

Introductory address delivered on the opening of the medical session of King's College, London, October 4th, 1870 : with the inaugural lecture of the surgical course, delivered Oct. 5th, 1870 / by John Wood.

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with the Author's head &c

INTRODUCTORY ADDRESS

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DELIVERED ON

THE OPENING OF THE MEDICAL SESSION OF
KING'S COLLEGE, LONDON,

OCTOBER 4TH, 1870.

WITH THE
INAUGURAL LECTURE
OF THE SURGICAL COURSE,

DELIVERED OCT. 5TH, 1870.

BY

JOHN WOOD, F.R.C.S.,

PROFESSOR OF SURGERY TO THE COLLEGE, AND SURGEON TO THE HOSPITAL; EXAMINER IN
ANATOMY AT THE UNIVERSITY OF LONDON, AND IN ANATOMY AND
PHYSIOLOGY AT THE UNIVERSITY OF CAMBRIDGE.

1870

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THE INTRODUCTORY ADDRESS,

Delivered in King's College, London, Oct. 4th, 1870.

MR. PRINCIPAL AND GENTLEMEN,—

[A MELANCHOLY task which I little expected and most deeply deplore, must take precedence of my address to day. It is the announcement of the death of our much esteemed colleague, Dr. William Allen Miller, Vice-president of the Royal Society, which took place, after a brief and distressing illness, on Friday last at Liverpool, whither he had gone to attend the meetings of the British Association. For a long period of years Dr. Miller occupied the chair of Chemistry after being a student of medicine in this college, where the benefit of his teachings and example was as great, as his loss will be deeply felt. The singleminded and conscientious earnestness of his character, and the steadfastness of his Christian faith, assure us that he now beholds that Perfect Truth which he sought after so constantly in his earthly career.]

In accepting the duty which the courtesy and confidence of my colleagues have placed in my hands upon this occasion, I have been impressed with a due sense of the responsibility which attaches to the duty of opening the medical session of King's College. I scarcely share in the opinion that the performance of such a function on such a day is a trouble that might well be substituted by the opening lectures of the several professional courses. Owing to the pressing demands of a medical career in a busy metropolis, this is almost the only opportunity afforded for the assemblage of all grades in this great medical educational establishment, from our honoured principal to our newest recruit—to greet and welcome our friends, to review our forces, to note our progress, to animate our confidence, and to gather up our strength for the attack upon the strongholds of ignorance, prejudice, and disease in the forthcoming medical campaign.

My sense of the utility of a plan which has been sanctioned by custom and approved of by experience ever since medical education has assumed its due place among our institutions, and which has come to be looked for by the public at this time as the exposition of a kind of medical programme, has not diminished my anxiety lest its effective application should be impaired by imperfect execution in hands hitherto untried.

The appreciation of the council of this College of work at least faithfully performed has placed me in a position of honour among you,

which goes beyond the most sanguine expectations of my youth. When a student, seated in this very theatre, humble and unknown as any of my hearers can possibly find himself, impressed by the magnitude of the work before me, and awed by the reputation of the great names under whose leadership I found myself, I had as little suspicion as any one of this *baton* which was ensconced in one corner of my surgical knapsack.

And to-day, after twenty years or more of campaigning, I find myself succeeding to the post of a veteran leader whose renown reaches to the limits of the civilised world. The flatteringly unanimous and considerate manner in which this honour has been conferred cannot but draw from me this public acknowledgment, both in gratification of my own feelings towards the Council and my colleagues, and as an encouragement to the young and diffident hearts which may be found amongst my audience, to aid whom in this momentous part of their career is both my duty and my earnest desire.

I do not propose to speak on this occasion as to the public through your ears, neither to ventilate prevailing topics of medical education, nor to advocate any views in medical legislation or politics; neither to press upon your attention some favourite theory, nor to discuss some question of disputed practice; neither to moralise the elders nor school the youngsters; but simply to express some of the thoughts which have grown in my mind during my career in connection with this College. My point of view will be domestic rather than universal, and more of collegiate than of public interest. And if, in explaining myself, I must go over ground which has been frequently travelled before, as is very likely indeed to be the case, the difficulty of avoiding it in a route that has been so thoroughly trodden out, must be my excuse.

Many old friends, whom I am glad to see again amongst us, affording us by their presence the assurance of their continued goodwill, by whom the realities of the benefits conferred by a sound medical education have been proved, and who are still carrying on scientific investigations, or the never-ending lessons of life and practice, have, doubtless, on former occasions of this kind, remarked upon the successive innovations in medical theory, and modifications of practice which every year produces, and of which addresses like the present are among the exponents.

Old landmarks of belief and practice disappear one by one in the seething gulf of conflicting opinions; and some may be inclined to despair of finding any safe anchoring ground in the shifting sands which have replaced them.

Some I have heard of who have well-nigh lost faith altogether in the art, and ask with Pilate deridingly, "What is truth?" or, despairingly, "Who will show us any good?" while others, few I trust in number, have come to the desperately inane conclusion of the cynical voluptuary of the Dundreary school:

"That knowledge is but an useless waste of thought;
And nought is everything, and everything is nought."

But as the mighty rocks which underlie and sustain the everlasting

hills were formed, ages ago, by deposit from the muddy waters of the old submerged world, but now arise fair and strong above the billowy waste, so will the foundations of medical science be firmly laid and safely built in courses of rock by the small and indestructible particles of truth which year by year become cemented together by the attraction of cohesion.

We are still, I believe, in a transition period; changes continue with increasing variety, but they are the results, evidently, not of the disintegration of decay, but of assimilation and development in its highest and grandest manifestations.

The mass of experiments and observations, piled by the industry of a great army of workers, is now beginning more clearly to define itself, and to assume more or less distinctive features. The task of what has been called by Carlyle "the scavenger age for removing nuisances," in clearing away old errors and false theories, is now well-nigh accomplished; and has had the effect of disturbing the features of the field to such an extent both in philosophy and medicine, that men are seeking for a safe clue to guide them in a bewildering maze of doubt and uncertainty.

But there are many and certain standpoints to be found upon the vast accumulations of the exact knowledge of positive facts, and science is still steadily at work vindicating the definition that it consists of "the knowledge of many, orderly, and methodically arranged, so as to be attainable by one." These facts are daily becoming arranged, as the stones which form the strength of a building are dovetailed by the architect's skill, and clamped by the builder's strength to resist the shocks of tempests and the ravages of time.

And no fact is too small to fill up some chink which might let in the rain of doubt and help to destroy the whole structure. It has been asked, "What is man the wiser or the happier for knowing how the air plants feed, or how many centuries the flint stone was in forming, unless the knowledge can be linked on to humanity, and elucidate for us some of our hard moral mysteries?" The pursuits which form the medical branch of natural science furnish a most direct and satisfactory answer to this question. In our profession we are not called upon to deal much with those regions "between the microscopic and the molecular limits" described by Professor Tyndall as presenting "immense fields of permutations and combinations" for "the scientific exercise of the imagination." Nor are we compelled to "draw heavily upon Time and adventurously upon Matter" with Dr. Darwin; but it is our province to deal with those things which lie mainly upon the hither side of the microscopic range, and by the exercise of a patient investigation to elucidate subjects of present and momentous importance to human life and comfort. We are, however, expected to go as far in this direction as Professor Huxley's "mere grubs and mouldiness"; and to consider with him the difference between *biogenesis* as applied to the meaning of the old dogma "*ex ovo omne vivum*," and *abiogenesis* as applied to that of spontaneous generation. We are also interested in examining the grounds upon which Milne Edwards applied the term *xenogenesis* to

the supposed formation of a new living being by a combination of two or more pre-existing molecules of a different nature, and to see whether this will help us to explain such bodies as the *Bacteria* discovered by Dr. Beale in the tissues of animals in apparent health, or to prevent and cure such fatal growths in the human body as cancer, and such scourges as hospital fever, pyæmia, erysipelas, typhus, small-pox, and scarlet fever.

At all periods of the revival of learning, the historian finds evidence of minds actuated by an over-hasty zeal, who, overcome by having eaten of the fruit of one of the lower branches only of the tree of knowledge, think immediately to scale the empyrean heights where its top reaches to the throne of Omniscience. With wrangling disputations they presently build themselves towers of Babel, and are rewarded by the confusion of their tongues.

In their ambition to found and devise perfect systems of knowledge upon the grounds of their own particular branches, and from their own point of view, these hasty builders soon jostle their neighbours by their erections, elbow them vigorously, and perhaps shut out from them, more or less completely, the light of heaven, which is so necessary for the comfort and health of earthly habitations. Hence arise disputes and reclamations as to encroachments and tresspassing upon other men's fields; and the fantastical and unbecoming spectacles of philosophers teaching positive systems of theology bristling with the "oppositions of science falsely so called", and Catholic theological professors ignoring facts which are incontrovertible, and chiding the presumption of the Galileos who "by the way which they call heresy, so worship the God of their fathers",—but who sometimes overlook that profound harmony with the divine part of human nature which Christianity possesses.

Extreme examples of the same tendencies as those which gather round the opposite poles of scientific opinion, sprout out also in medical matters in the form of homœopathy and clairvoyant diagnosis; and these may be quite as fanatical and dangerous to the body as their counterparts are to the soul. Now, the remedy to my mind for all this is for each explorer after truth, in whatever field of labour, to bring his work, it may be hewn, squared, polished, and adjusted in its own segments as he can best frame them, and deposit it within the precincts of the Temple of Truth, with a humble trust that the Great Architect who plans all things and works in His own mysterious way, will some day raise his labourers to a higher level of universal knowledge upon foundations securely laid, where they can trace out the whole plan which is unrolling itself before them, and place the keystone fairly and truly.

