Introductory lecture delivered at Guy's Hospital on the first of October, 1872 / by P. H. Pye-Smith, B.A.

INTRODUCTORY LECTURE

DELIVERED AT

GUY'S HOSPITAL

ON

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BY

P. H. PYE-SMITH, B.A., M.D. LOND.,

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Mr. Treasurer and Gentlemen,

Since last session we have lost from our midst one whose name will not soon be forgotten.

An accomplished surgeon, a brilliant operator, a most conscientious and painful recorder of facts—Mr. Poland united to these high professional qualities a character so liberal, and a heart so kind, that his loss will be deeply felt. Among his many contributions to surgery we are especially bound to remember those which he made, and was making, up to the time of his death, to the 'Guy's Hospital Reports.'

His colleagues can bear witness to the zeal with which he laboured for our school, while his pupils, and especially those brought into closer contact with him, will long remember him, not only as a skilful surgeon, but also as an able, zealous, and most liberal teacher.

And now, gentlemen, I address myself to you who still have life with all its possibilities before you—some of you just entering upon studies which I warn you will be hard and at times distasteful, others looking forward to the near approach of responsibilities that will need all your strength, and a greater strength too, for you to meet.

Nevertheless, to these studies and to this calling I bid

you welcome. You have chosen the profession of medicine, you have come here to learn it, and on both steps I venture to congratulate you.

Whether you will be disappointed, depends of course upon what are your objects; and, therefore, let me warn you at once, that if the chief aim of any of you is to be rich, he has made a mistake. As a doctor, you must do a great deal for nothing, you must work hard for all you earn, and you have little or no chance of leaving a fortune, for others to enjoy when you are dead.

Nor would I recommend the profession as a field for ambition. You will meet with general respect and considerable influence, if you follow your calling worthily, but the prizes of public life are not for you; and, even in the field of science, the worst way that you can set to work is with the determination to make brilliant discoveries and win for yourselves a great reputation.

But no one deliberately seeks either money or fame for their own sakes. They are only valuable as they contribute to our happiness; and I maintain that you have done wisely in choosing "Medicine" for the work of your life, because I believe that it will make you happy. I am not supposing you an assembly of either saints or heroes. If such there be among you (and, thank God, they have never been wanting to our profession) it is not to them that I presume to offer advice; I speak to those who feel that "their first duty is to themselves," and are anxious "to make the most of life." Leaving on one side, then, the saintly and the heroic view of human aims, I am content to take an old definition of happiness, as "a certain energy (or active exercise) of the powers of the mind, in accordance with virtue." This is what I believe medicine pre-eminently affords to all who pursue it worthily. It brings

into play the best faculties of body, soul, and spirit. It affords the intellectual exercise of continually recurring and difficult, but never quite insoluble, problems; it gives the satisfaction of constantly increasing knowledge; it offers a practical field for the daily application of this growing store, and for the keen delight which increasing mastery over the external world affords to rational beings.

Its rewards, in the vulgar sense of the term, though small, are sure. You will be exempt from the misery of the eager pursuit of riches, and from the more generally acknowledged misery of their sudden loss.

And, lastly, you will have opportunities for exercising benevolence, which others for the most part have to seek, but which you cannot avoid if you would; and if such charity be twice blessed, to you, who give, will fall the greater blessing; since we have on the Highest Authority, what you as Guy's men are bound never to forget, *Beatius est magis dare quam accipere.*

But while I chiefly congratulate you upon your choice of a profession, I may also congratulate you on your choice of a hospital.

To suppose that our school is better than others in every particular would be absurd; to maintain that we are so on the whole would be certainly bad taste, and probably untrue. But at all events we can well afford to look, not with envy but admiration, to our sister schools.

Our old neighbour, the Royal Hospital of St. Thomas, has now left us, since one borough was too small for two such inhabitants. We are proud to see a school, once closely united with our own, so magnificently housed, and we trust that the old bonds will never be untied.

We acknowledge the venerable age and the perennial youth of the school of St. Bartholomew, and the admirable

energy of our more modern rival, which has again and again met us in no unequal contest. This year we must confess that University College has beaten us at Burlington Gardens, and I should scarcely have dared to refer to so tender a subject if it were not that (as in the story of Horatius) when all our men but one were wounded, he who survived unhurt redeemed for us the day single-handed. This is one consolation. Another is that, after many disappointments, we have at last succeeded in carrying off the challenge shield and are again the champion hospital. Next year we mean to compass a Cimonian victory, and win all along the line, at Lillie Bridge and Burlington Gardens too.

