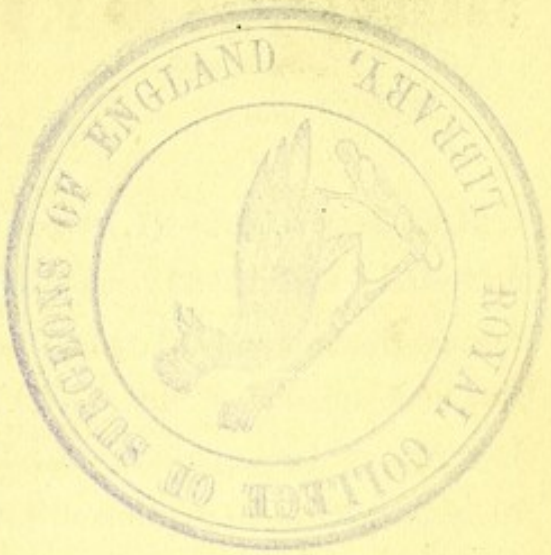
'Shall I study medicine?' : aspects and probabilities : first, wherein I come short, secondly, I shall pursue the right line of way, thirdly, I shall then have striven to some purpose : in some parts a réchauffé from Smiles and other authors / adapted by P.D. Handyside.



OBSERVATIONS OF P. D. HANDYSIDE, M.D., F.R.S.E.

ANATOMICAL.—(1.) Case of Hypospadia, with Cleft Scrotum, *believed a female* till 33 years of age—illustrated. (2.) Dissection of Malformed Bladder and Dilated Ureters in a Male—with Cast. (3.) Dissection of Acephalous Fœtus. (4.) Engravings of the Bloodvessels ; with Descriptive Letterpress. (5.) History of the Sternoptixinæ class of Fishes ; with a description of S. Celebes, a species not hitherto noticed —illustrated by Engravings. (6.) On Extrophy of the Urinary Bladder—illustrated. (7.) Outlines of Anatomy ; being a Text-book to his Lectures. (8.) On the Anatomical Characters of the Brain of Dr Andrew Combe. (9.) Dissection of an Encephalocele, and a Classification of Connate Deficiencies of the Encephalon. (10.) Dissection of a remarkable diminution of the Medulla Oblongata and adjacent portions of the Spinal Cord, unattended by any symptoms of Paralysis—illustrated. (11.) On Arrested Twin Development in the case of J. B. Dos Santos—illustrated. (12.) On a Sub-arachnoid Serous Sac, as traced in cases of Spina Bifida—illustrated. (13.) Description of a Cyclocephalian form of the Etmocephaloids, born alive—with drawings. (14.) On Acrania. (15.) Cases of Multiple Mammæ in two Adult Brothers—illustrated. (16.) Dissection of Abnormal Termination of the Rectum, with Remarks on the various forms of this deviation. (17.) Case of Hypospadia, *believed a female* till 16 years of age ; with Morphological Remarks—illustrated. (18.) On Bovine Heteradelphous Monstrosity, with Rudimentary Pelvis—illustrated. (19.) On Transitions in the Fœtal Heart in Man and the Lower Creation—illustrated. (20.) On the Filaria Piscium within the Muscles of the Salmon current in the Market. (21.) Dissection of the Polyodon Gladius, from the Yang-tzse-Kiang. (22.) Abnormal Deviations in the Aorta and its Primary Branches, and their Relations to the

[*Continued at end of Book.*

"SHALL I STUDY MEDICINE?"

ASPECTS AND PROBABILITIES.

First,—WHEREIN I COME SHORT;

Secondly,—I SHALL PURSUE THE RIGHT LINE OF WAY;

Thirdly,—I SHALL THEN HAVE STRIVEN TO SOME PURPOSE;

In some parts a Réchauffé from Smiles and other Authors

ADAPTED BY

P. D. HANDYSIDE, M.D., F.R.S.E.,

TEACHER OF ANATOMY IN THE EDINBURGH SCHOOL OF MEDICINE;
FORMERLY SENIOR PRESIDENT OF THE ROYAL MEDICAL SOCIETY,
SENIOR ACTING-SURGEON TO THE ROYAL INFIRMARY, AND
PRESIDENT OF THE MEDICO-CHIRURGICAL SOCIETY.

Τὸ πρέπον.

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DR HANDYSIDE TO HIS PUPILS.

