

**Introductory address at the public opening of the Medical Session
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INTRODUCTORY ADDRESS

AT THE

PUBLIC OPENING

OF THE

MEDICAL SESSION 1867-68,

IN THE

University of Glasgow,

By ALLEN THOMSON, M.D., F.R.S.,
PROFESSOR OF ANATOMY IN THE UNIVERSITY.

GLASGOW :

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INTRODUCTORY ADDRESS.

GENTLEMEN,

It devolves upon me at the commencement of another Winter Session to address to the Medical Students of this University some words of welcome, encouragement and advice.

In performing this duty, which I do with very great pleasure, let me first assure you of the kind feelings with which my colleagues and I regard you as pupils, and of our cordial sympathy in the anxious and laborious work in which you are soon to be engaged. To those of you who are already acquainted with the nature of that work, and have done their best in past sessions for its accomplishment, I need say little to convince them of its importance as bearing on their success and welfare in after life, nor to encourage them to persevere in their labours. But to those who are about to enter for the first time on a course of professional study, it may be useful on an occasion like this to endeavour to point out the best manner of their availing themselves of the opportunities for instruction offered by this Medical School, and of avoiding some errors into which they are liable to fall in prosecuting their studies.

Some direction of this kind, indeed, is felt to be necessary in the early part of a student's career, not only on account of the wide range and varied nature of the studies comprised in the medical curriculum, but also from the recent changes in the regulations for study and examinations of the various boards throughout the country from whom licences to practice are obtained.

Let me first, therefore, explain shortly the present state of our profession as regulated by legislative enactment.

RECENT MEDICAL LEGISLATION.

The Medical Act of 1858, by which all medical licenses, or as they are termed, legal qualifications to practice, are now regulated, although a very important one in many respects to the profession

and the public in general, did not at once simplify in any great degree the machinery by which medical men are admitted to the possession of their legal qualifications as physicians or surgeons. For, from the adverse nature of some circumstances, and more especially from the conflicting interests and opinions under which it was passed, that Act was mainly declaratory or confirmatory of the existing rights of the public institutions and corporations, and did not prescribe any general or uniform plan for conducting professional education or for granting licenses. You must not, however, on that account undervalue the benefits which have been obtained from the Medical Act.

It provided by means of an authorised register for the distinction between practitioners who have received a legal title to practise and those who are not so qualified; and it accorded to all duly qualified practitioners equal privileges of practice in every part of the country, together with several other important legal rights. The Council constituted under the Act have constructed with great care and labour an improved general pharmacopœia for the whole kingdom: they have purified the register, where possible, by the exclusion of unworthy persons; and they have given out such recommendations with respect to education and examinations as will indirectly influence in a very considerable degree the terms on which licenses to practise are to be obtained, and in the end may very probably produce more uniformity and a greater amount of improvement than might have resulted from immediate legislative interference by the Act itself.

The Medical Act however left all bodies previously entitled to grant degrees or licenses in the possession of the same rights as before; and there are accordingly as many as nineteen of those bodies from which legal qualifications to practise either Medicine or Surgery, or both, may be obtained. These bodies are—

The Universities of Oxford, Cambridge, London, Dublin, Queen's University of Ireland, St. Andrews, Glasgow, Edinburgh, and Aberdeen.

The Royal Colleges of Physicians of London, Dublin, and Edinburgh.

The Royal Colleges of Surgeons in the three divisions of the kingdom with the Faculty of Physicians and Surgeons of Glasgow, and The Societies of Apothecaries of London and Dublin.

But although, as I have said, the Medical Act did not prescribe any uniform or determinate course of education and examination

on which the respective diplomas and licenses of these various bodies should be granted, yet it was not without influence over them; as it gave to the Medical Council a power of control over the licensing boards (to be exercised, however, only through representation to the Privy Council) by which they might refuse to register any qualification which might appear to have been granted on an insufficient course of study and examination; and further, in order to give efficiency to this power of control, the Act authorised the Council to require from the different licensing boards returns of their courses of study and regulations, and to inspect their examinations.

In dealing with an inquiry into the subject of Medical Education the Council soon became persuaded that there was little occasion to make detailed suggestions as to the course of strictly professional study required by the various licensing boards, being of opinion that most of these courses were already sufficient or would soon be made so under the new system, and that it was even desirable that a certain amount of latitude or difference among them should be allowed to exist. But they considered it of paramount importance at once to fix the lowest age at which a qualification shall be granted at 21 years, to make four years the minimum duration of the course of professional study, and to lay it down as a rule that previous to the commencement of that study all those preparing to enter the medical profession should have passed a satisfactory examination in certain branches of general education. With regard to the professional education itself they conceived that its ultimate uniformity, in so far as that might be expedient, and its increased efficiency might be best promoted through the improvement of the examinations of candidates for a legal qualification, and they have accordingly instituted the inspection of the examinations of the different licensing boards which is authorised by the Act.

