

Medical study : an introductory address, delivered at the Bristol Medical School, on Saturday, October 1, 1836, at the opening of the winter session / by J.A. Symonds.

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MEDICAL STUDY;
AN INTRODUCTORY ADDRESS,

DELIVERED AT THE

BRISTOL MEDICAL SCHOOL,

On SATURDAY, OCTOBER 1, 1836,

AT THE

OPENING OF THE WINTER SESSION,

BY

J. A. SYMONDS, M. D.

PHYSICIAN TO THE BRISTOL GENERAL HOSPITAL,
AND LECTURER ON THE THEORY AND PRACTICE OF MEDICINE.

BRISTOL:

W. STRONG, CLARE STREET; AND FORE STREET, EXETER;
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TO THE STUDENTS
OF THE
BRISTOL MEDICAL SCHOOL,

THIS DISCOURSE IS INSCRIBED,

BY THE AUTHOR,

AS AN EXPRESSION OF HIS WISHES FOR THEIR
PROFESSIONAL SUCCESS AND USEFULNESS.

ADVERTISEMENT.

THE following address, though not originally designed for publication, has been printed at the request of several gentlemen, upon whose judgment the author has great reliance.

MEDICAL STUDY.

ALTHOUGH it is a commonly received opinion, that upon no subject does a speaker discourse more willingly than upon himself, and although one subtle analyst of human motives has asserted, that we would rather say evil than nothing of ourselves, I will venture to remark that I should have preferred not alluding to myself on the present occasion. It would, however, be ungrateful on my part to allow the opportunity to pass, without expressing the high sense, which I entertain, of the honor conferred upon me, in being appointed to open this session, and my conviction, that the task would have been much more ably executed by any one of my colleagues.

A very little reflection must satisfy a thoughtful mind, that the commencement of a medical session is an event of no ordinary importance: not indeed in itself and its own transactions, (or I should have hesitated more than I have done, in undertaking so prominent a part in them,) but as the initiative of a series of occupations which may exert the gravest

influence, not only on the fortunes and happiness of those who are about to be busily engaged within these walls ; but on the welfare of numberless individuals, and families, and perhaps even communities, throughout wide tracts of country, and, possibly, long periods of duration : for to what limits of space, or of time, are we to confine the agency of medical labours ?

Those who have the direction of students in other departments of knowledge, (always excepting that which is concerned with the destinies of man in a future state of being,) incur a responsibility, in no degree comparable to that of medical teachers. If the former can satisfy themselves that they have well disciplined the faculties, instilled certain ideas and principles, informed the taste, and refined the sentiments of the students committed to their charge, their objects are accomplished : the effect of their labours may, or may not be restricted to the minds of the individuals, according to a variety of accidental circumstances, of which it is needless to speak. But the instructor in medical science is bound to look beyond his hearers ; if his precepts are operative at all, they cannot remain with the individual ; they must, by necessity, extend indefinitely ; and their ministry must be productive of great happiness, or of great misery.

This view of *our* duties as teachers, and, by consequence, of *yours* as learners, must doubtless appear as obvious, as it is incontrovertible ; and perhaps so much as to render any allusion to it on

the present occasion superfluous. I have, however, ventured to touch upon it slightly, not so much by way of enforcing its truth, as of intimating to you that our highest aim, however far short of it we may fall, is to fashion you into great instruments of good to mankind; and that we regard a medical school, not merely as a place for learning a particular craft or calling, whereby the proficients shall gather to themselves maintenance, riches, fame, or station, according to their several kinds or degrees of ambition; but as an institution from which combatants with disease shall go forth, not as mere mercenaries, but as voluntary and ardent champions of distressed humanity.

The topics adapted to an introductory address are so numerous, that selection is a matter of some difficulty. I might not unfitly invite you to a survey of the history of medicine, or of its present condition; or to an attempt at calculating some of its future results; or we might consider the duties of the medical practitioner, both as prescribed by the law and as binding upon his conscience; or we might remark upon the station which medicine occupies among the sciences; or upon the comparative estimation in which it is held in this and in other countries or times,—or upon its connection with legislation. Such subjects have properly enough been the themes of discourse upon occasions like the present; but as I am addressing students rather than practitioners, and a considerable number probably just entering upon their pursuits, perhaps there is no subject to which

our attention could be more fitly directed than to that of medical study.

And in the first place I shall devote a few moments to a consideration of the objects of medical study. The first and principal object is the attainment of that knowledge which will enable you to cure, relieve, and prevent disease. The second, which must be considered very subordinate to the former, but still of some importance, is a certain degree of general mental culture, appropriate to the medical character.

