseases from the rest of the inmates. The result is that all persons living in such houses are liable to contract the disease, besides carrying the infection to outsiders. As the stage of incubation varies many days, it may be some days before the second of the family is attacked, and if the head of that family be a hard working man, his loss of wages from the seclusion of several weeks and the extra expense incurred by the sickness would be found a very great hardship. How great this loss falling in full force upon the poorest classes, the very ones least able to stand it, may well be imagined. Supposing an isolation hospital were established and the first member of that family affected removed to it and his house furniture, &c., thoroughly disinfected; the house and family would be rendered perfectly harmless, and the well being of that family would be interfered with to the least possible extent. Misery, hardship and death would be prevented, greater security would be given against the spread of the infection, poverty and pauperism would be lessened and school attendance increased.

The population would gain more by the saving of doctors' fees, in other losses incidental to sickness and death, and in the decrease of poor rates than they would lose by contributions towards the building and maintenance of a perfect isolation hospital. Could not the money invested in such an institution be compared to the voluntary contributions to a society providing against sickness and accidents? The following shows clearly the result where isolation was not provided. "A school teacher returned home with diphtheria, within a short time the members of the family were attacked. It entered the house of the family physician and several deaths occurred, the physician left the town and his house was vacant for several months. The people went to and from the Post Office which was also a grocery, the grocer visited the house with groceries, his family was next attacked, broken up and scattered. A new physician came to occupy the old physician's house and soon his children were attacked. A lying-in woman whom he attended and a boy seven years of age, were attacked also. Then a neighbor who called to see this woman became infected and so on the disease extended for over eighteen months. It also proves conclusively how tenacious of life the materies morbi is and how it maintains its power of infection under certain conditions outside of the human body.

In the published report of the Registrar General of Ontario for 1881, we find that the recorded deaths from all those diseases which are readily admitted to spread from a first case, were 3000. All medical men at the present time will admit that far more than half of these would have been prevented by the means at their disposal at present. Supposing only 50 per cent. of these lives were saved, and adopting the English calculations of the value to the state of lives saved at the end of a period of six years from that date the annual saving would be nearly \$4,000,000. That a great many lives have actually been saved by the means of prevention to the spread of the disease, is clearly shown by the report of the Reg. General of Ontario published in 1898. The deaths from infectious diseases as actually recorded from small-pox, scarlet fever, diphtheria, measles, whooping cough and typhoid fever were 1527 (it must be remembered that the population had increased from 236,739 in 1882 to 440,979 in cities alone.)

People realize the effect of vaccination, antitoxine and clean-

liness on the spread of diseases, but they do not as yet fully appreciate the good result obtained from perfect isolation, nor will they until they have hospitals provided in their midst for that purpose.

Bacteriologists have shown how the micro-organisms of many diseases live and multiply in various media outside of the human body for varying periods, and produce the same disease if they gain access to the body of an animal or human being. They have even proved that some of these micro-organisms produce seeds outside of the human body, more hardy than themselves and that these spores will retain their vitality for years to reproduce disease. Their theory coincides with the experience of leading observers in the field of preventive medicine. Surgeon General Billings, U.S.A. states that he had seen scarlet fever produced by some of these particles that had been preserved in a blanket carefully packed away for years. The following case is reported :—“A large picture book had been used by a little boy suffering from scarlet fever, in 1846. The book was packed away in a trunk for 26 years, when it was taken to England and a child two years of age became its possessor. Two weeks after receiving it this boy was attacked with scarlet fever and to the doctors in attendance there appeared no other means by which the child could have been infected”.

Dr. Carpenter in a paper read before the British Medical Society in 1875 records a case in which a proprietor ordered the removal of some old houses which had remained uninhabitable for years after a case of small pox. Eight men were employed and every one was attacked with small pox showing that the germs of that disease remained dormant in those houses all that time waiting for their victim.

Dr. Thorne a noted authority in infectious diseases states that he has known the poison of diphtheria to have been retained for months about premises in which cases of that disease had previously occurred. Such therefore are some of the special importunities or sources of danger to be guarded against in the management of these diseases. The organisms lurk in the floors and crevices of walls. They are absorbed by wearing apparel, bed clothing and articles of furniture. If ventilation is defective or cleanliness neglected, the air becomes contaminated and the in-