These hopes of what we shall do are in themselves a confession that we are not yet all we wish. A great deal has been done of late years to perfect the mechanical arrangements of our school. To you, Sir, we owe the enlightened liberality which has provided so much in order that the munificence of our Founder may be employed to the utmost advantage, not only in relieving the sufferings of the few hundred patients at this moment within our walls, but in spreading knowledge that shall be fruitful of comfort and relief, wherever a pupil of Guy's Hospital may find his way. Much has already been done, and what remains will be accomplished in the spirit of that imperial motto—

"Nil credens acti cum quid superaret agendum."

But if our theatres and laboratories and museums were perfect, our school would be worth little, were it not for two qualities which (whatever our deficiencies) we are generally admitted to possess.

In the first place it is the fashion here to work. We may, perhaps, too much neglect a certain academical finish

of scientific and even clinical research, but sound, practical, common-sense industry, has been taught here in precept and example, by a long series of illustrious men whose names are household words with us; and we trust that the spirit of Astley Cooper, and Bright, and Addison has not left the wards which bear their honoured names.

The other quality with which we are generally credited, and which you are bound to maintain, is, that we always stick together. From whatever cause, there has long been a cordial understanding between the hospital authorities, the staff, and the students, and a remarkable zeal on the part of us all for the honour and glory of Guy's. It is to you who are now entering here that we look to keep up this spirit and transmit it to your successors, unimpaired.

Now, how shall you best use the opportunities offered to you here of learning the profession you have chosen? How shall you study medicine—the art of preventing and curing disease?

I shall not trouble you with an attempt to define a term which is undefinable in strict language, since it is popular and not scientific. We may take "disease" to include whatever bodily condition is so painful or so dangerous that people will take trouble to get rid of it. Our business, as medical men, is to help them to do so.

Prevention is better than cure; and the most brilliant triumph of medicine is when we can forestall the necessity for remedies. Prevention may be based upon simple and direct experience, or upon scientific knowledge. Thus vaccination as a prophylactic against smallpox is a purely empirical measure, while the prevention of hydatids in the

human body is based upon a complete knowledge of the habits of *Tæniada*. Much has already been done to prevent disease. Scurvy is almost unknown, the Plague and Leprosy have been banished from our islands, and it only needs more enlightenment among our statesmen to rid us in whole, or in part, of many other diseases not less injurious. There is, perhaps, only one person entrusted with power who is capable of regarding, with the scorn of self-complacent ignorance, that "knowledge of organic and inorganic matter" on which depends, not only human health and happiness, but much of human virtue.

Waiting the time when our professors of pathology shall be able, like the illustrious Rokitansky, to teach our senators wisdom, it is for you to be each in his own town or district a centre of enlightenment on this important subject. It is a fact of which our profession may be most justly proud, that, single handed, we have done all that has been done for the public health. You must be apostles of the plain and simple knowledge of what makes air and water and food and dwellings wholesome. Upon those especially who will soon enter upon practice I would strongly urge the importance of learning the few technical details which are necessary, in order to apply to this subject the great physiological laws with which you are already familiar.

But if we should ever succeed in stamping out all preventible diseases, there would still remain a multitude which we must cure. And what is curing a disease? It is not healing. Strictly speaking, we cannot heal the most trifling ailment. "Curing" is, as the term implies, "taking care" of the sufferer. Just as he to whom is entrusted the cure of souls cannot alter or renew them, but can only stimulate, restrain, or modify mental processes whose

existence is independent of his power, so we cannot originate the least step in the healing process. We can only guide and direct the action of those physical laws which produce the phenomena of Life.

Let me offer you a few examples of this curative art, which it is the chief business of your lives to practise.

Suppose a child has run a needle into its arm, your business is to remove the foreign body by mechanical means, and so far it is as simple a procedure as a carpenter pulling out a nail; but the repair of the injury which the needle and the surgeon have done, depends upon the laws of cell-growth and nutrition, over which we have no direct control.