In our work there are a great many things which, viewed as they are from a lower level, we cannot comprehend, and which even seem contradictory to each other, and to which we are obliged to give (*pace* Dr. Newman) a qualified or provisional assent, subject to after revision or confirmation, but upon which, in the science of medicine (especially one of the sciences of probabilities) we are constantly called upon to act. And in doing so we may nevertheless act very usefully,

and do much good according to our lights. It has been justly said that any kind of organisation, even that of an imperfect hypothesis, is more manageable than complete confusion. And there are many gaps which it seems at present impossible to bridge over. But let us fortify ourselves with the grand old maxim of the Talmud, "It is not incumbent upon thee to complete the work, but thou must not therefore cease from it." We may rest assured that, if the work be of God, no human efforts can overthrow it; but that if it be of man only, wandering from the guidance of His spirit, it will come to nought in the limbo of abortive schemes. And let us build as the bees do, under the God-given instincts of geometrical truth. Let us work as God works, adding cell to cell; and wait as He waits, until the crowning flower completes the perfect plant. Then, when the jasper and the emerald, the ruby and the onyx stone, the gold and the silver are all fairly arranged and honoured by their fitness in the grand mosaic, and when the full rays of the many-hued lights are blended into one harmonious whole, our descendants may be privileged to worship, with the spirit and the understanding also, the omniscient God of truth in the great temple of His own building.

It was well said by the father of modern science, Lord Bacon, that "all the departments of knowledge should throw light upon each other, as medicine without natural philosophy is nothing more than empirical art. But all these rays of light are not of the same colour, nor have the same influences. The votaries of the more exact sciences sometimes forget this, and are as unfair in their estimate of the precision of the natural sciences as the mathematician was of poetry, who asked, after reading Milton's *Paradise Lost*, "But what does it prove?" Those who do so compare things which are as radically different as the precession of the equinoxes and the last new novel. Mathematical axioms are not axioms of general truth, and what is true in the logic of form and quantity, is often false, for example, in regard to morals, in which it is very untrue that aggregated parts are equal to a whole. Two motives of the mind, each of a given value, have not necessarily a value, when united, equal to the sum of their values apart. In chemistry and the other medical sciences, such an axiom especially fails. And even chemistry usually deals, like the more exact sciences, with combinations of ideas capable of numerical valuation, while medicine and surgery deal with various and perplexing combinations of facts and probabilities which are only partially amenable to statistics.

One positive outcome of our present experience bearing upon our present duty, is that a true knowledge of disease and its causes and nature, is to be found only through the more exact scientific ways of anatomy, physiology, and chemistry; while its most successful prevention and treatment are usually arrived at by careful observation and the exact record of results in the largest possible number of cases under varying conditions.

Of the former sciences we know enough surely and exactly for each observer to apply for himself the inductive method of reasoning with a fair chance of coming to a true conclusion, while the facts connected

with treatment are so difficult to arrive at, are subject to such varied modifications which escape record, and are so liable, moreover, to unconscious misrepresentation, that a conscientious observer is more or less compelled to form his opinion from a circle of cases, naturally and necessarily limited which lies under his own observation. And the manner in which he arrives at his conclusion is too often so empirical that the elements of chance are apt to preponderate and to produce results entirely conflicting with those obtained by others. But even such apparently conflicting results, when fairly and honestly published, will help forward the great cause of truth, which has been well compared to the tongue of a balance kept in the centre by the equipoise of contending forces, or like a boat in a canal drawn forward by a rope on each side, which, while appearing negative to each other, produce a straight and uniform motion. Conditions like these, inherent in an art, however, bring peculiar dangers, in the pursuit of a course which no chart, however well drawn, and no explanation, however lucid, can make clear to others. Experience, in this sense, is only partially transferable. This has not escaped the far-reaching mind of Bacon, who says, "The subject of medicine being variable, hath made the art conjectural, and so much more open to imposture. The lawyer is judged by virtue of his pleading, not by the issue of his case; the shipmaster by his right course, and not by the fortune of his voyage; but the physician, and perhaps," he adds, "the politician, is judged most by the event, not by his ability." And it is an unfortunate peculiarity of medical men that the course they recommend, when successful, is commonly inferred to have been unnecessary.

Under the light of increased experience and improved methods of observation of medical cases, the number of facts empirically obtained will, no doubt, increase so much, and become so closely connected and interdependent, as to fall into their proper relative positions; and then a more philosophical system of procedure (as in the development of chemistry from alchemy) will be brought to bear upon them, and the distinction between this and the more scientific methods of investigating will cease and determine. And, I take it, that the best practice now followed is that which is the most imbued with the exactness of the scientific spirit.

To establish the position of medicine and surgery in reference to the more exact sciences, it is not incumbent upon us to strive too much after such advantages as might be gained by their elevation in public estimation, but to determine faithfully the limits of our power to ascertain really what we know and can do, and what is at present inscrutable and unattainable. It must be, since man is mortal and life fleeting, that many of the causes of the cessation of life are beyond human control; but there are many diseases which now, alas, prove fatal, which knowledge, timely applied, would prevent or cure.

No one denies the dignity and use of philology because it cannot be applied to fix a language nearly perfect, but subject to continual deterioration, change, and decay; nor does any one object to mechanics and architecture because buildings cannot be designed and executed which will last for ever, and fulfil all possible uses. Nor to the art of

ship-building and navigation because the most noble contrivances ever produced by the human intellect and handicraft are subject to founder and to wreck. Nor can the disagreements of doctors be fairly subject to the common sneer at the efficiency of the profession. One has only to study the pages of the *Times* newspaper for a few days to find that such disagreement is not peculiar to medicine ; but is found also in theology, history, politics, architecture, commerce, and all social questions, while to law a *quasi*-approval is awarded for its glorious uncertainty.

It is the most agreeable part of my duty, gentlemen, to welcome this day those who have joined us for the first time in the work of preparing for important duties in the most responsible profession of healing, which they have chosen.

Amid the melancholy impressions made by the hideous spectacle now presented in the chief nations of continental Europe, ravaged and made desolate by the most frightful war which has ever raged in modern times, applying the improvements of our boasted civilisation not in the practice of the humane maxims of the Saviour by whose name it is called, but in the enormous range, deadly precision, and scientific butchery of its engines of destruction, it cannot but be a satisfaction to you that you are this day enlisting into a corps which is not armed with the murderous chasseur or the death-dealing mitrailleuse, but with the pain-assuaging chloroform and the comforting bandage, with the gentle hand and the sympathising heart, helpful alike to both friend and foe, and tending those whom the fiendish passion for military glory has laid prostrate in the ruins of a late smiling land. You are, as it were, binding on your arms, and I hope, gentlemen, imprinting upon your hearts, that glorious emblem of triumph, even in death, of comfort even in despair, of the most touching compassion in pain and distress, of almighty help in time of trouble, the red cross, more ennobled now in its saving work in the rear of armies, than when raised on high in the van of battle against the infidel.

I think I may, without laying myself open to a charge of vainglorious complacency ; nay, I think I ought, in the interests of those who may know us as yet but imperfectly, offer some remarks upon the staff of teachers which will in this institution guide you by the most effective routes into that educational field where victory is mainly to be achieved by your own strenuous efforts. And in so doing I must crave a further measure of allowance from my esteemed colleagues, upon whose courage I must unavoidably make some demands. In this college, gentlemen, you will work under liberal and enlightened leadership. In an extent of subjects equalling that of an university, free scope is afforded to the pursuit and exposition of philosophical and scientific opinion. No one who has listened to the words of our esteemed Principal, can doubt his appreciation of honest work, and the expression of sincere conviction. In him both teacher and student will alike find, I believe, a friend and a sound adviser. In the field of scientific research, not less than in that of practice, the pioneers under the standard of our Alma Mater have not been the least distinguished. Among the daring advances of the modern school of Biology, which

have rather dazzled the veterans by the coruscations of genius which throw light upon its course, the distinguished researches of one of my colleagues have, while modifying the position contributed to improve the advantage. Brilliant demonstrations of the minute structure of the liver, of nerve matter, and of the secretions, have lately been followed by important contributions on the subject of cell formation and the nature of living matter, which now occupy a prominent place in the attention of biologists. I will venture to say that germinal matter prepared so carefully and sown so valiantly will produce a large share of the histological harvest of the future. In the subject of Pathology, now having the benefit of his skill and experience in investigation, I look for an equally valuable influence upon the treatment of disease.

By his successor in the chair of Physiology a series of convincing experiments has gone far towards the elucidation of the functions of the pneumo-gastric nerve, until lately so vaguely theorised upon, and used as a lever for the most opposite pathological and therapeutical theories. Upon these a very powerful inhibitory influence has at last been brought to bear.

In the department of Human Anatomy we have the advantage of the teaching, skill, and experience of one of the most successful of instructors and agreeable of lecturers, whose sympathy with the students and long connection with the college have obtained for him repeated and expressive marks of goodwill and popularity.

In the same science which had come to be considered as so thoroughly explored as to be quite exhausted, a more careful and systematic method of investigation, carried out in our dissecting rooms, has resulted in making this ground, worked over so long, still yield some nuggets (I may be permitted to say) of substantial value, to help build the trophy of industry erected in this institution.

The closer connection of the sciences of Pathology and Medicine has found a successful and renowned exponent amongst us. Researches into the modifications induced by disease in the minute structure of the kidney and smaller bloodvessels, and the pathology of cholera and epilepsy, have established unquestioned claims to scientific acknowledgment, and by their bearing upon the details of practice have already effected great improvement upon the older methods of treatment, so as to deserve the gratitude both of the profession and the public.

By another of our medical professors the pathological results of gout and rheumatism, and their allied disorders, have been exhaustively examined, and the effective power and limits of a more enlightened and humane system of Therapeutics tested extensively by experimental demonstration in the treatment of disease. It is in this direction emphatically that the ancient physician's maxim is still applicable—

“Et quoniam variant morbi, variabimus artes :
Mille mali species, mille salutis erunt.”

Presiding over the vegetable products which form so large a part of our *materia medica*, we have in our “*primus inter pares*” the Dean of the medical faculty, one who has long inspected the numerous and some-

what troublesome families which thrive under his fostering care through a pharmaceutical medium, which saves his pupils an immense amount of trouble by limiting and selecting the proper objects for their study.