fection spreads from patient to attendants and to others. In the large and well constructed houses of the rich, cases may be treated, but the want of knowledge of the real nature of the disease and the carelessness of the attendants and family render the process of isolation in the house very unsafe. In the small poorly constructed and over-crowded houses of the poor, the danger of the spread of an infection can readily be understood and, the only safeguard is a hospital provided and equipped for such cases. They should not be sent to a general hospital where all classes of diseases are treated as all the patients would be liable to infection. This has occurred time and again in some of the very best general hospitals where the utmost care and vigilance had been taken. In St. Bartholomews, London England in 1838, 11 visitors and 16 nurses and 21 patients suffering from other diseases became infected from a single case of typhus fever admitted to the ward. Infection was found to spread in St. Thomas in 1805 in the Charing Cross in 1862 and in the Middlesex in 1867. In the Manchester Hospital in 1877 out of 569 patients admitted 183 suffered from infectious diseases, 18 in the wards contracted scarlet fever, six admitted with measles took scarlet fever and three with scarlet fever were attacked with measles. In 1880 in the same hospital out of 840 patients admitted 231 suffered from infectious diseases and several patients in different wards contracted scarlet fever although the infectious cases were kept separate from the general wards. Dr. Thorne states that "this hospital is constructed on the most modern principles and subject to the most stringent administration, that fever patients in their passage from the fever reception rooms to the fever wards do not pass within 40 feet of any of the wards occupied by other patients; that it would be difficult to find any general hospital where the reception of infectious cases, is subject to stricter regulations with a view to isolation and that there is probably none where the conditions affecting the patients themselves, are more conducive to this end." From such reports and from the knowledge of the nature of the germs of infectious diseases as now understood one is forced to the conclusion that such diseases should not be treated in a general ward, nor in a separate ward in connection with a general hospital, and also that it is very necessary to have separate wards for each infectious disease, to be treated at one time

in an isolation hospital and these wards should be at safe distances from one another. Authorities agree as to the necessity in all isolation hospitals of having an administration building detached from the wards, or having ward blocks one story high and of having its own laundry, storerooms, disinfecting chambers, mortuary, &c. The more storeys the more staircases, &c., required, the more chance of accumulating the germs of disease.

Dr. Wylie of New York, states that experience and science agree in showing that widely detached one storey wards allow the most thorough ventilation and therefore the smallest chance for the accumulation of infectious particles. They require less vigilance, dust and foul air find fewer lurking holes and channels, while cleanliness and ease of supervision as well as fresh air are more readily secured.

In summing up, an isolation hospital should consist of:

1. A detached administrative building containing a kitchen with its necessary stores, and the apartments of the hospital staff.
2. Wards in separate blocks at safe distances apart, providing for separation of the sexes and for different infectious diseases, as smallpox, tuberculosis, scarlet fever, diphtheria, &c.
3. Out houses such as laundry, mortuary, &c.

Were such a hospital established and equipped in each locality and the public health act strictly enforced the time would not be far distant before infectious diseases would be stamped out or nearly so, and our country become the richer and more healthful thereby.

A. HAIG.

DR. HORSEY'S ADDRESS AT MEDICAL CONVOCATION.

I APPRECIATE to the very fullest extent the honor conferred upon me by the faculty in inviting me to be present here this afternoon to address the graduating medical class and their friends, at the same time I can assure you that the day of my own graduating is not yet sufficiently far distant for me to have forgotten that my task, however invigorating it may be, is not always an easy one and I can therefore only ask that that same measure of consideration may be extended to me which I, in my undergraduate days, invariably meted out to those unfortunates who for the time being occupied a position similar to my present one. Indeed I think this is all I need ask for I can assure you that, as an undergraduate, I was ever and always a most sympathetic and decorous listener on occasion such as this as, no doubt, those present who may have known me in those now far distant days may perhaps recall.

It has for many years past been the custom, at this University to afford those just graduating in the various faculties an opportunity of listening to words of advice warm from the lips of men who have themselves by their success in their professions earned the right to speak with authority having brought honor to their Alma Mater and credit to the University in which they were trained. I have no doubt that the custom was an excellent one and I was therefore very much surprised when I learned that this year so radical an innovation was to be made in inviting me to take their place here to-day- *At first* I confess I was at a loss to understand what was the real reason which prompted this invitation to me. I tried to recall the details of my short Medical career if possible to find some incident therein which may have, by any chance, been the means of deluding some one into thinking that that career had been a successful one but I could conjure up nothing which could possibly be deemed extraordinary though my mind recalled one after another the incidents