Or suppose a man has a stone in the bladder; that also is a foreign body and must be removed by mechanical means. But here you need a knowledge of anatomy in order that you may remove it with the least amount of injury to the patient.

Or, again, if the head of a fœtus is too large to pass the pelvis of its mother, the mode of action is the same as in the preceding cases. You have to remove a foreign body by strictly mechanical means.

In the same way, if poison has been swallowed, you must get rid of it by an emetic, or prevent its absorption by giving substances that will make it insoluble.

If a disease of the skin depends upon the presence of a fungus, you must use your knowledge of the conditions of vegetable life to destroy the plant. Or, if a tapeworm infests the gut, your business is to poison the guest without injuring the host.

If the lens of the eye has become opaque, you must first remove it to allow the rays of light to pass, and then supply its place by a glass constructed in such a manner that they shall be again refracted so as to come to a focus on the retina.

If a leg is broken, no treatment of yours can

produce reunion if there is an absence of the process of growth, a process which would repair it in some fashion even without your aid. What you can do is to employ mechanical means, so as to direct this process to the most favorable result. And in the same way, when a patient is sick of Typhus, you cannot cut short the vital process which has begun ; you can only guide, direct, stimulate, or restrain.

Or, suppose a man's blood-vessels are worn out by age and use, until at last one breaks, like a water-pipe in winter, and he lies in a fit of apoplexy. The mischief is done, and you cannot remove the mechanical pressure which produces the symptoms ; although, if the same effects depend on a depressed fracture of the skull, you may elevate the bone and thus relieve them.

Lastly, when you have traced the cause of certain dangerous symptoms to a swelling, which you recognise as a syphilitic node, experience teaches that if the patient will drink a solution of a certain potash salt, the disease will melt away under your eyes.

You see that I have taken examples indiscriminately from internal medicine and from what the French call La Médicine opératoire. For in truth there is no distinction but one of convenience between the several branches of our profession. They all depend on a knowledge of the same physical laws and of the same bodily structure ; they have the same rules for observation and cross-examination of Nature, the same methods of diagnosis, the same need of common-sense and trained experience to direct rational treatment. What more than accidental difference can be pointed out between a strangulated femoral hernia and an internal volvulus, between a syphilitic node in the testis and in the liver, a stricture of the urethra and one of the œsophagus, pyæmia from an internal wound or from ulcerative

endocarditis? And the only distinction between physicians and surgeons is that some of us are not clever with our hands and so prefer to use our ears. From ophthalmic surgery, the most perfect department of medicine, to the study of mental diseases, the most difficult and obscure, each branch is dependent on every other, and the most brilliant and satisfactory results are obtained when an internal lesion is detected by the stethoscope and cured by an operation.

But my chief object in going through these examples of injury and sickness is to show that disease is not any constant and definite process, but a state which depends upon all kinds of disturbing causes; that Pathology is but Physiology under new conditions. There can, therefore, be no comprehensive principle of Therapeutics. Whatever is painful or dangerous you must try to remove, but when once you have ascertained the cause of symptoms, the principle of cure in each case is obvious. All that is then wanted is ingenuity in devising means to your end. In one case you use the simplest mechanical laws; in others you apply your knowledge of Chemistry, of Botany, of Zoology; and in all you are guided by the results of intelligent observation of the effects of treatment.

It follows from this that all so-called "Systems of medicine" which profess to be founded upon some universal principle of therapeutics are in the nature of things absurd. For instance, there is no such thing as a *vis mediatrix naturæ*, distinct from the operation of common physiological laws. If I push this glass of water so as not to bring its centre of gravity beyond its base, a commotion ensues, which gradually subsides in obedience to physical laws. You would not say that tranquillity is restored by the agency of an innate force which tends to redress the disturbance,

for, if I had pushed a little harder, the same laws would have led to a different result, and no recovery of the former condition would have taken place. Just so if a bone is broken or the whole body is attacked by a fever. A disturbing force, mechanical or physiological, is introduced into the economy, the former laws of vital growth are modified, and the result may be either a return to the condition before the disturbance or the destruction of the entire organism.