The knowledge essential to the first of these objects is at once extensive, profound and minute. One great department of it is an acquaintance with the human organism in its healthy condition, comprehending anatomy and physiology. It is necessary for you to know the relative situation of the various parts of the body, because their arrangement may be altered by accident or disease, and you may have to apply mechanical means for their adjustment; and also because you cannot, without such knowledge, institute any successful examination of the seats of certain diseases. The detection of an aneurysm of the aorta, the diagnosis of abdominal tumours, the reference of anomalous disorders to lesions of particular nerves, are familiar instances of the occasions on which the physician stands in need of this kind of anatomical knowledge. But mutual position is a very small part of what you have to learn; you must accustom your eyes to the natural colour, form, and volume of organs; your fingers to the natural firmness, softness, smoothness, roughness; your olfactory sense

to the natural odour; and you must practise the more exact methods of weight and measurement. For unless you have employed these various means, you will be at a loss to determine in any given case of necroscopy, on hypertrophy, atrophy, dilatation, softening, congestion, morbid growths, &c. But these species of anatomical research, though of the utmost utility, are coarse and rude when compared with the analysis of the textural composition of organs. The natural vascularity, the allotment of nervous fibrils, the proportion of cellular tissue, the quantity of interstitial fluid, the proper thickness of membranes, the quantity and quality of secretions remaining in the parts, and an immense variety of other subjects belonging to *general* anatomy, must be diligently studied. How else, for instance, will you be enabled to detect inflammation and its products; or to say whether a prominence on a mucous membrane was caused by thickening of this membrane; or by hypertrophy of the submucous tissue; or by infiltration of the latter with serum, as in the disease, œdema glottidis.

Thus far we have considered human anatomy as subservient, principally, to surgical and necroscopic investigations. You do not need to be told that it is essential to physiology; that a knowledge of the structure must precede that of its function. But it is not alone sufficient; physiology requires not only human, but also comparative, anatomy; for in numberless instances the uses of parts have only been accurately ascertained by observing them in other

animals; and there is good reason to expect considerable illustration of doubtful points in this science, by reference to analogies in the other kingdom of vitality. But chemistry and natural philosophy must also lend their assistance, or we shall make but slight progress in the study of secretion and muscular motion. Much valuable physiological information may be obtained, independently of the means enumerated, by the mere observation of living actions themselves; and it is a species of information as important as any to the practitioner. I do not allude to experiments on animals merely, which ought to be kept within certain well-recognized limits, but to the study of the living healthy man; his physical, mental, and moral qualities. Observe his general aspect, the development of different parts of his frame, more particularly of those which cover the more important cavities; for instance, the symmetry of the two sides of the chest, the movements of the ribs, and the action of the abdominal muscles, in healthy respiration. Notice the natural hue of the complexion, the moisture of the eye, the healthy expression of the countenance. Listen to the beat of the heart, and become familiar with its normal sounds; percuss the chest and abdomen, that you may know where there ought or ought not to be dulness and clearness, and the shades of these; learn the resonance of the voice in the different regions; and familiarize your ear with the sounds produced by the air as it traverses the pulmonary tubes and cells. But for these and similar observations, beware of confining yourselves to a single

subject. You must try a considerable number of specimens, before you will obtain a just idea of the average qualities and endowments; your own persons may supply you with abundant observations on circulation, respiration, digestion, secretion, &c.

In the living man you must study the influence of intellectual operations, and of the emotions and passions, on the physical actions; but what is the sound and well-balanced condition of the former, in what order ideas should or should not occur to the mind, and what strength of dominion the emotions ought or ought not to exert over them, are subjects into which you will do well to inquire, if you wish to understand and to controul the diseases of the nervous system.

Physiology will be but imperfectly apprehended, unless you contemplate, not only the machine and its motions, but also the external agents which are necessary to its regular action; such as food, air, light, heat, electricity, &c.; and some of those pursuits and impressions which occasion such remarkable effects on the mind and passions, and, through these, on the corporeal functions.

Having possessed yourselves of a certain amount of this preliminary knowledge, you will be prepared to receive clear and distinct ideas by the force of comparison, of disease; whether this consists in faulty development, altered structure, or deranged function; and be assured, that all that you have learned of anatomy or physiology, will be called into play for the interpretation of the mysterious symbols, by which disease sometimes announces its presence and loca-

tion ; and that however much you have learned, you will find that you have not learned enough. In the warfare which you will have to wage, while there will be much open hostility to overcome, you will have more to fear from ambuscades and silent marches, from feints and surprises ; and consequently you will have to seek, in every possible way, for information as to the enemy's plans of operation ; his manœuvres and his evolutions. Many a practitioner has been fighting with the air, while a mine has been sprung at his feet. You cannot then expend too much time and labour, in observing the phenomena, and ascertaining the laws of diseased action.