To some the powers of the Council as conferred by the Act have appeared too extensive and arbitrary; to others, more impatient for rapid and striking results, the action of the Council has appeared tardy and ineffective. But I feel assured, that, when the difficulties under which the Medical Act had to be administered are fairly considered, the Council will ere long receive credit for prudence and moderation in the exercise of their powers, and that their recommendations for the regulation and improvement of preliminary education and professional examinations, though operating

slowly, will be regarded as tending not the less securely to produce a marked elevation in the character and attainments of those who seek to join the medical profession.

One thing relating to the Medical Act, let me say in passing, appears to have been unfortunate, viz., that an expression it contains with respect to the qualifications for practice obtained from the several bodies recognised by the Act, seemed to limit the kind of practice to one or other branch of the profession, that is to Medicine or Surgery exclusively, according to the source from which the license was obtained, and thus to perpetuate and establish a distinction which in reality ought not to exist between the educational requirements of those preparing for different branches of the profession.

Although I believe there may still be reasonable doubt as to the correctness of the interpretation thus given to the Clause of the Act referred to, it has had the effect of making it expedient, if not absolutely necessary, for all those who are to engage in general practice to become possessed of what has been called the double qualification, that is a license in Surgery as well as in Medicine. It is this view of the interpretation of the Act which forced the Universities to grant a degree in Surgery distinct from that of Medicine, and which has tended in some degree to keep up an injurious multiplication of the examinations required for obtaining the legal qualifications for general practice,—a state of matters which has only been partially obviated by the combination (as authorised by the Medical Act) of certain of the Colleges of Physicians and Surgeons for the purpose of granting on one examination a joint or double license.

Nearly at the same time as the Medical Act was passed, the Scotch Universities were reconstituted under the Act of 1858, and the provisions of that Act were soon afterwards introduced by a Royal Commission, which among other parts of its duties, issued Ordinances containing regulations for granting medical degrees in each University. In the main these regulations are in harmony with the recommendations of the Medical Council, and I may say in general that any slight differences between them adm. of being easily removed so soon as it shall be ascertained which are to be preferred.

It may be proper here to call your attention to the fact that, as connected with our profession, the function of the Scotch Universities (I speak now of Glasgow, Edinburgh and Aberdeen, St.

Andrews being somewhat differently situated) is double, as they not only have the power by their degrees to confer legal qualifications to practise, but are the seats of complete medical schools entirely under their administration, and in which a full course of general and medical education may be pursued. The case is different with the English Universities and with the Colleges of Physicians and Surgeons and Societies of Apothecaries, which, with the exception of Oxford and Cambridge, where some part of a professional education may be obtained, have examining boards constituted under them, and receive as qualifying for their degrees or licenses the instruction of various medical schools affiliated to them, but do not themselves contain establishments for medical education.

It is right for you also to know that, however convenient and agreeable it may be for you to obtain your degree or license from the University in which your education has been conducted, it is by no means necessary that you should do so : For, while you may pursue your studies for a part or the whole of your course in this University, you are still free to apply for a diploma or qualification at any of the other licensing boards ; and you will find that there are no differences among them in regard to the course of study or examinations which with a little attention cannot be obviated so as to admit of your following the plan I indicate. It is no doubt a source of satisfaction to the teachers in a University to see their pupils worthily attain to the honours of its degree ; but I believe I speak the sentiments of my colleagues when I say that, while we are naturally anxious for the success of our school, we should wish to see that success mainly evidenced by the efficiency of our instructions rather than by the number of our graduates, unless these are in every way worthy of the high distinction conferred by the University degree.

Having thus briefly explained to you the present state of matters with respect to the acquisition of a legal title to practise, let me now direct your attention to the circumstances which I believe will most conduce to enable you fully to profit by the course of study on which you desire to enter.

A glance at the regulations of any of the licensing bodies to which I have before referred, or to those contained in our own Calendar, will at once show you with what parsimonious care your time must be employed to accomplish the task you propose for yourselves within the allotted period ; and I should not be surprised if some of you in viewing the multiplicity and extent of the subjects

of study should be led almost to despair as to the possibility of success. But I may encourage you to be of good heart, and to believe that though the task is truly arduous, much may be done by the assistance of your teachers on the one part, and by your own active and judicious exertions on the other, to lighten the labour, to overcome the difficulties, and to bring you in safety and satisfaction to the object of your ambition.