Along with this "inherent tendency to recovery," which has been ascribed to the human body (as if each of its component parts were endowed with all the likes and dislikes of the patient), we must also discard such principles as that "impurity of the blood" is the origin of all imaginary disorders; that curative means should always produce the same effects as the disease they are to overcome; or that they should always produce opposite effects; or that they should never be taken from the mineral kingdom; or that they can be recognised by each one resembling some symptom of the malady it is to cure. This last doctrine of "signatures," according to which logwood would stop bleeding because it is red, and liverwort cure the jaundice because it is yellow, though more ridiculous, is no more irrational than the more modern systems of Homœopathy, Allopathy, Restorative Medicine, Renewal of Life, Eliminative Medicine, or Expectancy. In classing these together I do not, of course, imply that they are equally foolish, still less that they have been equally used to impose upon an ignorant public; but if you will think over the examples of disease which you meet with, taking first those simple ones of mechanical injury, of parasites, and of poisons, in order to understand the less known, you will see how absurd it is to attempt to construct a science of Therapeutics that shall apply to such diverse conditions. There can be no science

of Therapeutics. It is, as the word implies, an art—an art guided by common sense and educated experience, and based upon the knowledge of many sciences.

In each of the examples I have given you, you see how necessary it is to be acquainted with the structure of the human body and with the laws which regulate its functions, both in health and under any of the disturbing influences which produce what we call disease.

But we must go further back than this, for man is not an isolated being in the Creation. While my hypoglossal and your auditory nerves are in active exercise, not unaccompanied, I venture to hope, by some reflex activity in the gray matter of our convolutions, we are wasting tissue which before long will need to be supplied. We are gradually turning the oxygen of this theatre into carbonic acid, which, in its turn, will react upon us. We are maintaining in opposition to the action of gravity our several positions by the exercise of muscular contractility, and this affects in turn the equilibrium of surrounding objects. While all the time that these vital, chemical, and mechanical processes are going on, we ourselves and the entire globe shall by the end of the hour have passed swiftly, yet imperceptibly, through nearly 70,000 miles of space.

You see, therefore, that, if rational treatment depends upon our knowledge of the structure and functions of the human body, we must not only know what is comprised under the heads of Physiology and Anatomy, but must have a fair acquaintance with Chemistry and with Physics. These preliminary studies ought to be learned before you begin your professional education, but those who have not yet entered on them will have an opportunity here of gaining a knowledge of the broad facts of Physics and of

Chemistry before proceeding to the more special study of the Mechanics, the Chemistry, and the Dynamics which constitute Animal Physiology.

The great duty, however, for you first-year's men is to learn your Anatomy well. Believe me, no one ever regretted dissecting too much. Get all the parts you can, and spend all the time upon them that you can. Do not be content with what I have seen many industrious men do—get out a region with admirable patience and skill, and then destroy it before stopping to learn anything from it. Remember, your dissection is only a means of learning your anatomy. Go over each stage with the eye and the hand, compare it with the descriptions in your text-books, and above all, form the habit of *drawing* it. However rough diagrams you may make you will find them invaluable, and there are few who will not soon gain dexterity enough to be very useful in their after course.

Devote especial attention, in this your first year, to the study of the bones. Get thoroughly familiar with them in every aspect. Look at all your anatomy from various points of view. Make yourselves acquainted with transverse sections and unusual methods of coming upon parts. Especially notice the external form and indications of subjacent organs before you use the scalpel. Supplement this by a careful study of the same parts in the living subject, in yourselves, or in tolerably healthy patients. Become so familiar with the whole body from every point of view, that to your imagination it shall be transparent.

The second pillar on which the art of medicine rests is Physiology, or the study of the functions of the organs. This is, of course, far more difficult, though to many minds more interesting, than Anatomy. Learn here to distinguish between facts, which are demonstrable as clearly as those of

Anatomy, and the explanation of those facts, which in many cases is only a matter of more or less probability. Pay especial attention to the experiments which will be shown you by the lecturer on this subject, and hold fast the certainty of those well-ascertained laws of organic life which you will see demonstrated. You will then be always able to distinguish what you know (because you have seen it) from what you read in books.

During next summer you will have more time for reading, and should thus extend your knowledge of Physiology, and also strengthen your Anatomy by the study of bones and models. You will also have Practical Chemistry and Botany to fill up your time. The former, beside its importance in Physiology, is also necessary for the knowledge of prescribing drugs.