Up to this point you may have studied as mere inquirers in a branch of physical science ; but *from* this point you proceed, not in an investigation of simply intellectual interest, though interest you will find, and of the gravest nature. A steady purpose, a business of solemn import, is before you ; no work in which mere dilettanti can participate ; a work which presents but few attractions, except those which belong to its anticipated results, and those which are engendered by habitual contemplation. The beautiful construction of parts, admirable not less in their complexity than in their simplicity, the adaptation of means to ends, (these being in many cases the enjoyment and happiness of the creature,) the consent of organs, the mutual support of the mind and the material fabric, are all calculated to gratify the taste, and invite the labours, of admiring students of nature ; but how repugnant does it seem

to watch the marring of beauty, the disruption of harmony; to scrutinize anguish; to analyse, interpret, and speculate upon sighs and groans; and all this amid much that is disgusting to the senses, and harassing to the intellect. There must be some ulterior object to the examination of these phenomena; and there is such to him who is training for a practitioner. He observes, in order that he may lessen, repair, and avert evil; and with this view, there is nothing too distressing or revolting to be incurred. The interest which he now feels in his pursuits surprises those who have not the same end in view. So little attractive, indeed, has medical study appeared to general observers, that even anatomy and physiology till of late years, were tinged with the same disgusting aspect, merely because they were associated in the mind with the investigation of morbid phenomena.

Therapeutical knowledge must be acquired, more or less contemporaneously with your study of that which is to be cured; not merely because we do not, or ought not, to look at patients as mere exemplifications of disease; but also because it is necessary to be in some degree at least acquainted with the operation of remedial measures, in order to separate that which is the effect of the latter, from what is essential to the former. While it is a matter of such moment, then, to understand the physiological operation of medicines, it is scarcely less important to know what are the true physical characters of the substances employed, the most suitable method of

administring them, their affinities, and incompatibilities; all which inquiries belong to the head of *Materia Medica*, and to which Chemistry and Botany are not a little subservient.

He who only knows how to combat disease, when it has commenced its attack, will scarcely deserve the confidence of his patients or of the public. To a family, subject by diathesis to the incursions of a fatal malady, a practitioner, however well skilled in curing complaints which are curable, would be of little use, unless he has devoted his attention to prophylaxis, a department of medicine still too much neglected. In the possession of health, and reluctant to admit the existence of a family taint, individuals are averse to the restrictions, privations, and petty troubles, which belong to preventive diet and regimen; and on the other hand, medical men, unstimulated by present danger or suffering, often omit to enforce the proper measures with sufficient earnestness; and sometimes, it is to be regretted, from insufficient information, either upon the general rules, or upon the details of hygienic management. It is my conviction, that no department of our art is more calculated than this to elevate the profession in the eyes of the public, since, in the practice of it, there is assuredly little play for interested motives.

I have now, very hastily, run over the divisions of knowledge, requisite for attaining the first object of medical study. Before I pass on to the second, or subordinate object, it will be right to advert to one department of our science, which cannot very well

be considered under either of these heads; first, because it is not essential to the cure and relief of disease; and secondly, because it is at the same time intrinsically a part of professional knowledge,—I allude to forensic medicine, or the application of medical science to legislative and judicial inquiries. It is one thing, as you well know, to have a fact stored in the memory; and another, to apply it to a practical purpose: and moreover, it is very easy to forget those facts of which we are not in the habit of making use, or of seeing frequently exemplified. Now this remark is particularly true with regard to a great number of facts which belong to legal medicine;—and the advantage of making it a separate science is, that of exhibiting the bearings of facts which might otherwise be overlooked. Not every thing belonging to anatomy and physiology can be said to belong likewise to medicine. What use, for example, except for juridical purposes, is likely to be made of such information, as that shortly after birth, the ductus arteriosus assumes a conical form, that the desiccation of the funis umbilicalis occupies a certain space of time, and that at a certain period after submersion, a green spot appears over the sternum?

From this intermediate subject of medical study, we pass to that which I have characterized as a certain degree of intellectual culture, appropriate to the medical character. Now to determine what that degree is to which you should aspire, and with which you should be content, is a matter of some nicety.

There is a kind of general standard of medical character, which must be approached more or less nearly, if we wish to be successful in procuring patients, or in gaining that kind of influence over them which is necessary to the success of our precepts.