In the subjects connected with obstetric medicine we have the advantage of a professor who has assisted the progress of scientific truth by his researches into the anatomy of the gravid uterus. In his hospital duties the professor of obstetric medicine is aided by a physician of great practical experience and ability, whose attainments are highly appreciated by those who know the value of his work.

Although modern medicine has lessened very much the extent and variety of our *armamentarium* for combating disease, and curtailed vastly the formidable length of the learned prescriptions which were the glory of our forefathers, and whose contents were plumped into the diseased structures on the principle of the bursting shrapnell, that "if one misses another hits;" there can be little doubt that in our day we have gone a long way on the road in out-marching and flanking the enemy by preventive measures. The principles of public Hygiene, long and variously worked out and ably advocated by another of my colleagues, with a spirit of honest consistency which extorts admiration, were last session set forth by him in a course of lectures established for the first time in this college. Certainly in no other profession have greater or more persistent efforts been made to diminish the necessity for the services of its members. From its ranks Parliament has been continually urged, both by private individuals and by the medical press, to enact legislative measures for ensuring the greater purity of drinking-water, and improving the drainage and sanitary condition of our great towns, of our workhouses and prisons, and for limiting and stamping out contagious diseases. No cry of danger to the craft has been heard, but the representations and advice of good citizens, looking only for the good of the public and the welfare of the State.

It is at this point that the science of Medicine touches most evidently the interest of the commonwealth. Though dealing powerfully for good with private individuals, in saving life and restoring health, as a profession we meet the public gaze with more power and impressiveness when, by preventive measures, we preserve them in numbers which amount yearly to an immense army. The wholesale butchery, harrowing in its details of suffering humanity, which war has produced, is as nothing compared with the absolute loss of life and sufferance of pain which epidemic disease continually occasions in our midst,—most of which will be certainly found preventable by the enlightened action of state medicine. To prove this I need only advert to the well-known fact, taken from the Registrar-General's report, that in the three years 1863, 1864, and 1867, the total number of deaths of our own fellow-subjects from scarlet fever alone amounted to 90,000! What must be the number of those in whom the insidious malady has left seeds of disease in some vital organ, whose lives and perhaps those of their progeny will be thus enfeebled and shortened?

In connection with that Surgical branch of medical science more immediately my own, we have, I am glad to say, been enabled to retain

the advantages of the distinguished position and great experience of the great master in surgery, whose teaching and example have had an invaluable influence upon my own career. It would be superfluous for me to eulogise the well-known and influential share which he has had in directing and encouraging the tendency to that conservative complexion which is now pre-eminently the characteristic of the English school of surgery ; and in removing to a great degree the necessity for those mutilations of the human body, which were before his time the frequently recurring substitutes for a cure of the disease. We must all sincerely wish that the president of the Royal College of Surgeons may, for a long time to come, remain the far-seeing Ulysses, as he has been the brilliant and successful Achilles, of our camp, whose wisdom will advise as his example has encouraged us.

In the special department of Ophthalmology, we have the able services of a surgeon of great experience, gathered in the most celebrated schools at home and abroad, whose works upon his subject are obtaining a world-wide repute, and whose special skill in ocular accommodation for short-sighted people, has enabled me to foresee him performing my agreeable duty of to-day about this time next year.

In another special department of Dental Surgery is a professor who has long held a position in the first rank of his art, and whose considerate quickness and sympathetic dexterity in the performance of his painful duty, teach more effectively than words ; an examiner who is so well up in his subject that he can easily pluck even a grinder.

The senior assistant physician and surgeon to the hospital, are men of well-known reputation, whose work in their respective branches of practice entitle them to high consideration, while their great experience therein renders their teaching of peculiar value. Completing the list of officers, and especially disposed to help the student in his first step both in science and practice, we have an able and efficient staff of assistant physicians and surgeons, tutors and demonstrators, chosen from the most distinguished and well-trained students of the college, from whose ability much may be expected ; whose care will be to make the ways of knowledge paths of pleasantness, and whose highest reward will be the grateful appreciation and professional success of their pupils.

After knowing your leaders, gentlemen, I feel sure that you will esteem them. Respect of the good officer helps much to make the good soldier,—without discipline the best men are spoiled. Those who read and work well will the more reverence those who have read and worked, as men who have conquered together have a higher opinion of each other. Those who will not do the duty which they are here to perform, and thus show that they respect not themselves, nor the trusting guardians who sent them here, can scarcely be expected to reverence the high character and aims of the profession they have entered, nor their instructors in the knowledge they despise, until they are taught to fear the inevitable pluck which awaits them, and the neglect and contempt of the public from whose appreciation and patronage they hope to derive subsistence.

The improved regulations of the examining bodies for the better education of the incoming aspirants for medical diplomas and degrees

ensure to me the advantage of feeling that I address myself to men who all appreciate the force of the maxim, that "knowledge is power." They will also feel, by the kind of knowledge which they have already obtained, the force of the well-worn truism, "*emollit mores nec sinit esse feros*;" and so, as teachers we shall meet them, no longer as boys who expect if their work is not done to be sent back to the form and kept in to do it; but as men who are seriously bent upon preparing themselves for the battle of life, and as educated gentlemen who can understand appeals to breeding and to common sense.

Let me now explain something of the nature of the labours which we commence from this day, and of the opportunities afforded by the class-rooms and museums of this great institution for prosecuting the work. The introductory lectures in each of the subjects of study will far more completely and appropriately explain to you the objects of each class, and map out the road best fitted to accomplish those objects than I have time or ability to do. The chart of attendance, given in the calendar, will show you the order, days, and hours of attendance, the perplexity of which to the first sight of the beginner will be better overcome by practical repetition than by any rapid exposition of mine.

The just importance attached by the regulations of the examining bodies to a regular attendance at lectures and in the dissecting-rooms, we have in this college for a long time shown that we have fairly appreciated and honestly enforced, as far as practicable, by the system of marking. Until lately we were alone in so doing among the metropolitan schools, and it has been supposed by some that we suffered from this exceptional position. But we have now the satisfaction of knowing that the Medical Teachers' Association recommend some such plan applied to hospital attendance, as best calculated to benefit our pupils and fulfil our duty to the public. Last summer this plan was applied to the hospital attendance with a very fair prospect of success. I have great satisfaction in saying here, to the credit of our students, that no word of complaint or sign of irksomeness has been evident to me in carrying out my own share of it. It has been welcomed by the industrious man as ensuring him the credit due to him; while very shame, I suppose, restrains the lazy man from decrying an honest attempt to improve his mental condition.

The best way of inducing people to follow is to take the lead in example, and the officers of the hospital have now for many years themselves performed this duty; thus showing their sense of the important principle that discipline must prevail in the higher, before it can be enforced in the lower, grades of a community. And I know not that any eccentricity whatsoever of spirit or temper in the student, whose whole time should be laid out for educational purposes, would justify a neglect of such an important training in habits of punctuality, essential to success in all professions, and especially in that to which he has devoted his life.

I am aware that an opinion has been spread to some extent, that with the great facilities now afforded by admirable books upon all the subjects of a medical education, lectures are a mistake, schedules an abomination, and marking a totally unnecessary restriction upon freedom

of action, and that men should get the information necessary to pass examinations as the American squatters get land, "when they will, where they will, and as they will." Now, gentlemen, conscious as I am that there are here and there favored individuals to whom there is a higher law than mere official regulations—a law unto themselves planted in an enlightened conscience, yet I am sure that, as human nature is constituted, such men are not the rule in any profession, and I have not commonly found them in my own. I am convinced that it is good for the habits of all, whether teachers or disciples, to conform to regulations. Some who advocate the license I have mentioned conscientiously belong, I doubt not, to the purist class. More, I suspect, have been driven impatiently to this extreme opinion from their experience of the scandalous laxity which has often prevailed in the signing of incorrect schedules, lying certificates, and bunkum testimonials. And some I have heard to use the cry as a cover for the idleness and irregularity of their own habits, "making the worst appear the better reason," as a canting Puritan would formerly inveigh against all conformity in politics and religion.

The result of such a liberty for procrastination, even with yearly-recurring pass examinations (which can only imperfectly test practical acquirements in large numbers of men) would, I feel sure, be the postponement, in the majority of the candidates, of all serious application until within a few months of the examination, and a resort to charlatan grinders who profess to put men up to passing in all the "ologies" as deftly and easily as a conjuror dupes his admirers. And what a spectacle our noble profession would then present to the eyes of a critical public daily increasing in intelligence, so keen to note, and ever ready to expose the ridiculous points in a class of professional men, endued with a flimsy and superficial covering of imposing technicalities, half understood, picked up second-hand at a grinder's shop, put on in a hurry and barely hiding the rags of ignorance and the holes of neglect. But happily our examining corporations in London, whatever may be their shortcomings in many matters, are fully alive to the importance of this subject, and are directing their attention to make the education of their licentiates as practical as possible. Only lately, in a considerable measure through the exertions of one of our own professors, a late President of the College of Surgeons, that body have required that the course of Surgery, which I shall have the honour of commencing in this college, shall in future be partly a practical course, in the use of instruments and surgical appliances.

And herein, gentlemen, you will, I think, at once perceive what the advantages to be derived from lectures may be really made to consist of. Your lecturer should be your practical guide through the difficulties of the subject, which, even in the most elementary, might well appal the beginner by the multitude of its details, and the still greater multitude of the books written about them. Through the midst of every branch of instruction runs a central stem, which it is difficult for the uninitiated observer to distinguish, from its various commingling and divergent offsets, producing a

bewildering sensation like as variations from the radical melody which forms the basis of every musical air. The keynote to this it is the peculiar duty of the instructor in any science or art to strike and to keep up throughout the course. The developments that are radical are to be distinguished from those which spring secondarily from them, the branches that are sound and perfect from those which are too exuberant, doubtful, or rotten, the things which are essential from those which may be considered as ornamental. In a practical art like Surgery, especially, there are principles with which every detail and every new application must be in strict conformity. Stripped of all accessories, in positions where he finds himself destitute of the aids which, in this highly-favoured country, he has either at hand or in the next chemist's or instrument-maker's shop, a surgeon who has had the advantage of first-rate practical tuition, when thus thrown upon his own resources, will, in the next wood or farmyard, with the aid of his trusty knife and saw, be able to improvise a makeshift and apply a scientific principle to the objects of his care, which a competent judge would at once declare to be quite as effective in aid of Nature's bountiful resources as the most elaborate and pretty looking piece of surgical apparatus.