CHOICE OF A PROFESSION.

But first of all I think that, before entering on this long and laborious course of exertion, you are called upon to consider whether you have acted wisely or rightly in the choice of the profession to which your whole life is to be devoted.

I fear it too often happens that young men enter on a course of education for the medical profession without duly considering whether they possess the natural dispositions and abilities which are best adapted to the performance of its various duties. Many are led into it by circumstances of a purely trivial or accidental nature; comparatively few are attracted by a genuine love for its study, or by a firm conviction that they are possessed of natural endowments which will lead to their ultimate success.

I do not mean it to be inferred from what I now say that high natural talents or any peculiar mental endowments are indispensable to a fair measure of success in the medical profession. On the contrary, it is well known that moderate ability, if combined with tact, perseverance and good sense, will enable most persons to attain to a creditable position in general practice. But I have no hesitation in saying that no one can expect to go through the labour of preparation required to enter the profession with comfort or satisfaction to himself, and no one can expect hereafter to confer upon his fellow-men all the benefit which should accrue from professional skill, without an ardent love of the studies which are necessary, and indomitable energy and persevering industry in their accomplishment. To this and to the accumulated knowledge which results from study, must be added in order to ensure success, a certain aptitude for the observation of natural phenomena, a power, original or acquired, of tracing these phenomena to their causes, quickness in devising practical expedients and judgment in applying them to useful purposes, tact in the appreciation and management of human character, self sacrifice and ready sympathy

with others, and the moral qualities which are calculated to inspire confidence in those submitted to your care. To the higher mental endowments which will lead to distinction in the profession, it is unnecessary for me at present to allude ; but in speaking of those qualities which are indispensable, I must not omit with reference to Surgery the mention of another, too often left out of sight, viz., the possession of so much mechanical turn or acquired skill as may warrant you to undertake the performance of manual operations.

A sufficient amount of knowledge, derived from study and observation is of course the foundation of all success ; but this will be unavailing without the possession of more or less of the accessories to which I have referred, and among these, no doubt, tact, good feeling and sound sense, may in our profession, as in most other employments, be reckoned by far the most important.

Let every one therefore pause before resolving to adopt Medicine or Surgery for his profession, and consider whether he possesses the natural dispositions and ability which may fit him for their duties ; and unless he is impelled by strong desire, and is convinced in his own mind that he already possesses, or may in due time hope to acquire the requisite qualities, let him seek some other field for the employment of his time and faculties. Do not allow yourselves listlessly or inconsiderately to drift into the profession, nor still less adopt it merely as an easy and probable mode of gaining a livelihood ; but be well assured that you have chosen an employment for which you feel yourselves fitted by your bodily powers and mental disposition and capacity,—one to which, while you are attracted by strong predilection, you feel that you will be able to devote all your energies through life, and in which you may hope, by steady exertion and the blessing of God, to have the best opportunity of contributing your share towards the attainment of the beneficial objects of medical and surgical skill.

GENERAL EDUCATION.

In the next place, it is also proper, before entering on studies of so complex and difficult a nature as those of medicine are, that you should consider in how far your minds have been prepared, by previous discipline and acquirement, for profiting fully by the professional instructions you desire to receive ;—whether you are yet justified in relinquishing that earlier mental training which should

form the introduction to every learned profession;—and whether you have acquired those elements of a liberal education which will secure for you hereafter, when thrown upon your own resources, that place in the estimation of the public which is due to the learning and humanity of our profession,—but which has too often been withheld through the want of those accessory accomplishments which mark the man of general education.

It has been often observed that medical men, as a class, do not in general obtain the social position which is accorded to the members of the other learned professions, such as those of the law or the church; and there is too much reason to believe that this has arisen partly from the fact that many persons, perhaps otherwise estimable in character and skilled in mere professional matters, have obtained legal qualifications to practise, and even University Degrees, without possessing that original cultivation of mind and taste which proceeds from early training in general education. It was the conviction of the truth of this view, and of the important practical deduction that naturally flowed from it, that the improvement of the status and qualifications of medical men in this country was more certainly to follow, in the first instance, the amelioration of their general culture, than the extension of their professional education, which induced the General Medical Council to give early attention to this subject, and to frame recommendations as to preliminary education which have been very generally adopted and acted upon by the licensing boards throughout the country.

By these recommendations, which may now be considered as having the force of laws, you are aware that, although there is no positive prohibition to engage in medical study at any time or in any way that may offer, yet, in order that such study should form a part of the course required for obtaining a license or degree, it is necessary, in the first place, that the student should have passed an examination in general education, upon which he may be registered as a Medical Student, and that after such registration, a period of four years shall be passed in professional study before any legal qualification can be obtained.