Botany has for us rather a historical than a practical importance. Some knowledge of Vegetable Physiology is valuable for the light it throws upon the functions of animals; some knowledge of the natural history of medicinal plants is interesting—though not more important than an acquaintance with the manufacture of splints and bandages; but perhaps the chief consolation I can offer you for being obliged by our Examining Boards to devote so much time to Botany is, that it forms a most valuable training in the art of Observation and Diagnosis.

When your second winter comes round, I should still advise you to devote your chief attention to Anatomy and Physiology. I know that this counsel is contrary to the opinion of many whose judgment is entitled to respect; but it does seem to me that, until you have passed the primary examination of the College of Surgeons, your chief, if not your entire, attention should be devoted to the two branches

of knowledge on which the practice of Medicine depends, and to important subsidiary subjects such as Chemistry. For this you must remember; that, while (if you are good for anything) your whole life will be occupied in learning Medicine, these first eighteen months of your hospital course are all that you will be able to devote to Anatomy and Physiology. You must learn them before the spring of your second year, or you will never learn them at all. As soon as this point in your course is passed, then devote yourselves heart and soul to the practical study of your calling.

Begin with the appointment of Surgical Reporter, and do that so thoroughly as to secure you an uninterrupted series of these invaluable hospital appointments.

In the out-patient room also, devote your first attention to the study of Surgery, where you will find the most direct application of your anatomical knowledge, where symptoms are commonly more obvious, diagnosis more easy, and treatment more certain.

Your third year should be devoted entirely to clinical work. Haunt the out-patient rooms, the surgery, and the wards, as you used to haunt the dissecting rooms, or, if possible, be here a yet more familiar spirit. You will not regret when waiting your turn to hear a bruit or trying to catch a glimpse of the surgeon's knife, if the first and second year's men should take the advice which I just now offered you, and keep out of the way.

As to your clinical work, allow me to insist upon these points. First, take full and careful notes. If you use your time here well you ought, when you leave, to have in your case-book a complete system of clinical medicine and surgery; and you will find it far pleasanter and more instructive

reading than the dull and tedious record of other men's cases.

Next train all your senses to quick observation and accurate appreciation of symptoms. Never be satisfied without seeing the seat of a pain, and see it with your fingers as well as your eyes. This will save you from many a mortifying blunder, and will give a precision and thoroughness to your examination which nothing else can.

Again, always write down your diagnosis of every case, so that you may be quite certain in the sequel whether you were right or wrong in your judgment. A diagnosis which turns out wrong is always instructive; but a diagnosis which is loose and indefinite, which can never be proved right and never wrong, will teach you nothing. Therefore, always commit yourselves both in diagnosis and in treatment to a clear and definite conclusion. Do not hedge. It is mischievous to your patient, and, what is still more important, it is destructive to your own self-respect. Do not try to split the difference between two opposing views, or you may find yourself in the predicament of the man who, knowing that he was asked to dinner on either Tuesday or Thursday took the middle course, went on Wednesday, and came back hungry.

Lastly, remember that to you as students the most valuable cases are those which are unsuccessful. Never omit to follow these to the post-mortem room; be constant attendants there; it will help to keep fresh your knowledge of Anatomy, it will correct past errors, and will give you, as nothing else will, the power of accurate diagnosis and sure judgment.

There is one branch of Medicine which is too much neglected—I mean Prognosis—for it is of the greatest

importance not only in such cases as examination for life insurance, but in all the serious diseases which you will have to treat.

The only way to attain skill in this most difficult part of our profession is by writing down what you believe will be the issue in every case, and watching the event. By thus observing and checking your observations you will improve in judgment.

> Till old experience doth attain
> To something like prophetic strain.

In your fourth year of study I should advise you to devote attention to those outlying branches of the profession which we are too apt to neglect and leave to specialists. You will before now have gained some acquaintance with the department of Midwifery, and have learnt that while in nine cases out of ten labour would go on just as well without your presence, the tenth may require all the knowledge, experience, resources, and courage you possess. Now, however, you will do well to devote especial attention to the diseases peculiar to women, without a knowledge of which you can scarcely treat any affection in that sex with justice to the patient or satisfaction to yourself. Learn to recognise and treat at least the curable affections of the skin, the eye, the ear, and the teeth. Make yourselves familiar with those important instruments of research, the ophthalmoscope, the speculum, and the laryngoscope, and also with the therapeutical application of the several forms of electricity.