It is especially at such a time as this, when the pitying heart of Christendom is deeply moved by the harrowing scenes with which every newspaper teems, presented by the reverse side or what may be called the surgeons' aspect of the brute glory of the conqueror, that the value of simple principles implanted in the surgeon's education becomes especially apparent. We have heard much of the demand for prepared lint. Bales of this material shredded into *charpie* by the tender and eager hands of women and children are at present uselessly accumulated in the neighbourhood of the great battle-fields. No heart but the most cynical would wish to diminish one iota of the respect due to the noble sympathy conveyed by this simple token, as if in mute protest against man's inhumanity to man. In itself of but little worth, like the humble candle burnt before some shrine of Our Lady of Pity, it is hallowed by the saintly halo of its dedication. Yet it is not too much to say that in the eyes of the surgeons of the English school its method of application to gunshot and other deep wounds is much more likely to do harm than good, and that used as it is most likely to be, it is a remnant of the traditional treatment of the continental schools of surgery, long ago exploded in this country. Stuffed into a lacerated chasm of living and absorbing flesh, usually without anything exercising an antiputrescent and anticontagious action, it becomes, in the hurry of indiscriminate dressing in time of pressure, the means of carrying the most horrible and fatal infection; or, at the best, of retaining and combining, in one decomposing and putrid mass, the perilous exudations of which nature is striving to relieve herself. The best possible use to which such a substance can be applied is as a stuffing for pads, or a substitute for sponges to be burnt after being once used, and, for this purpose, even common or prepared tow is a better thing. In default of both, the more pliant, soft, and flexible fibres of dried grass, well cleansed and washed in water or a disin-

fecting fluid, can be obtained in almost any place, and prepared for use on the spot by patients not severely wounded, is a substitute not to be despised. It should never be rubbed over or pressing upon a wound, but used simply as a sponge to convey a stream of water or lotion into it, and to wash the neighbouring parts.

The sweetness and light of Mr. Matthew Arnold are beneficial to wounds as well as to morals and religion ; and in surgery, especially military surgery, as in many other military matters, that which is not cheap and simple is impossible.

The introduction of these small but important matters of surgical detail on this occasion, gentlemen, will be excused on the plea of present public interest. Hundreds of benevolent people, both in this and neighbouring countries, are now unhappily under the necessity of attending to, and feel interested in, such surgical matters, in which some information about little things may be of vital importance, and save many lives. It has occurred to me to have inquiries made as to the peculiar use to which *charpie* is put in military surgery, it being a substance almost unknown in English hospitals, where plain scraped lint does its duty much more effectively. We know that for want of a careful farsighted provision of the small details of the supply of food and ammunition, the gallant armies of our unfortunate neighbours have been utterly lost, and that the wise prescience of our own great captain Wellington into such small matters, was a main cause of the fortunate results of his campaigns, as in that of the German armies of the present time.

In a great many other respects this resemblance between the endowments of a good general and a good surgeon is very close. Both have an art which is more or less conjectural, dealing with probabilities rather than certainties. Each must have his first principles well grounded ; the application of them various and ready to hand ; the conception of the position rapid and intuitive, but at the same time far-seeing and comprehensive ; the action upon it cautious in difficulties, prudent in dangers, and vigorous in emergencies ; and with a watchfulness, careful after victories as in defeat, and ever ready to change a seeming reverse into a triumphant success. Both deal with human life and both on a large scale, but with this difference, the general on the occasion only of war, and by the agency of his subordinates destroying it ; but the surgeon's campaign ceases only with the cession of his profession, and, for the most part, he carries out himself his own conceptions for saving it. He is the tactical commander-in-chief ; the strategical general of division ; the vigilant and daring captain of picket and patrol ; the intelligence of the rank to command and the pluck and steadiness of the file to execute, are all required at his own hands. In both "genius" is especially, as defined by Carlyle, "an infinite capacity for taking trouble," and in both mistakes often produce greater misery than faults, mistakes even that seemingly could not have been guarded against.

It is not by the hearing ear only that lectures may be made valuable to the student. Through the seeing eye much instruction may be gathered in. That the ear may be taught to hear and the eye to see,

the mental habit of attention, which has been defined to be the connecting link between our intellectual and moral nature, must be controlled and educated by the practice of close, sustained, and exact observation. The listless eye, which stares and sees not, is a fault of the nursery which many do not throw off during a whole lifetime. And the useless ears, which let in on one side and out again at the other without exacting toll for the brain, have been often ridiculed. You will find it worth while in the theatre and the dissecting-room, the laboratory and the hospital, to inquire of yourselves why it is that the lecturer, the demonstrator, the physician, or the surgeon, does such a thing in such a way, when you attempt to do the same thing after him. As a quick youth I have heard of often found out what people were thinking of by looking at his own face in the glass while he assumed the expression of theirs, so you will often find out for yourselves, in the doing of it, what cannot always be conveniently expressed in words, how and why it ought to be done in this way, and no other. This is education. If you can't find out you have only to ask your teacher, and the willing answer comes. And this is instruction. The combination of these two methods will give you the best results which your great opportunities at this college can command.

I will not attempt to guide you through the whole of your educational course, as, if I were to do so, the details must not only be imperfect, but would probably be too soon forgotten to be of any real use. I will speak only of the omissions that I have found the student most apt to make, the faults which most beset him in that part of which I have had the most experience.

In our dissecting rooms the lessons that are so pleasantly inculcated by the professor of anatomy are carried into practice under the superintendence of able demonstrators. Under the improved *régime* of preliminary medical education to which I have before alluded, the appeals which were formerly deemed necessary and appropriate in favour of the respect due to the relics of our common mortality are now, I am proud to say, almost entirely unnecessary. We very rarely see now-a-days indignities perpetrated upon the dead subject, as senseless jokes, by a class of men like those who formerly sometimes degraded medical pursuits by their dirty contact with them. The natural fear which the first sight of the ghastly face and cold touch of the dead corpse inspires in youth was then apt to be followed in such men by the reaction of a most hideous familiarity, as

“Cowards that most the dangers jeer
At which they quaked the most, when near.”

In more intelligent and better educated minds this feeling becomes gradually replaced by the sublime awe of admiration, as the winding and elaborate passages are explored which lead us to the wondrous palace where but lately dwelt the inapproachable spirit. Like discoverers in the ancient and overwhelmed cities of the past, we find the marble halls still standing and the furniture and the utensils all in their accustomed attitudes as last used by the occupant. We question them as to their meaning, and we are answered by the echoes of the voices of the dead, whose phantoms sit in these mysterious vaults.

This brain, the seat of the incomprehensible blending of the material with the immaterial, the storehouse of our recollections, has recorded in its plastic substance, for the contemplation of the soul, a minute and microcosmic representation of the majestic universe of God, of which it is itself the masterpiece. Through it she has been gladdened by His glorious sun, and saddened by His tender moon. His smiling landscape has ministered to her joy, and the bright stars of Heaven have whispered gently of the hope of immortality.

Here is the eye through which she looked, the ear that drank in the sounds of melody. There are the organs through which she conversed with her fellows, the heart that fluttered with her joy, the cheek that crimsoned with her shame.

We go through her labyrinths, we visit her chambers,—they are silent! The habitation is still in order, all the machinery is there, but the presiding genius is unseen, the veiled enchantress is gone. As when Pompey broke into the Holiest of Holies, at Jerusalem, “The shrine is empty, its recesses vacant, there is no image of the Divinity within.”

The fault against which I feel it most incumbent to raise a warning cry is, that sufficient care is not usually taken to preserve and utilise, for the purposes to which they are dedicated, these last contributions to the welfare of their fellow-creatures.

A wretchedly bad administration of an imperfect Anatomy Act of Parliament has reduced the supply of subjects in this metropolis, which ought to be more abundant than in any city of the world, to the lowest ebb. The wants of anatomical teaching are met but imperfectly, while those for teaching operative surgery on the dead body are almost entirely unsupplied. Under these circumstances the parts allotted to each student should be dissected to the last fibre and the last bone, before Decay claims its postponed, but certain, due. And no pretext to obtain credit for work not done (*plus videri quam esse*) should be allowed to debar a more willing student from gathering the honey of knowledge from the poor dead carcase which lies neglected, in its last piteous offer, by him to whom the privilege of dissecting it has been awarded.

It is herein, especially, that “an infinite capacity for taking trouble,” from which springs the art of detecting minute differences, will develop into the genius for surgery and medicine. Without a practical acquaintance with the complex labyrinth of the human body, so accurately and precisely worked in as to be almost intuitive in its insight, and instant in its comprehension, the practice of the art of diagnostic and operative surgery degenerates into a mere empirical “rule of thumb,” and sometimes into a scene with an unpleasant resemblance to indiscriminate butchery.

The calm head, the quick eye, and the steady and gentle hand, can only be rightly supported by a well-founded reliance upon an exact knowledge of the tissues, and this can only be obtained from the constant practice of dissection, and a sustained pluck in the drudgery of detail, without which nothing worth doing ever yet was done. “To observe attentively is to remember distinctly” in anatomy, and in no other work is the disposition “for not taking pains” more fatal to success.

In respect to the other elementary subjects of botany, chemistry, materia medica, and physiology, I shall most fittingly re-echo the words which, some years ago, were uttered in this place on a like occasion, "That the student in medicine who is worth the name must also be a student in science."