in that career starting with my Valedictory here in 1888 in which I strenuously advocated a separate Convocation for the Medical Faculty being too impatient to await the regular Convocation in my anxiety to get practising on a long suffering public, and running along through a few weary, lonesome, unsatisfactory months during which I had more than ample time to cogitate on what might have been had I made the good use I should of my opportunities for study when at college, terminating somewhat abruptly after four short years of practice in a final and complete separation between my profession and myself and which even to this distant date I cannot recall without some feelings akin to grief, knowing as I do that the fault was not my profession, but my own and feeling that had I but learned to know her better, and had I but been a little more considerate of her, and taken a little more kindly to her I might have gone on in her company happy all my life. Under these circumstances as I have said I was at a loss at first to understand why our worthy Principal should have asked me to come here to address the graduating class. It was not so very long however before I realized what must have been the real reason. When I recalled his versatility, his all roundness of character, and when I also remembered the honorable profession to which he belongs and the excellent use which that profession often makes of pictures of the darker side of life to point a moral as well as of the brighter sides of life for purposes of imitating I very soon realized that the main purpose of my presence here was to demonstrate from real life some of those things which ought not to be done if you wish to be successful in the practice of your profession. In other words I am intended as the horrible example to warn instead of the usual high standard to be emulated.

I must confess that this idea had not occurred to me when I accepted the invitation to be present, otherwise I fear I should have felt obliged to have declined rather than to have come and either failed of the good purpose for which my coming was intended or to have been compelled to lay bare some incidents of a peculiarly personal character, which, for my own peace of mind I might have preferred should have remained undisturbed along with other forgotten incidents of the past. Having however, agreed to come, and having—ever since my separation from my

profession—lain great stress upon punctuality and the keeping of all engagements I am here, and I am glad that I am here, glad to have the opportunity of revisiting scenes which bring back to me many of the happiest incidents of my life, glad to return and find that good old Queen's is more firmly rooted than ever on the Old Ontario Strand, and with prospects brighter than ever for the widening of her sphere of usefulness. And just here I might say it is about time that this country realized more fully than she has heretofore the obligation under which she rests to this University. It is about time the country should understand how essential this University is and has been to the upbuilding of our National life and how much greater her influence might be under certain and more favorable conditions.

It may be that I am prejudiced in the matter, but I give my opinion for what it is worth, that in this country there is no single institution that is doing as much as this University toward the upbuilding of a strong, healthy, self-reliant public sentiment among the people, and if I, a mere political novice, may venture to suggest why her influence has been and is so potent in this direction I should say it is because in those branches of study which have more particularly to do with mental training and with the application of philosophy to public polity the faculty of this University is peculiarly strong having within it the recognized leaders in Canada in these branches of Higher Education.

To my friends of the Graduating Class, particularly, I have only a few words to say. I do not feel competent to discuss anything technical with you, and I do not feel disposed to go sufficiently into personal reminiscence to point out those pitfalls which should be avoided in order to be successful. I will therefore only bring this one matter before you. That there is ample opportunity for the exercise of all your energies and for the application of all your learning in our own country without of necessity having to go to a foreign land giving to it the benefit of your life work. I have done some little travelling myself in my time and I give it to you as my honest conviction that no where in the world are there such opportunities for young men in any walk in life as there are here in Canada; and besides there is certainly no country that can so ill afford to lose any of its native-born

citizens. *I sometimes* think that our present status in the Empire is not conducive to the development of the highest sense of the duties of citizenship. As a self-governitg Colony we enjoy all the privileges of British Citizenship and all the protection of British power without sharing sufficiently in the responsibilities and burdens of Empire. A state of affairs which, however advantageous it may appear to the mind of the opportunist cannot in the very nature of things have any tendency toward the up-building of that independence and ruggedness of national character which has made the citizenship of our Empire the glorious heritage it is to-day and which will best fit us for a defense of our priviliges and liberties in the inevitable times of stress ahead.

I would be very sorry to attempt to deny the right of any man in this free country to go anywhere and take any course which he might consider best calculated to promote his future welfare, at the same time we should not, I think, forget that this right is ours only because we are citizens of a free country and that it is possible to abuse our freedom sometimes unintentionally. We might, with profit, recall occasionally that in the military nations of Continental Empire this very right of self expatriation is denied to young men, and I submit this proposition to you as a reasonable one that in this under-populated country it is quite time enough for any one who wishes to deal justly by his country to leave it permanently when he has already sought in vain an opportunity for the exercise of his energies within it. The great material needs of this country to-day are men and money and altogether too often we are witnesses of a great out-pouring of both from our midst. I recall a case of one of our most prominent Railway Magnates who, having made his millions out of the stock of our National bonused Railways is seeking investment for those Canadian earned millions in an enterprise away down in the Island of Cuba while here in our own country and our own province immense dormant resourses await only the application of capital, ability and nerve in order to repay to their exploiters and to our people at large as well a rich harvest of blessing and profit. I do trust that this monied magnate may not set the fashion to the investing public of this country, but I mention this incident to show that we as Canadians are often careless in reference to the point I am endeavoring to make