THE Method and the Bearing of the points traced in the following Sketch form perhaps the solitary quota I lay claim to.

The matter, or thing itself—I offer you as a Reminiscence of such Counsels, formulated Experience, and Convictions as I am wont to impart to the Professional Aspirant.

At our very threshold I venture to interpose an obstacle and positive barrier to Entry;—I next suggest a befitting plasm in which the trained Entrant should be cast;—and then I show the cordial welcome into our Professional brotherhood that of necessity awaits the Entrant, *quamdiu, in foro conscientiae, se bene gesserit.*

EDINBURGH SCHOOL OF MEDICINE,
March 8th, 1877.

POSTSCRIPT.

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PRIOR CULTURE IN STUDENTS.

THE youngest among you whom I have the honour to address are in a transition state from the limited field of literary and philosophical study to the more extended practical field of professional science—a crisis in which you, impelled it may be by the necessities of life or by desire of fame, aspire to the discharge of the relative duties of life in a liberal profession, so as best to reciprocate those good offices that other professions exercise on your behalf.

To unite yourselves to a profession, and eagerly to pursue it, is not a servitude but an honour. Man employs his time, and his gifts, as a free man, pursuing what light and reason justify, and what is necessary for the well-being of his fellow-men.

I. Disqualifications for the Medical Profession.

As a fence, however, or an enclosure, established around the liberal professions, a discerning world has ever recognised particular tests or criteria, which very

properly bring to light certain moral and intellectual disqualifications for professional status.

(1*st.*) MORAL INCAPACITY.—Such a grave barrier consists in living in a state of violation of moral law.

§ *a.*—One form of this *Want of principle* is a tendency, which, if much indulged in, may lead one to say more in a minute than he can stand to in a month, or, like the juggling fiends in Macbeth, he will have kept the promise to the ear but broken it to the hope. It is an early and inveterate habit of guile, untruthfulness, and deception—a vain-glorious and boastful spirit—not being sincere, upright, transparent, and open as day, in speech and behaviour—but producing and encouraging wrong impressions—and with whom partial truth is whole falsehood. In such a man, were he to enter a profession, we could only expect, with Cicero, his own inward dread, remorse, and agitation of conscience, to be the untiring and domestic furies of his guilty mind. Further, no one entertaining empirical resolves, or having sympathy with fallacy and delusion, seeing that man is, as D'Alembert has said, fire for falsehood and ice for truth; none actuated by no higher impulse than the mere mercantile spirit; none such are warranted to seek admission into a liberal profession. Dr Sydenham tells us of the extent to which John Locke the philosopher cultivated medical science; and Locke says a man's undertaking seldom fails unless his will would have it so; if he takes a wrong

course, it is most commonly because he goes wilfully out of the way, or at the least chooses to be bewildered; and there are few, if any, who dreadfully mistake, that are willing to be set right.

§ *b.*—No less evil in their effects are *Apathy*, indolence, indifference, idleness, inactivity, and a habitual levity. The ancients used to say of indolence, the gods blinded those whom they wished to destroy. The régime of *laissez faire* has demoralized such, yet their confidence in themselves is unbounded. Mental incapacity cannot be imputed to them, yet how prone are they to be self-satisfied! They are unprepared to cross the threshold of professional life, and their general character of attainment is lowered by the besetting sin of *sloth*. Pleased to have good abilities, they yet have not the *manliness* to use them.

§ *c.*—*Procrastination*, childishness, trifling.—Arnold says childishness is a growing fault in youth even of good abilities, and is ascribable to the great number of exciting books of amusement which completely satisfy the appetite and leave it totally palled for regular work. By trifling with books, lectures, and practical studies, the mental power runs to waste and becomes wholly useless. Procrastination is a robbery of time. Whosoever has contracted this vice in relation to his early studies destines himself, at a future period, to a painful struggle against overwhelming difficulties, and an imperfection in his education, of which he will feel the effects throughout his whole career.

(*2dly.*) MENTAL INCAPACITY is the other disqualification.

§ *a.*—Practically the worst form of this is spontaneous, viz., distraction of mind or *Inattention,* owing to an unconscious or indulged reverie—a kind of mental dissipation—which is most prejudicial to the development or exercise of intellectual power. Such a youth fails to concentrate his mind upon a given subject, and permits any internal emotion, or external physical impression, to distract his attention. He would nominally hear a lecture, but may positively not be hearing it at all.