Medical men have, from time immemorial, been a learned class; or, at least, have been so regarded by the public. Among the celebrated sages of antiquity, there were but few of whose philosophy medicine did not form a considerable part. We are even told by Celsus, that our art originated with them,¹ because their devotion to intellectual pursuits² engendered diseases unknown to the illiterate, who were exempt from all but casualties, and the effects of age. The philosophers were led, then, to study medicine for the relief of their own ailments; and when other classes of society became similarly affected, the former were naturally resorted to for assistance. Whether medicine thus originated; or whether, which appears far more probable, philosophers had, in their general survey of natural phenomena, acquired knowledge applicable to the cure of diseases;—whichever be the true statement, we have abundance of proof that medicine and intellectual refinement were associated. The most celebrated of ancient writers on medicine, were men much looked up to for their general attainments. Dr. Freind thus speaks of some of the

¹ "Medendi scientia sapientiæ pars habebatur; ut et morborum curatio, et rerum naturæ contemplatio sub iisdem auctoribus nata sit."—*Cels. Præf.*

² Qui corporum suorum robora quietâ cogitatione, nocturnâque vigiliâ minuerant."—*Ibid.*

Greek physicians: "If we compare any of the Greek writers in our faculty, from the very first of them, Hippocrates, to the time we are now speaking of, with the very best of their contemporaries of any art or profession whatever, they will be found not at all inferior to them, either in the disposition of their matter, the clearness of their reasoning, or the propriety of their language. Some of them have even written *above* the standard of the age they lived in; an incontestible instance of which is Aretæus. * * Galen himself was not only the best physician, but the best scholar and writer of his time. So great an honour have these authors done to their profession, by being versed in other arts and sciences as well as their own."—*Hist. of Med.* vol. i. p. 220.

In the middle ages our profession still maintained itself above the vulgar level; whether fairly or not, we shall not now inquire. It is enough that, in this country at least, the art was chiefly practised by ecclesiastics, who held in their keeping nearly all the knowledge of the day. In the progress of the physical and experimental sciences, as well as of the abstract, medicine was more or less intimately involved. At the revival of learning, no one was more zealous or influential in its promotion, than Linacre, the founder of the College of Physicians. And between that period and our own times, many names might be numbered as belonging equally to the annals of literature, and to those of our profession. Such were Lord Bacon, Sir T. Browne, Locke, Meade, and Freind.

We can thus trace, historically, and independently of other considerations, why erudition and science have been in general opinion attached to the medical character.

In our own times, men educated and known as physicians and surgeons, have been so deeply and extensively engaged in various departments of physical inquiry, that it would be strange if the public did not conceive that there must be some very close affinity between these and medicine; and consequently, that the professor of the latter must be well acquainted with the former. To these causes may be added, the demand for acquirements in literature and general science made by university authorities before the granting of medical degrees.

Now the question I wish to entertain is this: To what extent is it incumbent on you, as individuals, to support this corporate character? You must not confound with this, the question as to what general preparation and discipline of mind are necessary for a medical student; or what knowledge is essentially preliminary to the medical sciences; or what amount of knowledge is requisite for maintaining that station which a medical man ought to maintain in society, as a gentleman. The two former would be much too wide for our present time, which must be devoted to medical study itself; and with regard to the latter, the requirements of polite society as to classical, literary, and other attainments, are too well known to need enumeration here. I will only observe that, as in this country the members of our profession are

in ordinary usage and courtesy considered fitting associates for even the most exalted ranks, it should be the care of every one *ne quid detrimenti capiat respublica medicinæ*, by his individual deficiencies.

But the question is this: Is it necessary for you to be profound scholars, great mathematicians, and subtle metaphysicians? Ought you to be deeply versed in mechanical science, and in the many branches of natural history? Is it desirable you should be such? Is it possible? Now I will venture to answer that it is *not* necessary, that it is scarcely desirable; and that for the majority, it is not possible. But the more ardent among you may reply, that there have been splendid instances in which these various attainments have been concentrated about one living head; and ought we not to make them our patterns? Again I venture on a negative, and am safe in pronouncing it. For if there are any among you so endowed by nature, as to be capable of that extent of attainment which will ever distinguish the illustrious names of a Browne, a Meade, a Darwin, a Young, and a Prichard, it matters not whether you are invited or impelled from without to undertake this or that pursuit; the force within you will urge you forwards, independent of the stimulation, superior to the restrictions, of precepts only intended for the many. To *the many* then I address myself; to those who, with good average understandings, wish to fit themselves for their future duties; and to such I should say: Beware of frittering upon a multitude of subjects talents which, prudently economized, may

make you wise in your generation, and useful to many generations to come. Medical science is not what it was in former times, nor is indeed any science. Look to any one of the physical sciences, and observe the division of labour. Take natural history—for one Cuvier, who commanded all its departments, what numbers you discern, distinguished indeed, but distinguished only in particular branches. How well then might we expect *à priori* that medicine must demand, from ordinary minds, an attention all but undivided. How much stronger also must this view become, by reflecting on the practical duties, cares, and distractions, which the application of medical science involves.