that this young, sparsely populated, comparatively undeveloped country needs all her men and all her means. Some it may be among you are determined to go further afield than Canada. To those of you who feel that way let me say that the British Empire is world enough for any of you. Within it you may find every condition of climate, society and surroundings and I make bold to state that if any of you would tell me of any peculiar circumstances particularly attractive to your tastes in any foreign country I can point you to some portion of the Empire where the conditions are practically identical, and if this be so, why! I ask should anyone of you choose expatriation rather than to continue to live under the same institutions under which you have lived heretofore and which I know require no commendation at my hands in such an assembly in order that they should receive that respect and consideration which is their due. If you must go far afield—some men are built that way I know—at least stay within the Empire and then the loss while it will be local will not be national which after all is the main point.

I can very well remember the time when I could hardly have said that much honestly. The time was when I felt that a Canadian's duty began and ended with the interests of Canada. That time has gone for ever and I personally have arrived at that point where I feel that the interests of the Empire as a whole are paramount and that the sectional interests of any portion of it must ultimately be subservient to Imperial interests where they may tend to clash.

I have about arrived at the point for instance where I would consider any legislative enactment for the benefit of Canada at the expense of the rest of the Empire to be sectional in spirit and therefore pernicious as I heretofore would have considered any legislative advantage to Toronto or any other city at the expense of the rest of the Province. But I must not pursue this most inviting theme further. I have rambled enough already but I am glad to have had the opportunity of giving my views on this subject here more particularly because I held strongly to views very different to these when at College and may have given expression to them too, for I do not know that I was what might be termed backward in stating my opinions either privately or publicly in those days, rather too much the other way I fear.

Permit me in closing to say that I wish you all well. I am quite sure that your opportunities here for securing an ample equipment in knowledge for your life's work have been all you could desire. The advantage you have taken of those opportunities I presume varies with you individually now even as it did in my day. One thing I do hope that you may all be going forth imbued with a real love for your profession, for after all and in a word that I believe to be the point on which, in future years will depend most largely your success or your failure. If a love for your profession has not been kindled during your study of it I doubt very much its growth in the practice of it. The study of Medicine is so elevating—so entirely removed from everything in the nature of the sordid and worldly while the practice of medicine well! is not always so. Again I must assure you that it has been a very sincere pleasure for me to have been here and I will now only remind you of the main purpose of my remarks. I hope and trust you may all see your way clear to decide that Canada or at least the Empire is *good* enough, and *wide* enough and *great* enough and *deserving* enough for a fair trial at least of its opportunities at your hands—I thank you.

VALEDICTORY ADDRESS—MEDICAL CONVOCATION.

MR. Chancellor, Mr. Principal, Gentlemen of Convocation, Ladies and Gentlemen:—We are proud to have the honor of being the first Canadian Medical Graduates of the 20th Century. Although we have only stepped upon the first crag of the rugged precipice that leads to the heights of Medical fame, yet we are all determined to attempt the ascent. Whether we succeed or fail we do not think we will ever regret having taken the first step for in a profession which stands so conspicuously in the front rank of the sciences of the day even failure is honorable. However we hope to rise to some extent. We contemplate at least some degree of success rather than failure.

Not only are we proud because we are Medical Graduates but the fact that we can call Queen's our Alma Mater makes us feel doubly proud. The loyalty and affection which Queen's students and graduates show towards Queen's and her revered and honored Principal has become almost household conversation in Canada, and what better recommendation can a mother have than that her children revere and love her.

The recent large donation made by the faculties of Queen's in her behalf gives us additional proof of the deep and unselfish interest which our Professors have in her welfare. Such an act demands the esteem and admiration not only of those in immediate connection with Queen's but of anyone who is interested in University education. On the other hand the large grant of the local legislature of which we were made aware only a few days ago gives us an impressing instance of the favourable recognition which this University enjoys in governmental and outside circles generally. The present time seems to mark a new epoch in the development of Queen's and the advancing strides which are being taken just now are particularly notable in the bright career which has apparently been mapped out for her.