Rightly to observe and know, exactly to record minute differences, and truly to divide and define them, are plainly essential preliminaries to the study of the most difficult of the sciences of probabilities, the science of healing. The valuable training towards a calm, patient, evenly balanced disposition of mind, which these studies give, is a benefit altogether superadded to the knowledge of nature's laws, of structure, function, and remedies which is obtained from them. For the purpose of exercising the memory and strengthening the faculties of the mind, amusements, even some of a trivial nature, have been found to act as gymnastics do upon the body. And those who have tried it know that no amusement is more entertaining, no pleasure greater, and no exercise more invigorating than the practical study of nature. As said by Gilbert White, of Selbourne, "There are a few happy souls to whom the study of nature becomes the be-all and end-all of existence. With no Nemesis of neglected duty behind them (for this is their duty) they go through the world as though it were to them the garden of Eden. Living creatures, first seen by their eyes, come to them to be named, and they hear the voice of the Lord God walking in the cool of the day."

No one, again, can tell the future value of an absolute fact, however small, which some might be inclined to despise,—

"Yet Newton traced the law that rules the spheres,
Nor scorned the falling apple."

It has been well said "that many a medical student is disposed to think that all physiology which is not strictly human, is mere lecturers' padding. If he is shrewd he soon finds out his mistake. It is a knowledge of the sciences, often considered as chiefly ornamental, which has done more than all other learning to advance medicine." As examples of the direct bearing which the study of the lower forms of vegetable and animal life has upon the origin of disease, I may allude to the remarkable researches of Pasteur and Lebert into the contagious disease *pebrine* which has destroyed the silkworm to so serious an extent in France and Italy. It is owing to the growth of cylindrical corpuscles, called by Lebert *panhistophyton* because it swarms in every part of the creature, even to the undeveloped eggs of the female. It is considered by the eminent naturalist, Quatrefages, to be in every way comparable to the epidemic cholera of man. The highly contagious sheep-pox and glanders, again, have been found to depend upon the rapid diffusion of small, living, rapidly-moving particles called *microzymes*. Something like these have been found by Dr. Burdon Sanderson in the drinking-water supplied by some of the London companies. The same distinguished physiologist has proved that the active element in vaccine lymph is non-diffusible, and consists of minute particles of rapidly multiplying organic matter. All these things have intimate relationship with the "ills that human flesh is heir to." But

the maxim still holds good in these things, "Non multa sed multum," not many things but much. And you find here again the use of your lectures and class examinations. They reveal to you the "modus in rebus" which books can teach but imperfectly, because they comprehend not your difficulties, and cannot supply your exact wants.

An important supplement to the lectures will be afforded by the practical classes in anatomy, physiology, chemistry, and botany. Such instruction in practical matters prevents waste of time and needless mistakes. I say needless mistakes, for mistakes are sometimes the best teachers of all. Action is the most deeply planting educator. If you intend in practice to keep up to a decent level with the improvements in your art you must learn its grammar right well. In the second part of your educational course you will apply in hospital practice the principles taught in your lectures on medicine, general, forensic and obstetric; therapeutics and surgery. By this time your grammar must have been learnt thoroughly, for now mistakes are no longer venial. They are humiliating to your self-respect, damaging to your reputation, painful to your patient, and frequently dangerous to his life.

To lessen the chances of such accidents, which have sometimes made mankind reflect whether, upon the whole, they suffer more from the disease or from the doctor, there are provided, as part of the course, periodic examinations into the progress made by the student. In the surgical course this will extend to the practical application of apparatus, and the preliminaries of operations; and, if subjects be forthcoming, to the actual performance of operations by the student.

In his first year of study even, the out-patient department of the hospital affords the opportunity to the student of acquiring by practice the first steps towards the treatment of cases, under the eye of the assistant physicians and surgeons. Here the most inexperienced man may acquire the knowledge, aptitude in prescribing, and tact in the management of patients, without detriment to them, if only a little common sense be at hand. For the appointments of out-patient clerks and dressers all first year's men are eligible under the condition of an elementary examination in anatomy and physiology. The appointments are numerous enough to give all the students a chance of the practical experience required by the examining bodies, and I strongly recommend that no time should be lost in trying for them. Depend upon it, gentlemen, that if we do not do our utmost, as students, to utilise such opportunities, we shall subject ourselves, as a profession, more justly to the cynically contemptuous definition—"That doctoring is the art of pouring drugs, of which we know little, into bodies of which we know less."

You will have in the whole of your academical career the opportunity of studying the best of medical books, the book of nature, in the wards of a noble hospital, now happily, through the spirited efforts of its benevolent supporters about to be completed. You will have the power of obtaining, by honourable competition only, posts of responsibility, increasing with each grade of dresser, clerk, house-surgeon, or house physician, and involving progressively higher duties, in fitting preparation for the worthy fulfilment of the trusts and responsibilities of

one of the most onerous of professions, in which more than fortune, more than privileges, are entrusted to your care,—even the perilous charge of life and health. It depends mostly upon yourselves to use them as you ought. To have the opportunities is a great thing ; to be taught by precept and example how to use them is a great thing ; but there are yet other things wanted which these will not supply, and none but yourselves can give ; and they are, a willing heart, an inquiring mind, attentive eyes and ears, and industrious hands. Bring to your work, gentlemen, that excellent thing in youth, *Enthusiasm*, of which it has been said well, by Lord Lytton, “that it is the genius of sincerity, and that truth accomplishes no victory without it.” Your study is one of the most interesting you can have. It is “the study of man, look you, the heir of all the ages, so noble in reason, so infinite in faculties, in form and moving so express and admirable, in action so like an angel, in apprehension so like a god ;” and you study him chiefly at times when the “os sublime,” the “vultus erectus ad sidera,” is bowed to the dust in weakness and suffering ; when the form and motion are mutilated and distorted, the angelic action convulsed, in his dire struggles with the most trying of the powers of evil ; when the infinite faculties, the noble reason, and the godlike apprehension are clouded, deranged, and humiliated in the supreme agony of dissolution.

It is not sufficient for you now-a-days, gentlemen, as in the rare old times, to *walk* the hospital, you must now *work* the hospital. And that work must be real and must begin at the beginning, so as to learn how to do a thing yourself, that you may be able properly to instruct and command others to do it.

In your after career you will find it very useful to know how to do things with the simplest appliances and the commonest tools, so that no position, however forlorn, may catch you unprepared with those makeshifts which the incidents of life in a colony, a country place, a railway catastrophe, or a battle, will probably render necessary to most of you at some time or other.

You must not be led to suppose that, because you have here a model hospital, supplied with ingenious contrivances for every possible want, such things will be always to your hand. It will not be so. Your readiness and fertility of resource will find opportunities for exercise, especially in the out-patient department, and you must not disdain to mix the humble clay, even with your own spittle, to anoint the blind eyes. For has not a greater than any of us done this thing ?

Philosophy is never more exalted than when she stoops to minister to humanity. And many are the duties which a medical man must do, which to the natural and untrained mind are abhorrent and disgusting. And I have met with some few weak vain youths who have looked upon these as menial duties beneath the dignity of gentlemen forsooth.

I will give you here an extract from a little book called, “Christian Work on the Battle-field,” by the United States’ Christian Commission in their great civil war.

Objections stood in the way of the commission at first. Their applications for admissions to the forts and camps were disregarded, because it was thought they came to preach and not to work. They appealed to the Provost-marshal, and the following scene occurred :—

“ ‘So, gentlemen, you have come down here to see what you can do for the sick and wounded?’

“ ‘Precisely so,’ I ventured to remark.

“ He said, ‘Aye, well, who are you, in the first place?’

“ We told him that we were four clergymen and three laymen. When we talked of ‘clergymen,’ I noticed a smile lurking round the corners of his mouth. But he said, ‘And you want to do something?’

“ We said, ‘yes.’

“ ‘Then I will give you work in ten minutes. There are three hundred sick and wounded men lying on board one of the transports at the wharf. I want three men to accompany them to Philadelphia, New York, or Baltimore. I don’t know where they are going; you will get your orders when you are on board. Will you go?’

“ Three of us at once volunteered. He said—

“ ‘Gentlemen, do you know what you are going to do? You are not going to preach, mind. I tell you what—I want you as *nurses*.’

“ He looked into their eyes, but they never flinched. Two of them were clergymen. When they were gone he gave us work also.

“ ‘But mark me, gentlemen,’ he said; ‘I want men who will wash wounds, who will scrub floors, if necessary—in fact, who will perform the duties of a hired nurse,—and then, after that, I have no objection at all that you put in practice any higher mission you may have.’

“ We separated and went to our work. A few days after the same director sent for us. This time there was deference in his manner, a kinder tone in his voice. He sent us to the three thousand wounded and sick at Yorktown. When we met him two or three weeks afterwards again, we found that the young Christian Commission had conquered the way to his heart.”

You will be associated in your hospital work like the companies of aid to the sick and wounded, which are now raising the admiration of the civilised world, with sister nurses, ladies of education and breeding,—whose gentle, Christian piety purifies and sheds respect over the most humble and self-denying deeds of charity. And you may be assured that the cultivation of feelings of kind helpfulness, mutual respect, and cordial co-operation with your fellow-workers in this ministry of benevolence, will react advantageously upon yourselves when, hereafter, you may take any public hospital appointment. Half the merit and usefulness of any public or private duties are destroyed by cantankerousness in the performance of them. “Not the place honours the man, but the man the place.”

A great influence in rendering duties, otherwise repulsive, tolerable, and even interesting, lies latent in all men who are not thoroughly corrupted by the modern pretension to the “*nil admirari*,”—that sneering affectation of superiority of which Pope wrote—

“ All fools have still an itching to deride,
And fain would be upon the laughing side.”

This power is *Sympathy*, of which it has been said, “There is not a woe which she cannot alleviate, not a joy she cannot augment, not a perception she cannot clear, nor a faculty she cannot invigorate, not a good quality she cannot temper and ennoble. She fills the well-

springs of life. She is the woman in the household of the soul, the helpmate of the intellect, the ally and guardian of all that is good."

By this power you will more effectively influence your patient for his own good, both in the sphere of hospital duty to which you are more immediately called, and also in the larger field of practice to which your future will be devoted. To be "*audax in periculis*" it is fortunately not necessary to be "*animo immisericors*," and no man ever attained to an extensive practice without the quality of sympathising with the sufferings of his patient, or without, at any rate, adopting the appearance of so doing (by the sort of homage that vice pays to virtue).