Nor will you suffer in public estimation, by making professional study your main object; for at the same time that you are expected to be well informed on a great variety of subjects, extra-professional observers are very jealous of addiction to any pursuit that may seem to them likely to divert your powers and energies from that in which their interests may be so deeply involved. So convinced have some great men been of this feeling in the public mind, that they have shrouded from view their extraneous acquisitions till their professional reputation has been completely established.

You will not, I trust, mistake the tenor of these remarks, so far as to imagine that I recommend you to be ignorant of all but medicine. My wish is only to caution you against aiming at that *eminence* in other sciences, which you ought all to aspire to in that of

your profession; but at the same time I would urge you to seek such an acquaintance with the former, (which may be done with but little cost of time and labour, and indeed almost in the way of recreation,) as will enable you to appreciate the labours of others, and to carry on and enjoy an interchange of ideas upon subjects of general interest, with the great variety of persons whom the practitioner must meet with; in other words, you should be able to take a respectable part in conversation, and to earn the reputation of being thoroughly versed in your profession, and sufficiently well informed in the various branches of the liberal sciences. But be wanting in any thing but professional knowledge, for this will counterbalance a thousand deficiencies. Remember, though with some abatement, the words of our great poet:—

“ to know

That which before us lies in daily life,
Is the prime wisdom; what is more, is fume,
Or emptiness, or fond impertinence,
And renders us in things which most concern,
Unpractised, unprepared, and still to seek.”

I shall now offer you a very few remarks upon the *methods* of acquiring the knowledge which we have been considering; these are *reading*, attending *lectures*, and personal *observation*.

It would obviously be quite out of the question for me to recommend what course of reading you ought to

pursue, in the different departments of medical science. A more proper subject of inquiry is, the extent to which you ought to make use of books as sources of information. Now I believe that on this, as upon so many other similar subjects, no rule can be devised, applicable to every description of intellect. There are some, for instance, who will derive from reading, and retain, what would have escaped them entirely, had they been dependent solely on their powers of observation; while others have so little capacity for book-study, and get so little by it, that time is lost upon it which might have been devoted to experience. But such extremes we must leave to shift for themselves, according to their respective peculiarities; I address myself to those who are able and willing to make use of either mean, according as it may promise more advantage. Reading, then, is never to take the place of experience; its object is to present you with that which, either you could not have learnt at all, or which, at all events, you could not have learned so soon, and with so little cost, without it. It is intended to give you the result of the observation of others, without the fatigue which they incurred in obtaining and in digesting it, and in making the proper inferences from it. Reading saves you a prodigious expenditure of time, even supposing you could have ascertained and discovered as much as the authors, under similar circumstances. It prevents you from repeating toilsome investigations, terminating in the same results, as what you now obtain more easily and expeditiously; and it gives you starting places from which you may,

if so inclined, push onwards in new careers of invention. It is true, that many powerful minds have allowed themselves to become entangled in the mazes of the mere literature of science, when they ought to have been labouring in fields of observation. You will do wisely to take warning from such examples; but, on the other hand, beware of falling into a habit of despising recorded facts and opinions; and of imagining, that all which is necessary to be learnt, you can teach yourselves; and of listening to that cant which tells you to rely, solely, upon your own experience, and to allow of no guide but nature. There cannot be greater folly or arrogance than to neglect the stores of experience, because we had no share in accumulating them.

Having made up your minds to read, you have to select what you will read. Let not your choice be directed by a passion for new views on the one hand, nor, on the other, by an affected love of antiquity and contempt of modern researches. Endeavour to ascertain, first, what book presents you with a summary of the best established facts and opinions upon any given subject, without reference to the part which the author may or may not have taken in the discovery. When you have mastered this, it will be open to you, (if you have leisure) to inquire curiously into the progressive advancement of knowledge upon the subject, from the first rude conceptions of the earliest observers, to the more perfect knowledge of your own times. This historical survey will not only be interesting to your curiosity, but will tend to

impress the subject more deeply on your memory. I need scarcely warn you to be on your guard against authors, whose remarks shew that they have been less anxious to give faithful representations of nature, than to prove the truth of their own dogmas. Beware of the inventors of systems, and of the leaders of sects; their statements will often fascinate students by their simplicity, by the facility with which they are apprehended, and the enthusiastic ardour with which they are maintained; but you will be safer with writers of the eclectic school, than of any other.

As to the mode of reading, this must depend very much on your respective powers of attention and memory, and likewise upon the subject; the former may be so active, and the latter so interesting, that you have only to read and to appropriate. But if this be not altogether the case, there is no question that the practice of making written analyses both stimulates the attention, and assists the recollection. Such aid is particularly useful, when the subject is not under observation at the time; if it is so,—if, for instance, you are reading during a course of dissection, or of clinical attendance, upon the matters which come before your senses, you will have less need to adopt the practice in question.