We of the Class of '08 are comparatively few in number but there are some things of which we can boast and in each of the years that we have been here we have given four of our numbers

to fight for Queen's in the Senior Football matches while in all other sports we have made almost as good a showing. In our classwork we think our professors will not shake their heads when we say that we have at least in some respects eclipsed any year that has gone before us. Perhaps never before in the history of the school can there be found so many papers marked between 97 and 100 or honour lists containing so many names. In friendly trials of strength with sister faculties we have held our own. In this connection the recent thrilling stories of the dread warfare which resulted in such horrid butchery in these halls are doubtless fresh in your memories. Such is the vividness of some human imaginations that it can convert a friendly trial of strength into a bloody melee, and an insignificant brotherly quarrel into a midnight Bowery scrap. These little incidents are only such as are natural to true brotherhood and always terminate in a free and hearty handshaking.

Although there are some of us who do not make much of a profession of religion, yet I think we all believe in love and duty to God and man. Not only do we regard the profession of the Christian Ministry as sacred but we feel that every man who serves his fellowmen is a minister of righteousness. I trust we all regard every honest effort which is being made to relieve pain and to make the world better and happier as divine.

Like all other medical students we have been refreshed by the aoses and pricked by the thorns which are to be found around the classroom and halls of a Medical School. Our relations with each other and with our Professors have been pleasant and I think I can say we have always contrived to make our studies interesting and profitable. However the shrill bugle call which regularly summoned us to pay the inevitable fees still rings dismally in our ears, and the monotonous plugging and dread anxiety which we went through during the few weeks preceding examinations, especially the final ones, will not be forgotten by us for many years to come.

It is inspiring to see our Dean, late Secretary and friend of Queen's, again at Convocation. The man who has to such a great extent served Queen's in her infancy, shared her sorrows and guided her through her difficulties is a man of whom we may all be proud. The hearty response which is being made in

behalf of the Dean's Scholarship from graduates all over America is a decisive proof of the opinion of his worth from those who have had the pleasure of attending his lectures in years gone by. We regret that on account of age he cannot now take so active a part in the affairs of the College but we hope he will live for many years to come and continually see the good result of all his labors. Though we deplore his loss yet we cannot but see that in the present Secretary Queen's has a man who is in earnest, who is competent and who is in heartfelt sympathy with his students. Instead of meeting a green gogled monster with a cast-iron frown and I'm in you're out sort of a manner. the kind of men that sits in the Secretary's chair in too many Universities, Freshmen are met here with the glad hand of welcome by Dr. Herald and at once recognize that he is their friend. If in the course of a number of years a scholarship be founded in his honor, what is left of the class of '08 will, I am sure, be more than pleased to contribute to it heartily.

Our Hon. Senator is with us again this year. His witticisms, his personality and his unique manner have helped to glue many a technical fact to our memories. We sympathise with him in his bereavement in the loss of his son and with him regret that a man of such sound scholarship and such excellent ability should be taken away in the prime of life, a loss both to his friends and to the Medical School of Queen's.

The dark cloud that hung over Queen's when it first became known that our worthy Professor of Medicine was seriously ill cast a shadow before us all. However we rejoice now that he is on the right road to recovery and next year no doubt will see him doing his duty as faithfully as ever. We commend the promptness with which the Faculty filled the temporary vacancy and the lectures given by Drs. Herald and Connell are only what we expected considering the high standing of both these men in their special business.

In general were we to show or feel anything but the highest respect for you who are our professors we should be ungrateful indeed. Your laudable sense of fairness, your evident interest in our welfare, and your strict attention to college work even at the expense of other duties are only a few of the qualities which have endeared you to us; we feel that we can do no more than to

follow your example and whether we attend to the needs of the sick in some lowly country district or get seated in the Superintendent's chair in a hospital of renown; whether our surgery will be limited to the extraction of carious teeth or extend to that degree of competence which will make us master of the trephine we trust we will always do our work in such a manner as not to bring discredit upon you who have been our teachers or the Medical profession in general. We are fully aware of the fact that in order to succeed we must continue to study and I think I speak for the whole class when I say that we will regularly dip our little cupful from the already large but ever widening stream of medical literature.

In general we have been pleased with the course given us here but there is no system so perfect but that it admits of some improvement. Thus with all due respect and humility we would like to make a few suggestions:—

In the first place we all feel that perhaps there is too much attention paid to the technicalities of theory at the expense of a sound, thorough and practical education. This seems to be particularly true in regard to the study of Anatomy. The demonstrators in this subject are faithful and competent men, but there are not enough of them. The result is that the beginner being incapable of making a good dissection without assistance too often has recourse to his text book alone, and thus learns his Anatomy without knowing its true meaning. We think that more demonstrators might be appointed to the dissecting room and thus the difficulty would to a great extent be overcome.