The wisdom of this enactment has received ample acknowledgement in the readiness with which it has been followed by almost all the licensing bodies; and it is not too much to say that its practical utility has been already shown by the improvement which begins to be apparent in the attainments of candidates for medical honours and licenses in various parts of the country.

How, indeed, should it ever have been conceived possible to apprehend the recondite problems of mechanism and vital action in health, or the derangement of mind and body in disease, to follow and to compare the accumulated and often conflicting statements of previous experience, and from all to gather the soundest precepts for the skilled application of diverse remedial expedients, without an education of a superior order,—much more without even a grammatical use of our own tongue, an elementary knowledge of the dead languages, some acquaintance with psychology, and the rudiments of mathematics and of physical science?

It must be remembered further, that the degree of Bachelor or Doctor of Medicine from a University, to which many of you aspire, is not merely a license to practise, but is also an honorary title recognised by the public as implying learning, both general and professional, derived from systematic education; and those, therefore, who seek this title have not merely to acquire and maintain a character for skill in their profession, but to show themselves worthy of the honorary distinction which accompanies their legal privilege to practise. You may be aware that in our University system, the possession of any of the higher degrees, as they are termed, of Divinity, Law, or Medicine, formerly presupposed the possession of a degree in Arts at least of the rank of Bachelor; and there can be little doubt that wherever it may be possible, it is desirable that the candidate for a medical degree should have gone through that thorough training in literary, philosophical, and scientific subjects which qualifies a candidate for an Arts degree. I can only say for myself, that a long experience of the capacities of students of medicine in the earlier part of their curriculum has shown me the superiority of most of those who have come to the study of medicine already possessed of a degree in arts.

Much, however, as we might desire that all graduates in Medicine should previously be graduates in Arts, it must be confessed that there are almost insuperable difficulties at present existing which make it inexpedient to enforce any enactment rendering that imperative,—without at least a very considerable modification of the requirements in study and examination for the Arts degree as now constituted. In the present state of society in this country, it seems necessary that a young man should be ready to enter on medical practice by the age of 21, or at latest of 22 years, and as the course of professional study must occupy not less than four years, it follows that medical education must commence at the

age of 17 or 18. And, further, as in most instances University education does not commence before the age of 15 years, and often later, it seems almost impossible, without some great change in our School and University system, or, without an unwarrantable sacrifice of time, to obtain the degree of Arts on a regular course of study before the commencement of medical education.

But although such difficulties may exist in combining an Arts degree with the professional title, the importance of preparatory education to the medical student must not be underrated. Who can deny that an acquaintance with the Latin language, as the foundation of literary acquirement, and the inlet to scientific nomenclature, is indispensable? and it will be generally admitted that the addition of some knowledge of Greek, though not absolutely essential to the study of scientific and practical medicine, must yet be of service in the aid of general accomplishment and the comprehension of scientific terms? Is it not apparent, also, that by an acquaintance with the modern languages a wider sphere of general and professional information is opened to the student of medicine?

To enable the medical student to enter upon the scientific study of his profession, he must beforehand know something of the scientific method of observation and reasoning, and have obtained at least such an elementary acquaintance with the accessory sciences bearing upon medicine, as will pave the way for the ready comprehension of the more complex phenomena involved in medical study. How, for example, can precision of language or ideas in the description or estimation of form, dimensions and proportion be obtained without some acquaintance with algebra and geometry? and how can the student of medicine expect to follow the description of any of the physical phenomena which occur in the living economy, any more than he could in the material world, without some knowledge of the elements of chemistry and natural philosophy?—still less can he appreciate the nature of strictly vital phenomena. Although muscular force, for example, may owe its production to conditions of matter which are peculiar to the living body, yet the animal motions are subject to the same mechanical laws as those of dead matter in natural or artificial states of combination. The flow of fluids through the vessels of the body can only be studied intelligently through a knowledge of the principles of hydraulics; and the whole cycle of changes of composition of food, air and the constituent particles of the living

frame can only be understood through the application to their investigation of the same science of chemistry, which is applied to the explanation of similar changes in the external world or in our laboratories.

But it is vain to reiterate illustrations of the necessity of the application of scientific principles to the right study of medicine. The whole of that study is an attempt to establish the proper application of scientific principles to purposes of practical utility in the maintenance of health, the relief of suffering and the cure of disease; and the result of universal experience has been in medicine, as in any other scientific art, that the more our practical methods have been founded on strictly scientific principles, the more extended and useful has the practical application become. And if in Medicine we have, as some would assert, as yet failed to form a complete system, it is only through the extreme complexity of the problem presented for our solution, not, certainly, through any fault of method as now understood, nor any excess of scientific means for the accomplishment of the object.