Lectures present another method. To some or all of you, it may possibly appear that, excepting those which are accompanied by demonstrations and experiments, lectures present no greater advantage than can be derived from books. But before noticing this objection, I may remark, that they are necessary in

the present state of things; that is, an attendance upon them is imposed by those who have the duty of ascertaining the qualifications of aspirants to practice. The reason for their imposition is, probably, not only a conviction of their use in medical education, but the want, at present, of any better proof that a certain quantity of time and attention have been devoted to study. But, independently of their being required, they present many obvious advantages. The subjects may be treated more amply, more minutely, and more familiarly, than in books; and they may be illustrated by valuable experience, which would never have been communicated in any other form. Many persons also receive ideas, orally delivered, with less fatigue than by reading; and all must occasionally find it an agreeable change of occupation, to study by the ear instead of the eye. "*Levat lassitudinem etiam laboris mutatio.*" But we must not forget that the combination of the two modes of study affords advantages which cannot be derived from either, singly; one suggests further investigations; the other explains and throws new light upon the ideas first received.

While much will depend upon the lecturer himself, in rendering his instructions successful, you do not need to be reminded, that scarcely less is required of the hearers. They must come with an ardent desire of acquiring knowledge, and of turning every thing to account, to the best of their power; and they must come regularly. I am persuaded, that the reason why lectures are so often distasteful, is not only

because the lecturer may not treat the subject in an interesting manner, but also because the subject is not seen in its connection with what has been said before ; for isolated lectures are like separate chapters, or even sections and subsections, of a continuous treatise. But regularity of attendance, though very important, is scarcely more so than a certain mental preparation, to be obtained by reading, and premeditation upon the topic to be discussed in the lecture. Your interest and attention will, by this means, be kept alive, and you will follow the statements and arguments of the lecturer with greater ease, and certainly with more benefit.

With regard to taking notes, I believe it has been proved, by general experience, that they materially assist the hearer ; they mechanically fix the attention, and they induce to regular attendance, by the unwillingness which a person feels to see a hiatus in his own manuscript. Whether they should be very full or brief, must be determined by what is done out of lecture. The best plan, no doubt, is to take brief notes, and to fill them up afterwards by memory and by reading ; but if this is not practised, the next best thing is, obviously, to make them as full as possible at the time. On this point I give you the advice, which was given me when a student ; and from which I have, I hope, received advantage.

The third method of study is *observation*, and it is the most important. This will be exercised by you in the illustrations of lectures, in dissection, in demonstrations, in the musæum, and, above all, by the

bedside. There is so much comprehended in this subject, that I can scarcely attempt to speak of it at all, as I must, by necessity, treat it so very imperfectly; I will only remind you, that to observe well, comprises the following particulars: First, to observe, with a mind free from preconceptions, all those *idola* which Bacon held up to censure and ridicule. Secondly, to observe accurately; for which it is necessary, not only to see, but to look; not only to hear, but to listen; not only to feel, but to touch. Thirdly, to observe acutely; which can only be done by keeping the senses in constant sharpness and readiness, by practice and education. Fourthly, to observe in an orderly manner; that is, to associate and parcel your observations by their proper affinities, so that they may be more readily remembered. Fifthly, to test one observation by succeeding ones.

In acquiring just conceptions of disease, nothing can take the place of observation; and I do not go too far in saying, that in no locality in the kingdom would you find greater opportunities, than in our own city. When there are such harvests of experience as in the magnificent Infirmary, in Saint Peter's Hospital, and in the General Hospital, if you do not go in and reap them, it will be your own fault, and your lasting regret.

I now hasten to the third division of my subject, namely, the spirit by which it is desirable to be animated in medical study. And in the first place I

may observe, that it is not indispensable for you to be impelled, at the very onset, by a vehement passion for medical science. If you begin with a wish to learn something which will be the means of giving you a certain station in society, and of becoming a useful member of it ; a determination not to be discouraged by the early difficulties, and the somewhat repulsive character of the pursuits ; I will dare to predict, that, unless you are very insensible on *some* points, and very sensitive on *others*, there will be engendered an interest in your vocation, amply sufficient to carry you forwards. At the same time, I would recommend every one, before he enters upon the career, to examine himself well as to the motives which influence him, and the capability which he feels of bearing much labour and some vexation. Let no one undertake so toilsome and responsible a post as that of a practitioner, who entertains any dislike to the profession, or feels misgivings as to his willingness or ability to make the requisite sacrifices. There is much to depress, much to harass, much to dismay, even those who are borne onwards by the strong incentives of ambition and benevolence. How painful then is the situation of an individual, who, having gone too far to retrace his steps, finds himself involved in occupations, which not only do not compensate him for the risk and toil by the interest which they afford, but which are in themselves irksome and disagreeable ! such an one will find his professional life a continual martyrdom.