In Physiology perhaps there is too much attention paid to the acquirement of minute details. Now we fully recognize that in these days of medical progress the standards of the Medical Schools must from time to time be raised. But it seems to us that it would be much better to do this at first with reference to the subjects which have the most intimate connection with our practical life. Although we quite understand that Physiology is to a great extent the basis of medicine yet a easily forgotten mass of non-assimilated intricate details is really of no use in any line of study. The whole of medical science cannot be learned in four years and would it not be better to get a more thorough grasp of such subjects as Surgery, Practice of Medicine *e.g.*, and leave some of these other details for after study.

We are unable to see why it is necessary to have drawing students at work in the examination hall when examinations are being held. We submit that there are none of you who would particularly like that sort of thing yourselves. Apart from this we feel that such a thing would not help along the reputation of any school and that Queen's should avoid anything that might tend to lower the dignity of the place of examination.

The recent changes made in the General Hospital in regard to clinical material has opened up a wide field of discussion. We do not wish to go into this matter in detail. All we want to say is that it is the duty of the Faculty to make better relations. Without good clinical practice the medical student is sadly handicapped and without students a Medical College lacks its tone. We believe however that in the interest of the students and the school you will see that the matter is settled with satisfaction to both.

And now we wish you all farewell. To our Principal, to our Professors and to our Alma Mater we owe a debt of gratitude which we can never half repay. You will at least be kindly remembered by us and we trust that we will always follow your example in doing our work along the lines of fairness and right. Citizens of Kingston, what can we say to you? What has not been said before from year to year to you. Your homes and your friendship have been open to us and we only regret that because of college duties we could not avail ourselves of them to a greater extent. You have been true friends to us. Accept our hearty thanks and believe that we part from you with many vivid memories of your sincere kindness.—Fellow Students of Queen's we have to leave you also. We go out into the cold arena of practical life, you remain under the safe guidance of our common Alma Mater. Let us all obey her instructions, follow her principles and try to enter into her higher life more fully. If we do this we will surely never regret any of our time spent at Queen's. And now we must leave you all. We will look forward to the time when we hope to again visit Kingston and Queen's and renew some of the acquaintances which to us have been so enjoyable. We tender to you our best wishes and for the present we say good bye.

M. R. YOUNG.

FOUNDING OF THE DEAN FOWLER SCHOLARSHIP.

MR. Chancellor, Members of Convocation, Ladies and Gentlemen :—In the year 1854 a number of young men who were then studying medicine at the Provincial University in Toronto and who required to attend college but one year more to complete their course found themselves in a dilemma. They must either subscribe to religious tests or go without their degrees. In their difficulty they turned to Queen's and asked upon what conditions they might be granted their degrees. Up to that time there had been no Medical Faculty in connection with this University. The authorities of Queen's consulted the physicians and surgeons then practising their profession in Kingston. The result was the formation of the Medical Faculty of Queen's University. A reply was then sent to the young men that upon completing their attendance and passing the required examinations they would be granted their degrees in medicine by Queen's without having to do violence to their conscience. Thus, Sir, we see that at that early date Queen's was the champion of religious liberty and that her halls were open to all alike irrespective of class or creed and that her degrees could be obtained by anyone who attended the specified lectures and showed a sufficient knowledge of the prescribed subjects. Incidentally, Mr. Chancellor, I might mention that the 151 students registered in medicine this session are classified denominationally as follows :—

Presbyterians.....	45
Methodists.....	43
Anglicans	31
Roman Catholics.....	26
Congregationalists.....	3
Baptists	1
Universalists	1
Salvation Army.....	1

By consulting the records I find that the members of the Medical Faculty of Queen's University established in 1854 as a protest against sectarianism were Drs. Sampson, Stewart, Yates, Dickson, Hayward, and Fife Fowler, who was appointed to the chair of *Materia Medica* and Therapeutics. From that day to this Dr. Fowler has been continuously a member of the Faculty

ever labouring faithfully for the success of the Faculty and for the good of the students. During these 46 years he has held the following positions:—From 1854 to 1878, he was professor of Materia Medica and Therapeutics which chair he then resigned to assume that of the Principles and Practice of Medicine. This position he held continuously up to the beginning of the present session. In 1876 he became the treasurer of the Faculty and remained such until 1899 when he resigned. In 1883 he was chosen Dean of the Faculty. Last year he wished to resign this office also but at the earnest solicitation of the Principal and members of the Faculty he was prevailed upon to retain this position. I know I am speaking the mind of every member of the Faculty when I say that each and every one of us would have regarded Dr. Fowler's retirement as a misfortune and that we accordingly rejoiced when he was induced to continue at our head.