It is not for me to enter now into the discussion of the vexed question how much of the successful exercise of medical practice has heretofore been the result of a happy or careful repetition of methods of treatment derived from purely empirical sources. In the absence of other higher means, much, no doubt, may be done by dependence on the experience of those who have gone before us; but I speak mainly of what is applicable to the right study and satisfactory practice of our profession and its advance towards perfection, when I say, that the one cannot be accomplished with any comfort or success without a foundation in scientific principles, and the other cannot be undertaken with any self-reliance unless upon the basis of scientific study. It is, however, but fair to admit that medical study is, from its own nature as well as from that of the accessory branches, eminently calculated to expand the mind and to afford scientific and general mental training; and that it is mainly necessary, therefore, that the student should at first be prepared to take full advantage of subsequent means of cultivation.

I would therefore advise those who aspire to excellence in their future career, to consider carefully, before the commencement of their strictly professional education, whether or not their minds are already sufficiently prepared for the task; and if they have any doubts on this subject, I would recommend that they should rather devote some longer time to the improvement of their preliminary

or general and scientific knowledge, than plunge at once into the maze of professional study with minds unable fully to profit by its revelations. You will soon become aware that the departments of professional study are so extensive and engrossing as to preclude the possibility of returning to the acquisition of elementary knowledge; and, if so situated, you will throughout your course meet with impediments to your advancement which will cause you continual regret that you did not take advantage of the opportunity at the time when it was possible.

Let us also consider the credit of our University in this matter, and do all in our power to place the general and scientific education of our medical students on such a footing as may secure a suitable position in public estimation for all those who obtain the honours of her medical degree.

PROSECUTION OF MEDICAL STUDY.

In the third place, supposing these preliminary questions to have been settled satisfactorily, let me now direct your attention shortly to the spirit and manner in which your Medical Studies ought to be prosecuted.

From my experience of the students in this University, I feel assured that no general exhortation to diligence and attention is necessary. The conviction that their conduct during the next few years will determine their fate in after life must to all young men of prudence be ample stimulus to exertion. If to this you add a laudable ambition, a conscientious sense of duty, a desire to satisfy the anxious expectations of parents and friends, then the greatest labour of which you are capable will prove a source of pleasure rather than an irksome toil.

Our profession is assuredly no refuge for indolence or inactivity, nor can the course of study in which you are to be engaged be accomplished with ease. On the contrary it is confessedly so difficult and laborious, that nothing but the intense interest excited by the knowledge it imparts would sustain the efforts of many of those by whom it is undertaken.

The extension of knowledge in almost all the departments of medicine and its accessory sciences is now so great that a life time is required to obtain a full acquaintance with some of them. To master the whole, therefore, or rather I should say, to gain such a knowledge of parts of them as may be combined in a useful profes-

sional course of study, demands great circumspection in the selection of topics and corresponding prudence and management in the method of study: And as, from the present *overcrowded* state of medical science, as I might call it, as well as from some other circumstances, students are liable to fall into some erroneous methods of study, I will take the liberty of referring to one or two of the most important of these errors, and endeavouring to point out the best way in which they may be avoided.

VICIOUS PRACTICE OF CRAMMING.

For some time it has been remarked by those whose attention has been called to medical education that students are too much given to prepare themselves with intense labour and assiduity for the emergency of examinations, rather than to direct their efforts to the more useful object of obtaining more lasting and substantial knowledge. In passing from one department to another, or from one part of a subject to another, they put forth in each their full powers, and fit themselves to make a considerable or even a brilliant display of their attainments for a time. But the effect of such efforts is evanescent, and fades rapidly from the mind, without either leaving a satisfactory amount of useful knowledge in store, or producing that wholesome culture which always follows well conducted study; in short to use the received term, the student has been *crammed*, and not only fails to attain the object for which he has spent so much time and labour, but may have his mind severely and perhaps permanently injured by the vicious exercise of its powers.