You must, as I have already remarked, make up

your minds to consider your profession your prime object. The studies belonging to it are not such as you can take up or lay down at pleasure, or very profitably interweave with other pursuits. It must be at once a mean and an end. Every thing else must be secondary; and not only secondary, but *accessory*; it must absorb other pursuits; therefore, let these be such as will add to its support and nutriment. Other magi may, for a time, exhibit their feats before your intellect; but the rod of Esculapius must swallow up all the others. You must not suppose that your education can ever be finished; that there is a certain amount of knowledge which you have only to get into your possession; and that then you will be prepared for all exigencies, and at liberty to direct your thoughts to any subject that may attract you. No; while you are suitors of medicine, there is no time when you can slacken your addresses or abate your devotion; and if you trifle with other favourites, you incur a risk of being discarded altogether from your lawful mistress.

There is no virtue, the exercise of which, during medical study, is more likely to bring its own reward, than patience. You will at first, perhaps, meet with discouragement; the investigations may seem sterile and only fitted to embarrass and bewilder the intellect, instead of leading to any definite and useful result. But hold on your way cheerfully and forbearingly, and you will soon find light arise out of darkness, and order out of chaos.

Nor ought I, when enumerating the dispositions

which are fitted to assist you in medical study, to omit taking notice of humility. There is, doubtless, a noble boldness and freedom of thought, which is essential to great acquirements in this, as in other departments of science; but it is not incompatible with that temper of mind which renders it susceptible of instruction, reverent of authority, and willing to admit the possibility of its falling into error. It is not unnatural for the student of medicine, having received many novel ideas, having begun to speculate upon subjects so open to conjecture, and having witnessed the mistakes into which his professional seniors have fallen;—it is not altogether unnatural that he should consider himself somewhat qualified to be a critic, and to pronounce with assurance upon points about which the experience of others has led them to be less confident. But as he learns more, he will feel less and less disposed to dogmatize.

Our emotions, to a certain extent, are in our own power; and there is one which I would earnestly urge you to cultivate; I mean, a profound *respect* for your profession. Without it, you cannot long be successful. Even charlatans, who have begun with a belief in the absurdity of their pretended arts, have nourished a respect for them, from finding, that when most deceived themselves, they have been most successful in deceiving others. If this obtains where the system is itself false, how much more likely is it to hold good, when there is a real ground for conviction. Now, to acquire a feeling of reverence, if you are not already in possession of it, I

think it can only be necessary to consider, what order of minds have been delightedly engaged in medical pursuits, from the earliest periods; and to observe the actual dominion which has been achieved over maladies, once the plagues of the human race, and the increased value of human life, under the improvements of our art. And I will add, that the pure and lofty aims of our profession, even if it had accomplished nothing, would *alone* offer sufficient demands on our veneration. Give no ear then to the idle taunts of those out of the profession: and if you find any among its ranks who dare to speak slightly of its deeds, or doubtfully of its powers, you may safely set them down as persons, who have not yet learned to avail themselves of its resources, or who have failed in their endeavours;—men driven by disappointment into disaffection. Not to expect success in the treatment of disease, is, probably, the surest way of not obtaining it.

As an incentive to medical study, we may observe that it holds out the prize of honorable distinction. I do not refer so much to distinction in general society, as in the estimation of the wise and learned.

“Fame is the spur which the clear spirit doth raise,
(That last infirmity of noble mind)
To scorn delights and live laborious days.”

But were this to be our only spur, we should be almost sure to flag, or to be driven devious from the great ends of science. Fame, moreover, is dependent on too many accidents, to be relied upon, and

we shall not need the incitement which it offers, if we are under the due influence of the love of knowledge and of truth, the desire of doing good, and of glorifying our maker. How noble is the determination of the illustrious Sydenham, as expressed in the following passage : — “ Whatever opinion the world may form of me, I will still continue to investigate and improve the method of curing diseases, to the best of my ability ; and to instruct such practitioners, as have less experience than myself ; for, upon deliberate and equitable consideration, I find it is better to *assist* mankind, than to be *commended* by them, and highly conducive to tranquillity of mind ; popular applause being lighter than a feather or a bubble, and less substantial than a dream.”

The thirst for knowledge is a motive of far less questionable character than the desire of fame, but still there are one or two cautions, which need to be attached to it.