Lastly, let all who can possibly afford the time aim at holding the higher offices of house-physician and house-surgeon. They are, I believe, the most valuable appointments of the kind in the profession.

While I would strongly urge you to make practical

work in the wards your first concern, you must read books both to direct you in acquiring knowledge and to systematise what you have already acquired. Books of reference you will find very valuable in after life, but I do not advise you to burden your memory with their contents while working at the hospital. Choose rather a few of the best books on Medicine and make them your own.

Every student should be familiar with his Watson, the best classic we possess. I especially recommend to you the fourth edition.

Read carefully the 'Cellular Pathology' of Prof. Virchow, who has not only rendered unequalled services to the science of Morbid Physiology, but is only less distinguished as an ethnologist, a philosopher, and a patriot.

Study in like manner that most interesting work on "Rest and Pain," which M. Giraldès, the most learned of French surgeons, calls "ce grand ouvrage de M. Hilton."

Then, as cases come under your notice, you will take interest in this or that disease, in a rare form of fracture, in a tumour, in a case of typhoid or of phthisis, and will read up at the time with interest and with profit, the information to be learnt in such books as Dr. Robert William Smith's on Fractures, Sir James Paget's Lectures, Dr. Murchison's work on Fevers, or Dr. Walsh's on Diseases of the Chest.

I have already urged the advantage of taking careful and precise notes of what you see and of the judgments you form; but you will remember that while reading makes a full man, and writing an exact man, conference is necessary to make a ready man. Opportunity for this conference on the subjects of your studies is afforded by our Physical Society, of which I recommend all first year's men at once to become members. Those who take an active

part in its discussions will acknowledge the advantage they derive from the clearing of their ideas, discovering the gaps in their knowledge, and learning what can be said on both sides of a question. Moreover, it has now for many years been so heartily supported that it has become one of our Guy's institutions of which we are all proud.

But you will not devote every hour of the four years you spend in London to the study of your profession. We all need play as well as work, and if you stick to the dissecting room, the post-mortem theatre, and the wards as you ought, you will well earn an occasional holiday, and be all the better for it. You will have spare time for general reading, and if you will only have the resolution to give up the morning newspaper you will find how much happier one is without it, and how much more amusement can be got from Addison or Goldsmith or Lamb than from the 'Daily Telegraph.'

Those who love music will find time for hearing it, and many I hope will join our Choral Society.

But after all you will find the most valuable relaxation out of doors. To those who are strong and healthy the most natural and satisfying and "massive" pleasures are derived from muscular exercise. Always take a long walk at least once a week, and by all means join one of our clubs for athletics, football, or cricket. Such manly exercises will aid and not retard your studies, and will help you to shun effeminate and degrading dissipation.

Work steadily and conscientiously, and you need not work slavishly.

> "For other things mild Heaven a time ordains,
> And disapproves that care, though wise in show,
> That with superfluous burden loads the day,
> And when God sends a cheerful hour, refrains."

There are only two cautions I will give you in this matter. First, while you hold any hospital appointment let nothing interfere with that. You should regard these duties as you will the responsibilities of your future practice, as something which you cannot intentionally neglect without losing your own self-respect. And next, take up whatever sport you like best, but do not take up more than one.*

It would be absurd to expect that at least the majority of you will have an uninterrupted course of industry and success in your studies. You will often seem to make little progress, sometimes by your own fault, sometimes notwithstanding your best efforts; and as the vast range of Medicine opens before you, many of you will, I doubt not, be tempted to despair of ever gaining even a tolerable acquaintance with it.

Again, it may be that, after honest, hard, self-denying work, you will fail to gain the appointment on which you have set your heart; or some incompetent examiner will be unable to discover your merits; or when you have read hard for University honours you may fail at the pass examination. In any of these circumstances I will venture to give you encouragement. The study of medicine is very difficult, and very long. If I may speak for myself, each year shows one more of its greatness, and of one's own ignorance. The application of a lifetime is too short to traverse the whole of it, and we all, I trust, shall be medical students as long as we live.

* I have here considered the curriculum which the majority of our students follow, and which should qualify them for becoming Members of the College of Surgeons, and Licentiates of the College of Physicians. For those who have matriculated, and intend (as they ought) to take the M.B. degree, a longer and more difficult course is necessary, which is prescribed with sufficient minuteness in the 'University Calendar.'