You should never forget, gentlemen, that by doing good hospital work you are fulfilling a great public duty, and that you are servants of the commonwealth, as much as the warriors who fight for it, and oftentimes incur as much risk under the fire of contagion; that you are doing, in your way, as much for its welfare as the legislators who are striving to improve it. You are as much God's servants in your charitable mission to the poor as the clergy who minister to them in their own high calling. This consideration will give you a satisfaction in your duties, which in the noble words of Lord Derby, at the foundation of the Bootle Hospital, "are means to the great end that we should have living on this English soil, a population not squalid with dirt, not decimated by disease, but healthy in body and mind, trained for all needful purposes whether of peace or war, living in houses which make self-respect possible, and attached to a country which has done its duty towards them."

A great feature of your education in this college will be that of competitive examinations, adapted with a view to facilitate your passage through the portals of the licensing corporations. The importance of these in an educational course cannot well be overestimated. They enable you to compare your progress with that of other students subjected to similar conditions of study, and thus to correct those crude notions of superiority of which La Rochefoucauld says, "That the surest way of being deceived is to think yourself cleverer than any body else." Competitive examinations have been called "a check upon the imposture of half-knowledge. What a man can write clearly, correctly, and briefly, with accuracy of thought and of expression also, and without books or reference of any kind, that he undoubtedly knows." And the questions that will be asked of you will be not only "What do you know?" but also that which life is continually asking of you, "What can you do?" You will be examined in practice as well as in theory. And you will have these examinations regularly, so as to drive in the knowledge by the small and constantly recurring taps of repetition, which clench the nail without splitting the wood. At first you will, perhaps, feel daunted at the prospect of the amount of information expected at your hands. A fresh man's first examination in scientific subjects usually produces little more than a vague sense of general scientific ignorance. But be not dismayed, it will all come clear in time—

"To him who shrinks from frost, the frost is cold.
Let him go forth to meet it, and it warms

More kindly than red brands. The way to light
Is toward forbidding things, growth in approach,
In nearness love, and reached, the soul's great life."

Ask questions continually of your teacher, both in the class-rooms and in the hospital. By applying to them the Socratic method you will benefit yourselves and oblige them. A wise and experienced philosopher of old said, "Much have I learned from my masters, more from my colleagues, most from my disciples." Another sage maxim of his was, "First understand, and then argue." You will thus gradually acquire that "Faculty of a wise interrogation which is half a knowledge," and benefit by the sage maxim of Plato, "Whoso seeketh, knows what he seeketh for in a general notion, else how shall he know when he hath found it."

There is a common error, and one productive of much disappointment, against which I feel it my duty to warn you, on the principle that no politic holding back of the truth can really "inspirit a brave people," and that is to fancy that because a man whom you know to be weak in his preparation has happened luckily to squeeze through his examination, by evading the vigilance of the pickets of the "old guard" which keep the portals of the examining bodies, that you yourselves can also do the same thing under the same conditions.

You know what was St. Paul's opinion of those who, in his time, measured themselves by themselves, and compared themselves among themselves. Besides being unwise and dangerous, it is hardly kind or fair to use the limited liability of your fellow-student as the statesman Fox used his "*foolometer*" to ascertain with how small an amount of brains the political wisdom of the public could be gauged, or as the veteran Palmerston utilised "the man in an omnibus, with a white hat."

It is much wiser and will make you much better to work steadily up to the level of your science, with the view of obtaining knowledge for its own sake—rather than to scrape through with the minimum of information and the smallest possible amount of work.

Remember always that the object of your teaching is not merely to pass examinations for diplomas and degrees, but to do good to your fellow-creatures, and to earn for yourselves an honest and honorable livelihood. It has been said that "there are but three ways of living, by working, by begging, and by stealing. Those who do not work, disguise it in whatever pretty language we please, are doing one of the other two." In your attendance upon lectures and examinations be straightforward and honest, and do not be led by any force of boyish example and imitation to play tricks, for by so doing you lower yourselves in the scale of thinking beings, you cajole your own minds, and encourage the growth in them of the most dangerous of all the evil spirits now abroad in the world, the spirit of humbug. Try to obtain a firm reliance upon the truth of first principles, and a rational confidence in the resources of your art, under the responsibilities which will inevitably hereafter attach themselves to you, so that you may never have to lament the loss of the golden, but fleeting, opportunity, nor to apply to yourselves the maxim, "*Eventus stultorum magister.*" Perform the work which your hand finds to do, whenever and where-

ever you find it. If your mind is well disposed to it you gain a great step in information ; if badly disposed, you discipline and strengthen it. Procrastination is the bane of the student's life, and leaves him continually lagging behind the ranks to be coached by the rear-guard, and piled ignominiously upon some baggage cart.

"Lose this day loitering, 'twill be the same story
To-morrow, and the next more dilatory.
The indecision brings its own delays,
And days are lost, lamenting o'er lost days.
Are you in earnest, seize this very minute ;
Boldness has genius, power, and magic in it ;
Only engage, and then the mind grows heated ;
Begin it, and the work will be completed."

Then be not disheartened by mistakes. The greatest of men have made them before you. The original mistake of Adam has impressed the facility upon all his descendants. Hippocrates even mistook a suture of the skull for a fracture. And if, after having done your best, you should happen to fail in any of your attempts, take heart, remember the spider, and try again. It is given to no man to command success, but anybody who likes may deserve it.

If, in his efforts to pass an examination for a diploma, the student happens to be "referred," as the considerate euphemistic phrase goes, it seldom happens that a more vigorous and concentrated effort fails to accomplish the object. "He who goes on, gets there at last," as the Spaniards have it. In contests for prizes and scholarships the case is, perhaps, somewhat different. "*Non cuivis homini contingit adire Corinthum.*" But it is a consolation to know that success in scholastic acquirements is very far indeed from being a test of success in the more serious struggle for the honours and rewards of practice. Many of the names which now shed lustre on science and art are those of men who never gained first-class honours at all. Their energies were either later in maturing, or were gathered up for more important and supreme efforts, or their talents such as lay more in practical and business matters than in definitions and classifications.

Each gift is useful in the great laboratory of life, and the few who have combined both faculties, to whom much has been given, at their hands much will be required. Every man has his own individuality, something that distinguishes him from other men, which, as a special endowment, was clearly designed to serve some important purpose in the reason for his existence. Let it be your object to find out this purpose, and to act straight up to it. The *γινῶθι σεαυτὸν* is in all things a maxim of high importance, because it leads a man to teach himself things when his mind is matured, and these things he is sure to know best, it may be, much better than other men. And this will lead him to see that the education begun at school and college, must be continued through all his life so long as reason holds its sway. "To your own selves be true, and sure it follows as the night the day, you cannot then be false to any man."

Those who follow the medical profession and have daily exhibited before their eyes the loathsome conditions which result from vice and

immorality it should be less necessary to warn against the grosser temptations which beset in this luxurious city the path of the young man void of understanding.

"They are most firmly good who best know why." The mark of sin should be apparent under the most cunningly painted face and the most gaudy apparel, and repel him from the most enticing words. If it be not so, no pestle in my mortar will make his foolishness depart from him, and no man can prevent him from sowing in his youth the wind, to reap the whirlwind in his manhood and age. But I may do good by warning the ingenuous youth against the wiles of the tribe of Mephistopheles who have seen *life*, as they call it, and who are in the habit of procuring the dirty means of doing so by whispering in the ear of a simple and confiding friend: "Come with us, no one will know it." But he that keepeth thy soul shall he now know it, and shall He not render to every man according to his own works. The fruit of the seductive follies which are thrown thus upon the waters will come back after many days. Mephisto will share the pleasures, and then, as is customary with his kind, will mock at the punishment of his victim when his fear cometh. Be not, therefore, wise too late. Some forcible words of Professor Huxley as to the relation between the University and the world I cannot do better than quote here—"Those who take honours in nature's university, who learn the laws which govern men and things and obey them, are the really great and successful men in this world. The great mass of mankind are the *οἱ πολλοὶ*, who pick up just enough to get through without much discredit. Those who won't learn are plucked, and then you can't come up again; Nature's pluck means *extermination*. Like all compulsory legislation, that of nature is harsh and wasteful in its operation. Ignorance is visited as sharply as wilful disobedience. Incapacity meets with the same punishment as crime. Nature's discipline is not a word and a blow, and the blow *first*, but the blow *without* the word. It is left to you to find out *why* your ears are boxed."

With the same intention were inculcated the loftier motives contained in the noble words of the physician Hufeland to his class:—

"Remember what thou art and what thou shalt be. Thou hast been appointed by God a priest of the holy flame of life, a curator and dispenser of His highest gifts, health and life, and of the hidden powers which He has laid up in nature for the welfare of man, a high and holy vocation. Exercise it aright, not for thine own profit, nor for thine own praise, but for the glory of God and for the benefit of thy neighbour. *Hereafter* thou must render an account of thy mission."

THE INAUGURAL LECTURE ON SURGERY,

Delivered in King's College, London, Oct. 5th, 1870,

GENTLEMEN,—I consider myself especially fortunate in opening to-day a course of lectures, which, for many years past, have been delivered by so eminent a surgeon as my predecessor, that it is no strange class, previously unknown personally to me, whom I have for the first time to instruct, but that the intelligent and inquiring faces which meet my eyes are the same which I have frequently and familiarly met before, and from whom I have received so much good-will and sympathy in my last sphere of duty. Indeed, there is nothing which affords a greater stimulus to a lecturer to exert himself to the utmost for the instruction of his pupils than a sense of the kindly and appreciative reception of his words ; and it is equally certain that little advantage can be derived by the disciple, unless he receives them as of greater weight than can accrue from a mere perfunctory and “*ex-cathedra*” utterance. I wish, therefore, in going through this course, to be looked upon rather in light of a tutor, whose object it is to supply the varying wants of his class, than in that of a lecturer, who will give you *vivâ-voce* a learned dissertation upon his subject, or rather as a friend who is disposed to help each of you individually along the steep and difficult path to the practical knowledge of surgical science and art.