§ *b.*—Another form of mental incapacity is *Want of Memory,* owing to not exercising, trusting and testing this precious gift. From not cultivating memory, study is nullified, thought is confused, judgment is crippled, self-reliance destroyed, duty is neglected,—a fatty degeneration, as it were, has overtaken all the mental powers; and such an one lies open to the charge of incivility, ingratitude, and untruthfulness. His mind not being kept in training, he is unfit to take rank among professional students; seeing that the latter all require the constant exercise of this indispensable faculty of the mind.

§ *c.*—As a different form of mental incapacity, the philosopher spoke great truth in saying that many would have attained sciences had they not thought that they possessed them already. Those who live on hope

die fasting. So says the proverb. Pandora's box is no despatch box. The prelate of York has said, I am only afraid of knowledge when split into two—a man *Half-educated.* Such a state of mind is unfit to aspire to a liberal profession. Every mind must be intent on progress. The law of progress is stamped upon all living things: animal, vegetable, spiritual. Shall there be no growth in intellectual life? only a living existence? a life of infancy? If early youth do not improve its opportunities, and we ours, we shall be exceptional to the general law, and an anomaly!

II. Qualifications and Previous Culture, desirable for a Medical Student.

Under our second head—*The qualifications gained through previous culture* and imparting to you, I trust, due preparedness for the study of medicine, are

(1*st.*) HEALTH.—The intention of nature obviously is that the exercise of the bodily and moral powers should precede the action and the maturer development of the intellectual faculties. Let the animal frame be feeble and badly developed, you have a quick active brain, but the nervous system is over excitable. A single organ out of healthy balance may as thoroughly throw you out of working gear, as congestion or paralysis. Reduce the strength of the body, and you

inevitably impair the vigour of the mind. Furthermore, by a student's health of body I mean, not the mere absence of disease, and not the mere capacity to go through an ordinary day's work, but that state in which existence itself is felt to be an enjoyment, in which all simple and natural pleasures are appreciated, and the little everyday anxieties of hard study sit lightly upon him. None better than he can estimate the amount of practical wisdom condensed in the ancient maxim, *Mens sana in corpore sano.*

(2*dly.*) You must have acquired certain essential HABITS, of which

§ *a.*—*Method* is one. Without a definite aim and method, all knowledge would but increase the confusion of ideas. Being systematic in your studies and all your pursuits, ensures proper balance and composure of mind.

§ *b.*—*Economy of Time.*—You have learnt, I hope, that you are never safe in leaving to the next five minutes that which can be done in the present. *Now* is the constant syllable ticking from the clock of time, says an eminent proverbialist. Of time, one of God's most precious talents, you have not a minute to waste or throw away. Count moments as you do gold. Hippocrates' maxim is *Vita brevis ars longa.* Let time be wisely occupied, and there may be hope of attaining excellence. Lord Thurlow used to say that if he lost

five minutes in the morning, he was all day running after them, and never caught them.

§ *c.*—*Punctuality* is a third essential habit, being that virtue which exemplifies the value of time, and by which, to borrow the words of a late head of our bar, the present is cultivated to profit, and time is made subservient to the great ends of existence. Punctuality requires you to act promptly in matters requiring immediate action. Any infringement of punctuality, by interrupting the train of demonstration and thought, renders it impossible for a student to follow intelligently his courses of instruction. Dupuytren, the eminent French surgeon, took as his favourite motto *Age quod agis*, on which his comment was *Soyez toujours* à votre *affaire ;* le temps, c'est l'étoffe dont la vie est *faite.*

(*3dly.*) CHARACTER is a quality to be cultivated prior to the commencement of medical study ; and comprises a character for truthfulness, for observation, for attention, for energy, for perseverance.

§ *a.*—*Truthfulness of Character, Accuracy, Love of Fact.* — The subtle Bishop Berkeley says—He who would make a real progress in knowledge must dedicate his age as well as youth, later growth as well as the first fruits, at the altar of truth. Early training in strict accuracy and correctness of statement is the opposite of superficial work in education, and yields