But depend upon it that steady and careful work will not fail of its reward. Your progress will often be none the less real when it is imperceptible to yourselves; and if you feel that your efforts have relaxed, and that you have not been working well lately, do not attempt to make a great reformation, and start afresh with a determination to neglect nothing "next session," but rather take up whatever duty may be next at hand, and work quietly on at that. Never fall back in order to spring forward, but keep on a steady and continuous pace.

We know how, in the ascent of some mountain pass, the buoyant energy with which one sets out is lost after a few miles, and before long the summit before us appears so distant, and one's strength so exhausted that it seems impossible to persevere; but we also know by experience that if we keep on, however slowly, and with whatever difficulty, before long we get our second wind; we look back and see how much we have already passed, and feel confidence that we are good for the rest of the journey.

It is much the same with our studies. When the first ardour and interest is passed, you must keep on with steady perseverance and wait for your second wind. It is sure to come. Let your motto be that of an old Chamounix guide, *Doucement mais toujours.*

And, after all, if examiners fail to give you the place which you expected, they cannot deprive you of the knowledge you have gained. Whether you were plucked or not the first time you went up to the College, whether your honours were first or second class at the University (or, indeed, whether you took honours at all) will before long be entirely forgotten by your friends, perhaps even by yourselves; but the knowledge you have acquired and (what is more valuable than any knowledge) the habits of application,

the character, which you have formed, this will last your lifetime.

And now, I suppose that you have passed through your four years of study. You are good practical anatomists: the great facts of Physiology are to you not hearsay, but things which you have seen and verified for yourselves: you have gained a knowledge (imperfect, indeed, but thorough as far as it goes) of the outlines of Medicine, and you are capable of using with precision and success the instruments of physical diagnosis, and the ordinary appliances of Surgery and Pharmacy. Thus equipped, you will not be ill provided for the duties of active practice. That wonderful power of insight into the seat and causes of disease, that shrewdness in interpreting symptoms and forming a judgment as to results, that practical skill which selects the fitting treatment for each case—these qualities, which we admire in the leaders of our profession, it is impossible to acquire by reading or by imitation. They can only be gradually attained, as you use thoroughly and carefully the experience of future years. While insensibly acquiring some share of these higher faculties, you will experience one of the greatest pleasures of your profession: you will find it, what I began by promising you, a constant exercise which will bring into play all your best powers. It will not be like so many occupations, in which the work itself is mere money-getting, and all the man's higher life must be begun when he leaves his counting-house. For you, your labour will never be done, but you will be able to say "Labor ipse voluptas." In other occupations a man has to strive not to be kept down by their spirit, but if possible to raise it; and in many, a conscientious man must often feel grave doubts whether he is justified in pursuing his business at all,

but your profession has this peculiarity, that however industrious, however conscientious, however unselfish and benevolent you may be, your highest efforts will always fall below your ideal.

Your knowledge and your power will be ever growing; so that while you continually advance in the most difficult knowledge, the knowledge of one's own ignorance, you will be able to say each year, "At least I am not such a fool as I was a year ago."

You will have continual opportunities of showing kindness and sympathy, alike to rich and poor, and some of your most valued fees will be what you receive when you give advice *gratis*, that is, for thanks.

You will be useful wherever you may settle, in spreading civilization by your support of every reform in those matters of public health to which I have already referred, and of each advance in education, in science, in every liberal art.

You are not likely to attain riches, but you will have much of money's worth; you are not likely to attain distinction, but you will always meet with respect. You will always find your knowledge imperfect, and yourselves more sensible of the need for its improvement; but if we believe that we shall live for ever, there will be time enough for that hereafter. This life is an embryonic state, in which the functions that can be fulfilled are limited, and the result of those functions on the outer world uncertain. The most important work of an embryo is the elaboration of its organs for its future life; and the most important function of time is the formation of character for eternity.

There are two subjects which not unfrequently occasion

embarrassment and distress to students of Medicine, on which I wish to say a word before concluding.