During these past 46 years and while he held the positions to which I have referred he was at all times actuated by the highest and the purest motives. His relations with the students were ever the kindest, his intercourse with the other members of the Faculty were at all times dignified and courteous and as our presiding officer, by his calm judgment, his faith in the future and his selfsacrificing devotion to our interests, he managed to guide us through our dark days and, therefore, we are all glad that he still lives to see the Faculty vigorous and successful. I am sure that I shall offend none of those who have been associated with Dr. Fowler when I state, that, in my opinion, the Medical Faculty of this University owes its very existence to him. In the days when the number of students was small and the competition of similar institutions was strong, Dr. Fowler devoted himself, heart and soul, to the general interest, giving freely of his time and his ability and receiving but little reward except that of the consciousness of doing his whole duty faithfully and well. To-day he has a reward which comes to few. He sees the fruits of his labours:—A Faculty the members of which (I speak for the others, Mr. Chancellor) are well prepared for their work and zealously devote themselves to it; the number of students increasing year by year, this increase necessitating the enlargement of the buildings and improvements in their internal arrangements.

Mr. Chancellor, who shall place a value upon a life-long service such as Dr. Fowler's? The value of such faithfulness to duty, such devotion of time, energy and ability cannot be estimated and is beyond any reward we may attempt to give. The Faculty appreciated this but at the same time we felt that Dr. Fowler should not be allowed to close his professorial career without receiving from the Faculty and the Medical Graduates of Queen's some evidence of the high estimate we all place upon his 46 years of service and of our sense of personal gratitude to him. Many suggestions were made as to the best manner in which Dr. Fowler's services could be commemorated. Finally it was decided to found a scholarship in Medicine all feeling that Dr. Fowler would be best pleased with a testimonial which would be of assistance to the students. The Medical Faculty and the Graduates of Queen's feel honored in being permitted to honour Dr. Fowler. In order that Dr. Fowler may have some tangible evidence of the existence of the scholarship, this parchment has been engrossed setting forth the purpose for which the Scholarship has been founded. With your permission, Mr. Chancellor, I will now read what is contained thereon :

TO FIFE FOWLER, M.D.,

Dean of the Medical Faculty of Queen's University.

The Medical Faculty and Medical Graduates of Queen's University desiring to commemorate your long, faithful and invaluable services to the Faculty, as Treasurer, Professor and Dean, decided to found in your honour a scholarship to be known as the Dean Fowler Scholarship; the said scholarship to be awarded to the student passing the best examination at the end of his third session and to be enjoyed by him during his fourth session.

The contributors now ask you to permit them to express their gratitude in this way, that your name may be thus associated in perpetuity with the Medical Faculty of Queen's University.

And now, Sir, I would ask you as the honoured head of this University to accept from the Medical Faculty and Medical Graduates of Queen's this scholarship and to present to Dr. Fowler this parchment which sets forth in a feeble way the esteem and the love which all Medical Graduates of Queen's bear to him who for 46 years has played such an important part in guiding the affairs of the Medical Faculty of Queen's University.

DR. FOWLER'S REPLY.

Gentlemen and Fellow-students, for I take it we are all students and I hope will continue so till the end of the chapter. I am gratified beyond what I can express by the receipt of this address, conveying to me, as it does, such a hearty assurance of kindly feeling and good will. It is most pleasing to me to know that the Medical Faculty and Medical Graduates of Queen's University desire to commemorate my connection with the College by the establishment of a Scholarship in Medicine. I trust that this Scholarship will be valued not only for the pecuniary aid it will afford but also because of the increased zeal which it may and surely will create in the pursuit of the study of Medicine. It may be of interest to many of you to know that I am now the only one surviving of those who established the Medical Faculty, now forty seven years ago. Dear old Dr. Williamson was one who took a very deep interest in its formation ; he taught chemistry the first year and I firmly believe that he would, if needed, have readily and successfully taught any branch in the whole curriculum. The first members of the Faculty were Drs. Sampson, Stewart, Dickson, Yates, Hayard and myself. It is pleasing to us and to all true friends of higher culture to realize that Queen's University and the Medical Faculty are to-day in a more flourishing condition than ever before. Long may it be !

QUEEN'S MEDICAL CONVOCATION.