through life accuracy of thought and language. We have here a remarkable illustration of the operation of the moral on the intellectual nature, producing a sound and substantial quality of mind, with earnestness and sincerity of character. A man of such truthfulness of character would not presume to speak or write loosely, or in terms of judgment, on subjects of which he has never made any serious study. He can never ignore fact for theory. As Kirkland, in his letters to a young surgeon, says—Believe me, one grain of matter of fact, to a practical surgeon, is worth a pound of reasoning. The Emperor Antoninus writes—If any body shall reprove me, and shall make it apparent to me that in either opinion or action of mine I do err, I will most gladly retract; for it is the truth that I seek after, by which I am sure that never any man was hurt; and as sure that *he* is hurt that continueth in any error or ignorance whatsoever. In another section Antoninus says—Not only speak but deal truly: then may they rejoice in the success of their good counsels. And Van der Hœven, the zoologist, wrote—In my youth I undertook the defence of this opinion. . . . . I now attach no importance to it, since the unanimous opinion of . . . . is against me.

§ *b.—A Character for Observation.*—I know no man, observed Johnson to Boswell, who has passed through life with more observation than Sir Joshua Reynolds. The faculty of intelligent observation is a great and necessary acquisition for youth contemplating practical studies. You ought to be accustomed to observe

thoroughly and individualize characteristics, *i.e.*, notice what, where, when, how, why, etc. The successful study of medicine depends very much on the exercise of your perceptive powers, inasmuch as that science —unlike some pure mathematics, ethics, and others having their rudiments in the human mind—derives the material on which it is based entirely from the outer world. And this gift may be indefinitely improved by exercise. There is a language implied by the eye, the features, the air, the gait, readily detected by a shrewd observer of nature, conveying the unspoken history of a life. Observation was substituted for theory, and *fact* for imagination, by *one*, born in the noblest days of Grecian literature, HIPPOCRATES, the father of physic.

§ *c.*—*Attention*, by which the mind grasps rapidly the succession of ideas presented to it through the medium of impressions through the ear, or through the eye, is the channel or gateway of knowledge which *you*, I trust, have learnt successfully to control. The application of prolonged attention, that is, *concentration* of mind, is itself a study, and the first point to be accomplished before you accustom yourselves to inquire, Have I thought at all ?

§ *d.*—In the matter of the next phase in your character, viz., *Energy* and *Diligence*, let it be with you, *qualis ab incepto talis ad finem*, remembering that upon *this* the success of your career must mainly depend.

§ *e.*—The last feature of character I shall notice is one which is invaluable to a student—his whole making—that mental quality which Fielding calls obstinacy in a bad cause and *Perseverance* in a good one. Perseverance is based upon the constant remembrance of the object we are anxious to obtain, and of the *fact* that continued and sustained effort is necessary in order to secure it. If we forget our goal, we cannot strive to reach it. Many a well-meaning, conscientious man's prospects in life have been ruined, through the want of continuous attention; in short, through culpable forgetfulness he has ceased to persevere. Few, indeed, are those to whom the path of excellence is not open in one direction or another, *provided* there only be the diligence and determination necessary to pursue it with effect.

(*4thly.*) A LIBERAL EDUCATION embraces [A] certain Studies of an *Elementary* sort, and [B] others conducive to the *Formation* of the Mental Power.

[A] § *a.*—The first *Elementary* acquirement, *Grammatical drill and training to composition in our native tongue,* is a discipline too much neglected by youth. Our examining boards have often found candidates from all parts, hardly able to write two consecutive sentences of correct grammar. This neglect of our own language is loudly complained of, and attaches discredit to the education of early life.

§ *b.*—Again, no few errors in the *Orthography* of intending students abound, many of which it may be predicted, will last through life, and thus indicate the absence of scholastic training.

§ *c.*—And, again, there is a practical necessity for cultivating in youth an unaffected and perfectly legible style of *Handwriting.*

[B] § *a.*—The *eight Formative* studies towards the education of mental power in an aspirant to a profession I shall *next* glance at; and first, *Memory* is a mental faculty which, to be good, must be used, trusted, and tested constantly. To apply the words of Quarles —You abuse it, if you use it not. The student who would cultivate his capacity for retaining and appropriating knowledge must recall, every night, the information of the day. To this scrutiny he will feel immeasurably indebted for the ultimate good he may derive from his studies. The immediate gain to the mental power from this rather severe discipline is *inestimable,* even though, like the slave in the diamond mines of Golconda, you could afford to discharge from your memory all that may be practically worthless, and preserve only the pure gems. The more that you acquire by diligent study, the more can you afford to forget. All professional persons ought—after this drill *while* students—to possess such a cultivated memory, that in the discharge of their functions they should so pick up, the various, often complicated, facts of a case, arrange these in a clear, simple, and intelligible order,

and drop them out of their memories into their places skilfully, as would eventuate in the most desirable form.