While you are at work on the preliminary studies of Anatomy and Physiology, the more thoughtful among you will probably not fail to see, that many of the traditional beliefs which you have been taught are incompatible with the sure and undeniable results of physical science; and you will be tempted to carry the philosophical and absolutely necessary spirit of scepticism (or hesitation to believe) on to the unphilosophical and destructive spirit of infidelity (or refusal to believe). I can only say that all experience has confirmed the truth of Bacon's aphorism, that "a little philosophy inclineth man's mind to Atheism, but depth in philosophy bringeth men's minds about to Religion." And it is a remarkable fact that, whatever may be true of many men of high eminence in the separate departments of Science, those of the first rank, who have taken an almost universal view of nature, and moved forward the bounds of human thought in a single life—men like Newton, and Descartes, and Leibnitz, and Haller, and Faraday—have been no less eminent for their devoutness than for their genius.

Instead of vexing yourselves in detail with a multitude of difficulties which will continually recur, look calmly at the total result of present, or even future, advances of Science. Assume as true (what it is improbable will ever be demonstrated) the truth of the materialistic philosophy, assume (what I, for one, heartily believe) the truth of the theory of evolution; and you will find that, accepting all, this leaves absolutely unchanged—I will not say the maxims of Natural Religion, or of common Morality—but the most distinctive Christian doctrines.

Suppose, for the sake of argument, that it were proved

that men lived upon the earth for enormous ages before our era, or even that the development of their bodies were more closely connected with that of animals than naturalists have hitherto supposed, this would not touch the relation of man to God or the facts of his creation, his responsibility, his guilt, or his recovery. It would only confirm what appeared self-evident to the father of Modern Philosophy, that "man is of kin to the beasts by his body, and if he be not of kin to God by his spirit, he is a base, ignoble creature." For to quote a greater man than Bacon, "the mind is the man: if that be kept pure, a man signifies somewhat; if not, I would fain see what difference there is between him and a beast. He hath only some activity to do more mischief."

The second difficulty to which I wish to refer is one which often arises when thoughtful men in their third or fourth year have gained considerable knowledge of Pathology, and have seen something of the uncertainty of Therapeutics. They are apt to consider all treatment as useless, and that attempts after a rational system of Medicine must end in self-deception or imposture. Now this scepticism I believe to be not only natural but useful, and I have given you reasons for disbelieving in any comprehensive system that should treat all maladies, deformities, and accidents on some one comprehensive principle. The examples I took were, I hope, sufficient to show how absurd such a pretension is, whether brought forth as avowed quackery, or (doubtless in all good faith) by some of the more credulous of our profession. But if you take a more reasonable view of the objects and possibilities of Medicine, you will find ample justification for following your calling, as men who can do what they profess to do, and what is more than worth their wages. As our knowledge of morbid

processes and of the effects of drugs, both only branches of Physiology, becomes more accurate, our practice will be more successful, but it cannot become more honest than it may be even now.

If you think your duty is to recognise that a patient has the jaundice or the dropsy or a fit, and then to make up a bottle of physic that is good for jaundice or dropsy or fits, you have chosen a miserable trade. But if you first acquaint yourself (as you may) with the patient and all his organs, then ascertain the cause of his symptoms, and, lastly, advise him according to the laws of physiology and the results of experience, you have done your duty to him and to yourself.

In many diseases we can by the application of our anatomical knowledge actually remove the cause of mischief; in many, long experience has proved the direct efficacy of drugs whose mode of action is undiscovered; in the majority we can so guide and modify the physiological processes of accident or disease by change of climate or of food, by rest, by exercise, by blisters, by purging, by ergot, by opium, as (in the proper sense of the word) to cure the patient, *cito, tute et jucunde;* while in scarcely any, however incurable, are we unable to relieve pain, to prolong life, or at the very worst, to prevent aggravation by ignorant interference.

The view I have attempted to give you of our profession, of its advantages, its unity, its objects, and its methods is, I need not say, far from original. It would have been unbecoming for me to have used the opportunity which you, Sir, and my colleagues have confided to me, to make statements which would be disallowed by those who are older and wiser than myself. The best I hope for is that

fourth year's men should say "We knew it all before." My aim has been to put first year's men in some degree on the same stand point.

I have tried to put fairly before you the weak as well as the strong side of our profession. If you follow it for what it brings, it is poor enough; if you follow it for what it is, you cannot choose a happier. Your first duty is not to make money, or to make a reputation, or even to cure your patients; your first duty is to yourselves—that is, to the best and noblest part of you.

> "This above all—to thine own self be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man."

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