And I am assisted in the fulfilment of this desire by the impending changes in the requirements of the Royal College of Surgeons, with which the Professor of Surgery in this College has necessarily and properly a most intimate interest and correspondence, and which will, for the future, expect that this course shall be of a more practical kind in reference to that department which refers to operations and to the use of surgical appliances than has hitherto been the case in any lectures upon the subject. I propose, therefore, as soon as the course has got fairly under way, and the preliminary lectures treating of the general principles of the art have been delivered, to devote one hour in the week to an examination, combined with practical instruction in the preliminaries and after treatment of operations, the principles and practice of bandaging, the mechanical treatment of fractures, and the application of surgical apparatus generally.

Sections of the class will be called upon to do these things practically and individually, while the rest will be expected to give the reasons for any course of procedure, as a sort of running commentary or choragic utterance upon the proceedings.

On these occasions I wish the class to ask questions freely, so that each may supply his own wants and slake the thirst, which I hope will

be present, from the stream of knowledge which it will be my duty to furnish. For that day, gentlemen, we will resolve ourselves into a peripatetic class and discuss surgical matters with the freedom with which the ancient philosophers in the academic groves of Athens argued high questions of philosophy. There will be supplied living models and lay figures, upon which will be exemplified the different bandages and the application of apparatus, etc. Your first efforts will thus be attempted upon subjects who will not be made to suffer by the unavoidable want of dexterity and the mistakes that must be expected from a beginner. While it instructs you it won't hurt them.

The surgical qualifications which this method is intended to supply to you are those in which the candidates for surgical diplomas have been for some time considered to be especially deficient in ; and, when one looks at the matter fairly, the manipulative part of our art is really a most essential feature of distinction between the surgeon and the physician. For many hundred years, both in the Pagan, Greek, and Roman times, and in the middle ages, the performance of surgical operations was relegated to the slave, freedman, or servant of the physician, or of the ecclesiastic who made medicine his especial study, but who, by the rules of his order, was forbidden to shed blood even for the sake of humanity. But when surgery rose in the estimation of educated men, and it began to be perceived that, in its most highly developed embodiment, it was medicine and something more super-added to it in the way of nerve, coolness, responsibility, and manipulative skill, there still prevailed some of the old feeling that these latter were qualifications of the body only, and, as such, were something inferior in dignity to the scholastic and intellectual acquirements of pure medicine.

And so a tendency prevailed in the examinations to subordinate the former to the latter, so much that the surgeon came at last to be, in most cases, rather the physician of joints and other surgical diseases than a surgeon in the modern sense of the word.

Again, excellence in manipulation requires certain natural endowments which are not at all common, and, moreover, which are rarely found combined with a high degree of intellectual development. The greatest names in surgery are those of men in whom this happy combination has more or less existed, sometimes more of one than of the other.

It seems to be a fact pretty generally acknowledged that men have passed the examinations at the College of Surgeons who had to learn how to apply a bandage, dress a wound, or put on a truss at the expense of the unfortunate patients whom they might be successful in persuading to put themselves under their hands upon the strength of the diploma. It seemed high time to alter the state of things. Accordingly the requirements for practical instruction have been gradually rising, and now all candidates are required to have been dressers of hospital patients. But the short time during which this is possible renders it advisable that some preliminary knowledge should be previously obtained. Moreover, dressing without such previous instruction is hardly fair to the patients, subjecting them, perhaps, to suffering from mismanagement or want of dexterity, and

the student to a liability to the reproach conveyed in the Arab proverb of the barber surgeon, "He learns cupping upon the heads of orphans"—an Eastern application of the maxim, "*Fiat experimentum in corpore vili.*" Now, to do rightly even the smallest of these details of bandaging, setting broken bones and reducing dislocations, requires a fair and true knowledge of the principles of animal mechanics which I take it for granted that you have acquired in your first year of learning the bones and dissecting the muscles and joints.

If you do not know the kinds of levers you have to deal with, the actions of muscles upon them, and the alteration of mechanical conditions which a fracture or a putting out of joints brings about, you are entitled to but little more respect (even though you may have a diploma) than the quack bonesetter of the country town who, with the knowing air of intuitive insight, puts up a sprain for a fracture, manipulates a diseased joint as if it were a dislocation, or cracks a rheumatic tendon, and, hey, presto! there goes the joint in again: or presses his rough thumb upon the tender spot in the curved spine, and mingles with the scream of excruciating agony from the poor sufferer the brutal boast of having set the fracture, or put in the joint which the regular doctor hadn't found out.

In all these circumstances the want of knowledge on the part of the manipulator entails severe and unnecessary suffering on the part of the patient. Ignorance in this, as in many other ways, produces as much mischief as imposture. The practical knowledge of anatomy comes in again with even more force in all operative procedures in which the use of the knife is required. In the ligature of arteries, in tracheotomy, in hernia operations, in the performance of resections and amputations, the knowledge of the tissues at sight makes, sometimes the difference between success and failure, nay, even between Life and Death. I trust, therefore, that any shortcoming which the want of subjects may have caused in this particular in your first year will be well supplemented while this course of lectures is going on. The prosecution of the two studies at the same time for one winter session is not by any means a weak point in the regulations of the Royal College of Surgeons.

By comparing the dissecting-room with the operating theatre, you will find, moreover, that in the anatomical resemblances between them there is a difference, and a very important one. This difference springs from the phenomena of life and sensation. It is not merely the machine in motion compared with the machine at rest, although some insignificant distinctions depend upon this also. In the dissecting-room your work deals with an unresisting corpse, cold in its passive submission, with no impending dread of consequences, no shrinking from the incisive touch of the sharp knife, and no more thought or care for any future injury that human ignorance, malevolence, or the powers of nature can do unto it. The fearsome boundary is passed for it which rendered terror possible and worth taking. In the dissecting-room an accidental cut across an important artery or nerve, or even a bad dissection, "cutting away everything," as it is said, have no further bad consequences than the satirical reflections

of your fellow students, or, at most, the dismay and disgust of the demonstrator, and its effects upon your character for discrimination. But when the surgeon's knife touches the living skin, the quivering muscle, the distended vessels, and the agonised nerve, the conditions are altered to the operator as to the patient. Even under the blessed influence of chloroform, the operator has to work quickly, and yet safely and coolly, while the fountains of life spurt from a score of vessels, and the forceps of one hand secures them close upon the knife in the other which divides them.

Now an unpreparedness in anatomical skill, or even a momentary forgetfulness, a want of quickness in seeing, or an accidental slip of the fingers, may involve the loss of so great a stake as the life of a fellow creature, and with it your own reputation, and perhaps your livelihood. This work requires training of a more advanced kind than dissecting, and to do it quickly, completely, and well, is a very high attainment, to which not all men can reach. The best preparation for it short of absolutely doing it is by close and constant familiarity with the work of the operating theatre, after sufficient practice upon the dead subject. The pleasing satisfaction of knowing your anatomy practically and thoroughly, which I hope you will all by-and-by experience, must not, however, lead you to attach undue importance to many of those minor details which are frequently and rightly employed as a test of your practical knowledge. Many a structure which the dissector gets into the habit of avoiding carefully is cut by the surgeon with no thought or consideration for anatomical susceptibilities.

To know what structures to cut and what to avoid is one of the great points of difference between an anatomist and a surgeon. For the purposes of the former many things are important which are not so to the latter, and if you don't learn this, your friends, the candid critics, will speak of you as an *anatomical surgeon*, and the less the burden of anatomy which the opinion carries in the heads of these gentlemen, the higher will their shoulders at the same time go.

In my address yesterday I pointed out the great value of having main principles of utility always before your eyes in the performance of the most simple duties, and I alluded to what I considered to be a departure from such principles in the use of *charpie* as a dressing for gunshot and other wounds. A want of attention to the first principles of surgery is often observable also in the application of the bandage, upon which many who have not received a surgical education at all pride themselves, and really can apply, maybe, as neatly as you can see represented in any of the illustrations of a manual upon that art. A practical surgeon would say that it is of much more consequence to leave proper openings in the most dependent positions for the drainage of offensive discharges from wounds than to make the outer surface look smooth and regular. The reasons for this become intensified if it be probable, as often occurs in a campaign, that the dressing cannot be changed for many days, especially in hot weather.

Too often the fancy bandage is made like unto a whited sepulchre, within which are pent-up death-charged exudations and putrefying sores, and concealing a neglect of the dictates of common sense, the vital principle of modern surgery.

Bandages and strapping are mainly of use in affording support to wounds, the surfaces of which are apt to be disturbed or rubbed together by the motions of the patient. They are beneficial also in restraining the actions of those muscles which would spasmodically or involuntarily move the wounded part. They give by their support great comfort to the patient, and are most required in cases that are obliged to be moved or to travel at once. In those cases which can be left on the spot and kept quiet, the use of stitches only, when deeply placed and well applied, is often sufficient, where surgical assistance is scanty. The wound can then be kept clean with less trouble, and without the pain and disturbance to the patient, caused by tearing off a load of dressing. It should be covered from the attacks of the flies, and from atmospheric contagion, by a piece of clean rag steeped in a disinfecting solution, or by simple cerate thickly spread on lint, and smeared over with carbolic oil, the vapour of which is by that means sufficiently retained for all practical purposes.

With many of the branches of the surgical art, the facts of *physiology* are intimately concerned. I shall look in this subject also for evidences of your first and second years' industry. In the treatment of diseases of the bloodvessels, a knowledge of vital hydraulics and hydrostatics comes into play. If the forces of the circulation are not well understood, my reasonings upon the nature, cause, and treatment of aneurisms and varicose veins will be in want of a foundation to start from in your minds. In the diagnosis and treatment of injuries of the head and spine, the physiology of innervation will be frequently referred to, and an acquaintance with its facts implied and reckoned upon.