In what I now say, I do not refer to the so called process of grinding, to which an ignorant or idle student may find it necessary to resort in default of genuine study; nor would I on the other hand throw discredit on preparation under a professed grinder altogether, which if well conducted, may prove to be an excellent kind of tutorial teaching. But I refer more particularly to a habit which has grown up very much within my recollection, which I believe prevails to a great extent in other studies as well as in that of medicine, and which according to my experience, exists among our best students as well as those of less ability and diligence. As to the origin of this practice the students are themselves probably the least to blame, and we must look for its cause elsewhere,—partly in the increased multiplicity of the isolated facts with which

some parts of medicine are at present burdened,—it may be in the attempt of some teachers to convey too great an amount of information within a limited time, and partly in the number and extent of the examinations to which candidates for medical licenses are frequently subjected. The result, at all events, of this state of matters is that there is too much of apparent learning, and too little of thinking and reflection on the part of the students. They are made in fact, passive recipients of vast quantities of details of facts, without their minds being voluntarily or actively engaged in assimilating the information communicated to them, of reducing it to general principles, and of arranging it in the mind so as to render it available in future.

In order to avoid this error, you must endeavour to make your knowledge real, substantial and lasting, and above all you must make your acquisition of facts subordinate to the attainment of general principles.

METHOD TO BE FOLLOWED.—LECTURES AND READING.

For this purpose, in prosecuting your studies by attendance on lectures and by reading, you must first of all acquire the power and habit of accurate observation and precise description of any phenomenon which presents itself, and of clear and simple apprehension of any statement or information which is communicated to you.

Next you must concentrate your attention for the time being on the subject which demands your consideration, and endeavour to improve the powers of your memory by this effort of attention, and by careful and systematic arrangement of facts and principles in your mind, rather than by frequent repetition, as in the practice of learning by rote.

Third, never be listless or inactive in study, but while it lasts, let your mind be an active participator in the acquisition of knowledge, so, as it were, to take forcible possession of the accumulated stores which are to be laid up in its gradually widening capacity. Fourth, reflect carefully on the nature of each portion of knowledge as it reaches you; consider from time to time how much of it is new to you, or in what relation it stands to facts and principles already known; and arrange your thoughts systematically on every subject which comes under your notice. Fifth and lastly, let your chief motive for study be the interest of the subject and the improvement of your knowledge, rather than any immediate display of your attainments.

In the routine of your College duties, be careful, unless prevented by illness, to attend upon every meeting for lecture or examination, as upon all other duties, with scrupulous regularity. I know that somewhat loose views on this subject prevail among students and even extend to some teachers, but it is undeniable that absence from even a very few lectures may break the continuity of your study in such a manner as to diminish greatly its interest and benefit. Strict regularity, on the other hand, will not only secure to you all the good which you seek in following any teacher, but will tend to the formation of those habits of punctuality in the affairs of life, the value of which to the medical practitioner cannot be overestimated.

Do not persist in taking such copious written notes of lectures as may withdraw your attention from the whole substance of the information communicated, but endeavour rather, afterwards, to recall to your recollection the most important parts of it, and make sure of giving precision to your ideas by repeating it afterwards to a friend, or by the improving exercise of putting down an account of it in writing.

You must be aware, however, that a daily lecture of less than an hours duration can supply only a part of the information required in any subject, and that full knowledge must be obtained by carefully selected supplemental reading of the best authors. From lectures you should receive guidance as to method and principles and as to sources of information; and from a good lecturer you ought also if possible to catch some of the spirit which he endeavours to throw into his teaching. But to extended reading, not of text-books only, but as you progress, of special works or monographs on particular topics, you must look for that more complete and exhaustive information upon which a mature judgment in professional matters may be based.

EXAMINATIONS.

With respect to examinations and the preparation for them, in the multiplication and perversion of which, as I think, lie some of the defects in the present state of our education, it is less easy to say how error is to be avoided. Competitive examinations, whether as a constituent part of a course of instruction, or as a test of the qualification of candidates for honours or privileges, are certainly liable to be attended with evils, and yet, according to our present system, they cannot be superseded.

Class examinations of students, whether written or oral, ought to be so frequent as to remove the risk of their being specially prepared for, and of such a nature as to render them satisfactory tests of the substantial progress of the student rather than of his powers of memory.

Examinations which are to be the tests of fitness for honorary titles, licenses or public appointments, should be such as clearly indicate real knowledge, not belonging to any particular school or mode of instruction, and not, as is too often the case, involving information of a kind peculiar to one set of teachers, to be obtained by a process of *forced feeding*, and when acquired, not perhaps of much value either as a means of mental training or as possessing practical utility in the affairs of life.

In the Medical Classes of this University, as we judge that class prizes are not appropriate to professional students, it has been for some time the custom to arrange the pupils in an order of merit according to the manner in which they acquit themselves in examinations, and to grant certificates of merit accordingly. Seeing the care and labour bestowed upon such examinations and the favourable circumstances under which they are usually conducted, it is to be regretted that the very reliable information thus obtained as to a student's proficiency in study and capacity for work should not be turned to account as a test of qualification for a license. There is, however, considerable difficulty in making this information available in consequence of the jealousy with which the examination of pupils by those who have been their teachers is by many regarded, and because of the actual risk of some degree of undue partiality.