The love of pure unmixed truth almost necessarily engenders a disposition to regard, with doubt and suspicion, every fact and doctrine which testimony and reason present to our minds ; and a pleasurable eagerness in tearing away the false show of things. Now there are no facts and doctrines which require a more rigid scrutiny, than those which belong to medical science ; partly because the phenomena are most difficult to observe correctly, being assembled in such bewildering complexity, and assuming so many illusory shapes ; partly because the observer, however well

intentioned, may unconsciously mislead in the representation of his facts ; and partly because, in the want of sufficient data for careful induction, the interpreter of the phenomena is often obliged, and always tempted, to resort to his imagination for the key to the cyphers. But while it is necessary to exert the greatest vigilance against receiving, as proved, what is only hypothetical ; as certain, what may have been false observation ; we must be on our guard against mistaking the reverse of wrong for right, and acquiring a habit of scepticism, which can see no certainty in any thing, however carefully noticed or strictly inferred. This, if encouraged, will not only inevitably damp our ardour in the pursuit of knowledge, but will cripple us even in the most ordinary efforts for obtaining it ; and, which is worse, will destroy that confidence which, as I have already noticed, is essential to the successful employment of our knowledge in practice. And I may, perhaps, be allowed to add, that this habit, once acquired, will not only interfere, as it might more excusably, with our professional pursuits, but will extend its influence to every other subject which engages our attention. This observation will, I think, suggest a clue to the solution of a question, which has so often offered itself to speculators upon the opinions peculiar to certain classes of men, respecting the alleged frequency of infidelity and irreligion among the cultivators of medicine ; how, for instance, that adage should ever have been received as containing any degree of truth, “*ubi tres medici, duo Athei.*” To superficial thinkers

this has often appeared the more surprising, because the science of medicine presents such striking proofs of the beneficent contrivance of an Almighty Power, while the practice introduces its votaries to so many solemn scenes, calculated to impress upon the mind some of the most important doctrines of religion. But while I believe one great cause of the anomaly, admitting its existence, may be what I have just mentioned, there are many others; and to one of them it may not be improper to advert. In very early life, the ideas which we receive of the existence of a supreme Being, and of a future state of being, are interwoven with certain abstract conceptions respecting the nature of the soul, and its entire distinctness from the corporeal fabric. In the course of subsequent education, the reciprocal influence of physical and mental phenomena is kept so much out of sight, that the mind of the student suffers a shock and confusion of ideas, when certain facts come before him in physiology and pathology, proving the intimate connection and mutual action and re-action of mind and organization. In but too many cases the student, instead of inquiring whether these facts are reconcileable with the momentous doctrines in question, and whether, because he may have previously formed inaccurate conceptions respecting the connection of mind and matter, it is necessary to reject the truths which concern his future existence, — allows an entire revulsion to take place in his mind; rashly concludes, that because some of his former convictions were false, others allied with these

were so likewise; neglects to ascertain whether the former were, like the latter, subjects of revelation; imagines that he has discovered a flaw in his creed; attributes to revealed authority an error, due only to his own understanding or human instruction; refuses, therefore, to admit that the authority has any claim on his credence; inquires no further; and becomes, what is called, a confirmed unbeliever.

I suggest this explanation with much diffidence; but I do it by way of warning you against the dangerous error of supposing that, because certain of the ideas which you may have formed in early life, are found unsupported by subsequent observation, therefore certain other ideas, received at the same time, and by the same channel of human instruction, and thus accidentally and strongly associated, must likewise be given up as untenable.

I will not venture to remark upon the causes which render the lapse into this error more facile, the chief of which are the moral habits and inclinations and passions.

There is one other caution appropriate to the love of knowledge. It is quite possible to make knowledge too much of an end, and too little of a mean; to be so occupied with the acquisition, as to forget the application. This remark obtains in all departments of knowledge, but particularly in medicine. There is a scientific, but too easily separable from the practical, interest in it. But beware of encouraging the former, to the neglect of the latter; you cannot, indeed, do so without committing a

deadly sin. I have heard of men of such devotion to science, as they choose to call it, that after subjecting their patients to the most wearying and painful examination for the mere gratification of curiosity, or for the sake of extorting a proof of some favourite hypothesis, have left them to the unassisted efforts of nature, (which may be efforts at destruction as well as at cure,) thinking of them only as examples of pathology. There are countries, gentlemen, where hospitals might be better called musæums; beds, cabinets; and patients, specimens. But, thank Heaven! our own is not one of those countries.

The incitements to exertion, thus briefly touched upon, have reference, as you must have observed, to your own personal enjoyment; but you will I am sure forgive me, if, in conclusion, I remind you that they ought to be subordinate to the desire of doing good to mankind, and honour to your God. If you seek for independence and wealth, be it that those acquisitions may increase your influence in forwarding plans of improvement, in the moral and physical condition of your fellow creatures; if you thirst for knowledge, let it be for such as unlocks the stores which the Creator has allowed to be opened by ingenuity and industry, for the benefit of man; if you burn for fame, let it be for that which will extend your names, not as mere giants of intellect, but as inventors of new weapons and resources against misery and disease.