The *microscope* will be in constant requisition for the recognition of the minute structures of the body in comparison with those which are the products of disease. In the section of comparative histology this instrument will henceforward play an important part also in reference to the germ theory of disease, which now occupies much attention, and will influence the future practice both of medicine and surgery until the facts upon which it is based are thoroughly sifted or finally disposed of. In surgery it has a weighty bearing upon the questions of the origin and propagation and prevention of erysipelas, pyæmia, and hospital gangrene. I hope that the sharp eyes and industry of many of the class before me may do something to elucidate the doubts which are entertained by many practical men as to the truth of this theory, and the correctness of the facts brought forward by its supporters. It is a field of great opportunities, and one peculiarly rich in material for future aspirants to surgical honours. *Physiological surgery*, by its fortunate connection with the most prolific regions of original research, is considered to be a short road to purely scientific distinction. It has, however, its failings and its dangers. Its tendency is to be speculative and unpractical, and to make its votaries addicted too freely to the scientific use of the imagination.

The *pathology* of the joints and diseases of the bones constitute a main portion of that science with which surgery has to deal. You will do well in your third and fourth years of study to be constant in your attendance upon post-mortems.

Every case examined by you will give you some new light into the nature of disease and the progressive changes which it induces in the minute structure of parts. The microscope must here also be in active employment, and from every case examined some portions of diseased tissue should be taken home, and studied at leisure with its aid. Notes, and, if possible, sketches should be made of them to familiarise you with the outlines and make the details, at first sight confusing and involved, carry a clear meaning to your minds. The structure of tumours, again, is a prolific and instructive field of microscopic research which has been made illustrious by the labours of some of our greatest surgical intellects. And although the microscope has not hitherto given us those distinctive and sharply-defined characters which were, in its earlier days, expected from it in reference to malignant growths, it has cleared away many old notions as to the endozoic nature of these growths, and led us to modify our conceptions of their relation to the normal structures, from which they differ more in their degree of independence and malposition in the system, than in their intrinsic nature. The alterations effected in the tissues by surgical disease have by some been considered to be usually so great, as to render the knowledge of the healthy tissues and their relations somewhat subordinate, and of proportionately less importance to the education of the practical surgeon. This I believe to be a mistake, arising from the same tendency to exaggeration and want of balance, as the various heresies in the history of religious opinion, in which the elevation of one doctrine perfectly true in itself has given a false perspective in its relations to others equally true. It is an instance of one-sided bias which an exclusive pursuit of any one series of facts gives to the mind—the “nothing like leather” of the old anecdote. This manner of viewing surgery has been called by its followers *pathological surgery*. It has been favoured apparently because of its bearing upon practice in those branches of surgery in which practice is most abundant.

Its too exclusive culture tends to lead to that kind of treatment which most favours the study of what has been called “the natural history of disease.”

To watch and note the different phases of diseased phenomena, to see the patient day by day more and more overcome by it, until he is released by the kind hand of death, is indeed of as much value towards the attainment of right notions of what disease really is and leads to, as the patient observations of the metamorphoses of insects and the entozoa are to the study of natural history. But we are unfortunately too often compelled to do this in the many cases where treatment is of no avail to render it proper to do so where there is a good chance of the surgeons' interference turning the scale in favour of recovery. Exclusive observation of the unchecked progress of a diseased action is apt to create in the mind an overwhelming sense of its irresistible power, like that which awes one in the contemplation of nature's grander manifestations. And its practical corollary is the tenet that time, rest, and support are all that is needed or ought to be given. To let Nature have fair play in her tendency to recovery, and to stand aside from meddlesome and perhaps vexatious interference, is right as

a principle of action in very many cases : but it is one that does not therefore admit of universal application. The attitude of this kind of surgery has led to the application of the name of *expectant surgery*, in this age of epithets and distinctive appellations. In the majority of surgical diseases and injuries it is far less reasonably applicable than in the practice of medicine ; wherein many fevers and other diseases admit of scarcely any other treatment. When pushed to an extreme, however, it has been called, in that department of medical practice, but scarcely justly, I think, "A Meditation upon Death." In surgery it may certainly be stated not unfairly to be, in many cases, a "Drifting into Deformity."

Private practice upon such principles only, resolves itself mainly into the business, or, if you like, the recreation, of going about to pick up fees, wherein the service chiefly rendered is a visit of gossipy condolence, accompanied perhaps by some purposeless manipulation in the "art of pleasing the patient, whilst nature performs the cure."

The opposite pole to this contemplative position of the surgeon is one that suits better with the eager, bold, and determined mental disposition (sometimes qualified by a sort of restless fidgettiness) which leads a man, when faced by a difficulty, to do something for his patient, or his reputation, or his fee, as the case may be with his conscience. When properly guarded, this tendency is a really valuable one, for, as Lord Bacon has remarked in his Art of Judgment, "It is the nature of the mind of all men for the affirmative and active to effect more than the negative or the privative." In general practice it results in a treatment of symptoms as they arise (as the phrase goes) and in putting things into prescriptions to meet this or that end, with often but little reference to, and, mayhap, but little knowledge of, or care for, "natural history" in any shape or form, of disease or otherwise. This may be called *pharmaceutical surgery* in an abnormally developed form, leading, in the palmy days of a fashion now happily dying away, to the more justifiable applications of the *drenching system*.

Now, the art of prescribing properly, sensibly, and simply, is one of the most valuable accomplishments you can attain to, and it is one which, I trust, you will all carefully study, both in the out- and in-patient departments of the hospital. There is, I think, a tendency, since apprenticeships became a system of the past, to neglect it, and prescriptions are often badly or ungrammatically written, and directions carelessly given or omitted. Nothing will more diminish the confidence of your patients in the general amount and accuracy of your professional knowledge than such imperfections. They will judge by the samples which they are bound to see, and in some measure to understand, of the whole substance of your knowledge and experience, and, as a rule, they may judge fairly thereby. And in this, again, method in little things often shows the master of great things.

In operative surgery, when the admirable shrewdness, experienced caution, and humane feeling which you have been hitherto privileged to see exemplified in this chair happens to be wanting, this "do or die" character leads, if untrammelled by knowledge and unrestrained

by prudence, to the structures of the human body being considered principally as objects to be cut out, or burnt off, or otherwise scientifically disposed of. Joint cases will be looked upon chiefly as nice cases for excisions, aneurisms favourable for tying arteries, diseased limbs beautiful for amputation, and surgical cases will come to be viewed generally as *operation cases*. The impetuous dash and false glitter which corruscates over surgical performances of this style, would perhaps be highly fitting for a bold leader of dragoons, and the blood which follows upon its fatal course is scarcely less appalling. It is comparable to the methods in midwifery which have been alliteratively called *meddlesome*, and its effect upon the minds of very sensitive observers is sometimes rudely expressed by epithets more applicable to an occupation which takes life instead of saving it.

A sovereign remedy for most of these diseases of development in the surgical art is the patient, persistent, constant watchfulness at the bedside of the patient, of the symptoms and conditions of disease, and a comparison of the effect of treatment and of no treatment but rest and proper diet, "*fidelibus oculis subiecta*." The practice of short case-taking on your own account is most valuable, not copying from the notes of the dresser, nor putting down the ideas of others, but your own thoughts, your own observations, especially when they seem to differ from the remarks of your teacher. You can then correct them, if necessary, by personal reference to him, and so acquire "that faculty of a wise interrogation which is half a knowledge." And sometimes you may be able to call to his attention even something which has escaped his observation or that of his assistants, and so you may do good to your patients, and also help your teacher. Your notes should at first be limited to the easier and more common cases, which are really those from which you can learn the most generally useful matters. And when you have obtained experience in these, you will be in a better position to apply to your own minds the wisdom of the father of modern science, that "medical cases should neither be so infinite as to extend to every common case, nor so limited as to admit none but wonders; for many things are new in the manner which are not new in the kind, and if men well intend to observe, they shall find much worthy to observe." Nor should you refrain from noting such cases as are usually considered incurable beyond hope, for much that is useful and even new may be learned from them; and to omit them from study perpetuates that "law of neglect" which "exempts ignorance from discredit." I shall aid you as much as possible in so doing by constant reference to my cases in the wards of the hospital in this course of lectures, as well as in those more especially devoted to them, delivered in the theatre of that institution; and I hope by so doing, to encourage you in the vigorous prosecution of that excellent kind of surgery called *clinical surgery*; and so do my best to second the efforts of my distinguished colleague, who now presides more especially over that practical kind of instruction, the knowledge of which is the best passport to success in private practice, and to the highest consideration from the members of our common profession.

There is an extravagance in the outgrowth of modern surgery to which I will finally make some allusions, viz., the extreme tendency to specialities in every shape and form. In the number of these I do not intend to include fair and legitimate specialities, such as eye surgery or dental surgery, or even ear and laryngeal surgery. But I would deprecate that tendency to make a mystery of matters which are really only fairly diagnosed and treated upon principles common to all surgery, and which should be guided in their application by the most useful of senses "common sense." According to some there is a special mystery in gunshot, shell, and bayonet wounds, which a civil surgeon does not and cannot understand; and yet the effective practice resolves itself for the most part into treatment derived from general surgery and copied from civil hospitals, and where it departs from this it is most likely to go wrong. And there are various departments of surgery which have been asserted to stand upon a higher platform than the firm ground of common and well-tried surgical principles, and which are trivial in the distinctions upon which they make this claim. If no feeling of consideration for the dignity and position of the art as a whole be at hand, we shall arrive at a state of things in which every peculiar excellence by which its practitioners differ from each other (and such differences must necessarily exist) will be held to be distinctions which fall as far short of being true professional distinctions as a tailor by trade having a professed speciality for trousers, or a boot-maker one for corns.

You will, I hope, gather the moral which I intend in these observations, and which I wish to apply only to yourselves as a class of surgery striving after excellence,—that I shall endeavour to influence you, in mastering this branch of your studies, to be *anatomical*, but not too discriminative; *physiological*, but not too speculative; *pathological*, but not too contemplative; *pharmaceutical*, but not too laxative; but, above all, *clinical* and *surgical*, but not too operative; special and practical in your knowledge of all its branches, but not too distinctive in your profession of it. And I, for my part, will do my best to lead you by the *via media* through which you may safely and honourably travel to usefulness, and, I hope, to competence; and to keep you in the "golden mean" which will best enable you to earn "golden opinions" in the practice of your noble profession.