There can be little doubt that, in general, teachers, or those who have had some experience in teaching, are the best examiners, indeed in some instances the only capable ones: and the association with them of impartial assessors seems so fully to obviate the objections to which the employment of teachers as examiners for licenses is liable, that it is very desirable that an effort should be made to favour and perfect a system by which class examinations might be received in part as tests for qualifications, and a powerful encouragement might thus be given to continued exertion throughout the whole course of study.

It ought not to be forgotten in connection with this subject that a considerable part of the study for medicine is of an initiatory or preparatory kind,—and one therefore of which the general influ-

ence on the student's habit of observing and thinking, rather than his remembrance of details, is of importance. It must be obvious, therefore, that the evidence of the manner in which a candidate has acquitted himself in the study of certain branches is a most valuable test of qualification; and might even be allowed under proper regulation to supersede the repetition of special, or at least of detailed, examinations on the same subjects for the license.

But it is far too wide a question for me to attempt to consider in what manner greater fairness and efficiency may be given to examinations in general. Fortunately as regards those connected with our own profession, and in much of the study preparatory to them, there are within our reach means of diminishing in a great degree, or if fully followed out, perhaps of altogether preventing the worst evils of these faulty methods. I refer to the practical nature of the instruction which may accompany the study of almost every department of medicine.

THE PRACTICAL METHOD.

In a well-appointed medical school there is scarcely a branch of instruction in which the practical method cannot be advantageously introduced, as in Botany, Zoology, Anatomy, Physiology, Chemistry, Pharmacy, considered as the preparatory departments of Medicine, in connection with which the means of such practical instruction are in general amply provided; and the same is the case with Medical Jurisprudence and Pathology. In the more strictly practical departments themselves of Medicine, Surgery, and Midwifery, the advantage, or rather necessity, of combining from the first the practical with other methods of study is so apparent as to require no argument or illustration; and it is obvious that, so soon as the preparatory training has been gone through which confers upon the student a power of skilled observation and a learned or scientific judgment, every possible means should be employed to conjoin practical observation and experience with other means of gaining an acquaintance with the phenomena and treatment of disease. It is in this way only that the evils are to be avoided which may proceed from *over-lecturing*, as it has been called, or from exclusively didactic instructions; and it is thus that you may most surely hope to acquire the independent judgment and fertile resource which characterise the skilled and ready physician and surgeon.

Let me then impress upon you that, along with other approved modes of study, experimental analysis in chemical and pharmaceutical laboratories, dissection of the larger parts, and microscopic examination of the minuter textures of the human body, experimental observation of the living actions in man and all organised beings, the study of the external characters and internal structure of plants and animals in museums and in the field of nature, and finally, the long continued and oft repeated view of the treatment of disease by others and the responsible care of patients by yourselves in hospitals and dispensaries;—these are the surest ground work on which the superstructure of your real knowledge can be founded.

Is there any one who would be contented to learn from the description of others that the pulse of an adult naturally beats 72 times per minute, and that it must be compressed to judge of its fulness or firmness, or who would not choose at least to verify these facts by his own observation? Is it not preferable at once to listen to the two sounds of the heart, and through careful actual observation to become familiar with their nature and rhythm, rather than to be satisfied with what may be learned on the subject from lectures and books? Would any rational person rest on a verbal account his knowledge of the structure and action of the valves of the heart, when he might in a few minutes examine and test experimentally upon specimens the whole arrangement of that interesting mechanism? Can words convey any adequate idea of the feeling of crepitation in a fracture, of the position of parts in a dislocation, of the state of the tongue or the aspect of the countenance in fever, or of a thousand other symptoms which, once seen and studied in nature, are clearly apprehended and make a lasting impression on the mind. There is in fact no more effectual remedy for the evils likely to proceed from the present encumbered state of some of the departments of medical knowledge than thorough practical teaching.

In this school at least there is little reason to complain of the absence of such teaching, and soon I hope there will be none. In the well appointed laboratories, in the abundant opportunities for dissection both healthy and morbid, in our museums and in our neighbourhood rich in illustrations of natural history, and lastly in our unrivalled hospitals situated in the midst of a large city, and furnishing the most extended means of study for all kinds of disease, we have advantages as connected with a medical school which can scarcely be surpassed.