ON Wednesday, April 10th, at four o'clock in the afternoon, in Convocation Hall, Queen's University held a Convocation for the purpose of conferring the Degrees of M.D. and C.M. and awarding scholarships and prizes to the successful students. As usual on such occasions the Hall was filled with an interested audience. The students occupied their reserved seats in the gallery and kept up their long established reputation by providing a programme for which arrangements had not been made by the Faculty. On no former occasion within the memory of the oldest inhabitant were the students so orderly and so well behaved. Every speaker was given a fair and respectful hearing. Chancellor Fleming presided in his usual happy and dignified manner. The proceedings were opened with devotional exercises conducted by Prof. Jordan. Prizes and Diplomas of Merit were then presented to the winners by Drs. Campbell, Ryan, Anglin and J. C. Connell and Prof. Marshall. Dr. Fowler presented the Medal in Medicine and Hon. Dr. Sullivan the one in Surgery. Dr. Sullivan's appearance on the platform is always a welcome sight to the students and a Kingston audience. He was accorded a most hearty greeting. All present were delighted to see him so far recovered in health and vigour. The audience expected something good from the Doctor and they were not disappointed. He was in a most happy vein. After referring to the circumstances under which he began the work of the Session, broken in health and weighed down by sorrow on account of the death of his son, Dr. D. V. Sullivan, he thanked the students for the kindness and consideration they had shown towards him throughout the winter. He then bestowed upon the graduating class a well-deserved measure of praise for the excellence of their work during the Session and for the very high standing they had taken in their examinations. He then entered into an eulogy of Principal Grant and his work and closed with a brilliant forecast of the successful future assuredly in store for Queen's and her Medical Faculty. The Chancellor then presented his Scholarship of \$70.00 to W. G. Tyner. Dr. Herald then presented to the

University the Dean Fowler Scholarship, the funds for which had been contributed by the Medical Faculty and the Medical Graduates of Queen's. Dr. Herald's remarks will be found on another page of the QUARTERLY. Dr. Fowler made a suitable reply which we publish. The ceremony of laureating the Graduates was next performed by the Chancellor, the Dean and the Secretary. Dr. M. R. Young, chosen for that purpose by his fellows, delivered the Valedictory Address which appears elsewhere in this number of the QUARTERLY. Then followed the orator of the day, Dr. E. Horsey, M.P., who addressed the graduating class, and who fully maintained his reputation as a speaker, earned while he was a student at Queen's. His address also appears on another page of this issue of the QUARTERLY. Just before going up to Convocation Hall the graduating class were assembled and without any previous warning of what they were to be asked to do they were requested by the Principal to write on a slip of paper the name of the member of their class whom each independently considered most likely under all circumstances and under all temptations to do the right simply because it was right. Several members of the class received votes but a clear majority was obtained by F. F. Carr-Harris. The Principal during Convocation presented Dr. Carr-Harris with a testimonial in books as being in the estimation of his fellow-students the man of the highest morale in the graduating class. The proceedings were closed by singing the National Anthem.

GRADUATES IN MEDICINE.

The following gentlemen received their degrees of M.D., C.M. at Queen's Medical Convocation :—

I. G. Bogart, Borwick.	H. A. Bowie, Kingston.
F. F. Carr-Harris, Kingston.	L. D. Densmore, Maitland, N.S.
E. W. Fahey, Kingston.	T. S. Genge, Holleford.
W. S. Grimshaw, Kingston.	D. B. Lazier, Belleville.
Ae. Macdonald, Ottawa.	A. D. Macintyre, Glencoe.
P. B. Mellon, Ottawa.	J. McCulloch, Port Perry.
H. E. Paul, Newburgh.	C. A. Porteous, Montreal, Que.
W. C. Redmond, Picton.	E. Richardson, Brockville.
E. Roy, Kingston.	D. T. Smith, Ottawa.
E. J. Thompson, Kingston.	W. G. Thompson, Kingston.
	M. R. Young, Millsville, N.S.

THE QUARTERLY extends congratulations to these young gentlemen and wishes them every success in their chosen profession.

BOOK REVIEWS.

We have received from J. A. Carveth & Co., the Canadian Agents, a copy of *Modern Medicine* by Salinger and Kalteyer. The work is published by W. B. Saunders & Co. This is sufficient guarantee of good workmanship. This book will be found useful to students of Medicine. The body of the book will be found reliable. The introductory chapters on Symptomatology and Semeiology, Physical Diagnosis, Clinical Bacteriology and Laboratory Methods are short, concise and full of information. The plates, both black and white and coloured, are clear. The diagnostic tables ought to prove of assistance to the student. Taken all in all we can recommend the work.

A *Text-Book of Gynæcology*, edited by Charles A. L. Reed, published by D. Appleton and Company. This work is the result of the labors of a number of specialists in Great Britain, the United States and Canada. While one may question the necessity for more books along this line one cannot, if he reads the work carefully, be long in doubt that Dr. Reed and his co-contributors have done their work well. We commend the book to the student of Gynæcology.