Our University no doubt is for the present impeded in its efforts by the mechanical difficulties of its ancient construction and contracted and defective accommodation; but it is satisfactory to know that ere long these difficulties will be removed by the ample dimensions and improved arrangements of our new buildings:— And though, as teachers and alumni, we shall all regret to leave the venerable halls in which we now meet, yet, looking to the greater good, we shall hail with satisfaction the time when our labours and those of our successors shall be conducted under the more favourable circumstances of space and convenience in a fabric in all respects suitable to the high objects of a University.

In connection with the subject of practical study, I may take this opportunity of stating that the Medical Council, the Universities and the other Licensing Boards have been so strongly impressed with its importance as a means of improving and of giving reality and soundness to medical education, that they have resolved to introduce practical tests of proficiency into the examinations for degrees and licenses in all subjects admitting of the application of that method. This has already been done to some extent in our own University with satisfactory results; and the reports of the inspectors appointed by the Medical Council to visit the examinations of the various licensing boards during the last two years are entirely in favour of the system.

It is obvious that such a test as the performance of experiments in chemistry, the demonstration and dissection of parts in anatomy, and the clinical examination of patients in medicine and surgery, with the application of the appropriate remedies, cannot fail at once to detect ignorance and to declare real knowledge. A few minutes of such a test are better than hours of oral or written questioning. Indeed I believe it is a mode of examination which is not less satisfactory to the examiner than to the student, for it materially tends to lighten the most irksome part of his labour by showing to him more clearly what portions of his study may be looked upon as essential.

To these remarks on the manner in which your professional education is to be conducted, it is fitting that I should add one or two others of a general kind.

You must know that to sustain the mental vigour necessary to accomplish such arduous duties as have been indicated, it is necessary that you should be in the possession of good health. And

while I have encouraged you to do the best for the improvement of your knowledge, I would at the same time urge you to beware of overstraining your powers, and earnestly entreat of you to follow those simple means of proper food and clothing, temperance, and wholesome exercise and recreation, which may preserve the body and invigorate the mind.

ACCESSORY ACCOMPLISHMENTS.

And let me add, that as variety of food and exercise is good for the body, so the mind should not be confined to one class of ideas, but should be expanded and enlightened by various occupations. Difficult and important as are unquestionably your professional duties, it will be of the greatest advantage to you now and in after life, that you should reserve some time, however small, for general mental cultivation and other lighter pursuits.

I need scarcely employ the utilitarian argument in favour of this procedure, that as the public is capable of judging of a man's general bearing and information better than of his professional skill and knowledge, their opinion will necessarily be influenced chiefly by the former circumstances; but I would refer rather to the motive which you have to follow out the course I indicate in the increased happiness to yourselves of which it may be the source. It is unquestionably rather a contemptible position for a man to occupy in society to be unable to converse with intelligence and information on any other subject than his profession; and there will come a time in later life, when some other pursuit of a literary, scientific, philosophical or aesthetic kind, may form the greatest solace of your existence.

I would warn you therefore against becoming so entirely absorbed in professional study as to prevent you from engaging also in some other pursuit, however light, which may keep you connected with the world out of your own little sphere; and which, while it tends to liberalise and occupy the mind in a wholesome manner, is a source of enjoyment to yourself and those around you.

Nor can I conclude without one further remark on your general bearing and conduct as Students of an honourable profession in this University. Let me say, then, in one word, while you endeavour to store your minds with that amount of knowledge which is required to fit you for receiving the honours and privileges to which you aspire, do not omit to cultivate those social and

moral qualities which mark the gentleman, and are necessary to make you the kind and polished, as well as the learned physician or surgeon. Medical Students have had the character of being rough and unfeeling, not, perhaps, fairly attributed to them. They ought certainly not to be so; for, while their contemplation of the most varied, interesting, and important phenomena of nature tends to liberalise and elevate their minds more, perhaps, than the preparation for any other profession, the scenes of distress and pain they are called on so frequently to witness, and the efforts they must continually make to afford relief, ought to soften their feelings and excite their sympathies; and I believe, as a rule, this influence is generally visible, sooner or later, in the members of our profession. But you must not neglect minor accessories of manner, which may aid the effect of more sterling qualities of the head and heart. Let me impress upon you, therefore, the propriety, during your student life, of endeavouring to acquire, if they should be absent, or improve, should you be so fortunate as to possess them, those gentle and refined manners which are the external manifestation of a cultivated mind.

I abstain from offering any advice as to your more serious duties and conduct, leaving this to those by whom such counsel may more appropriately be given; and I will do no more on this occasion than quote in conclusion the words of the sage St. Paul,—
 "Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue, and if there be any praise, think on these things."