§ *b.*—Secondly, *Arithmetic.*—Schrenck, of Basle, in his examination before the Select Committee on Western Africa, distinctly asserts that where he has found great slowness in the thinking faculties of the pure negro on the Gold Coast, *Arithmetic* is the best thing to clear their heads. I may add, by the way, that, age for age, he has young men in his college who study just as we do here at home. Computation by ALGEBRA is justly *recommended* as a compulsory branch of Preliminary Medical Education by the General Medical Council.

§ *c.*—*The Languages, Dead and Living.*—It is admitted that no instrument of severe mental drill is equal to a thorough accurate discipline in Latin, nor can any crudely so-called practical studies stir the heart and convey heroic thought to an equal degree with the ancient Greek and Roman classics. The great Niebuhr said that—the road to the highest intellectual culture leads through antiquity. And it is indisputable that, from the study of antiquity, students are enabled to decern more philosophically, and to feel more vividly, the thought and action of their own time. The German and French languages, too, are properly regarded as part of every scholar's equipment.

§ *d.*—*Again,* acquaintance with *General Literature and History* ought to be diligently obtained as a whole-

some discipline for strengthening and enlarging the mind; after which it may be brought, with the happiest effect, to bear upon Professional Study. It is a matter of regret that our *real* literature is now hardly ever read. Abraham Lincoln remarked—that general reading broadens the mind and makes it universal. Individual facts in literature and history, if they once take firm hold of the youthful memory, will often remain through life a most useful intellectual possession. But the mental force must not, on the other hand, be weakened by an indulgence in miscellaneous reading, else you will not know anything thoroughly, and you will be only superficially instructed at the best.

§ *e.*—*Elementary Mathematics*, as the introduction to its own applications in the physical sciences, and as a mode of thinking, is to you invaluable as a formative acquirement. The illustrious Boerrhaave expressed his highest satisfaction with the geometric synthesis of the ancients, as improving the powers of the understanding; and in the analysis of the moderns, as adapted to make new discoveries.

§ *f.*—*Logic.*—You study logic, it has been said, partly in order that you may reason better, by making the elements common to all good reasoning your special study, and partly that you may contribute to diminish current fallacy and increase your own power and desire to detect it. You will ever meet with persons who confound their own inferences from facts with

the facts that have suggested the inferences. For instance, you feel surprise at one not complying with your request; but now that you are favoured with the reasons for that refusal, your surprise may be vastly greater, and you cannot but remember the story of Lord Thurlow getting his brother a living, though George III. refused it. He refused me at first, said the Chancellor, but he gave me his reasons, and I beat him. It is not sufficient, says St Gravesande, to apply the mind to one science; the more widely different among themselves are the ideas which the intellect acquires, and concerning which it reasons, the more expanded becomes its intelligence. Logic is at present more used as an organ and test of a really liberal education; and logical discipline is more generally required of the candidates for the offices of life than at any time since the decline of the study in the 17th century.

§ *g.*—*Natural Philosophy* or *General Physics* furnishes its peculiar body of most important truths or doctrines, while at the same time it matures the mind to a particular method or habit, which eventually may enable us, in connexion with anatomical structure and chemical affinities, to trace possibly an act of volition along excited nerves, and *thence* into the physical exertion of work. The *elements of mechanics* form an imperative branch of education for every M.D. of Edinburgh.

§ *h.*—At this stage of mental equipment for the study of a liberal profession, the student's mind is

turned inwardly upon itself; so that the facts relative to his passions and faculties may be attentively observed, a labour which *crowns* and consummates all the rest. Such is the value and object of *Moral Philosophy*, whose domain, it has been observed, comprehends all the intellectual and moral faculties of man—how governed, controlled, and improved, agreeably to the mind and intentions of our Maker, and most conducive to the happiness of man. To the action of a moral sense more than usually sensitive we attribute the constitutional fairness of a man's dealings with you. He that loves a lie would, through a divinely-enlightened conscience, become enamoured of the truth; be enabled as with a microscope to see through and through the windings of the heart; and a purity be thus spread throughout all the functions of the inner man.

(5*thly*.) And next, under my fifth head of Qualifications desirable for a Student of Medicine, I shall offer to you a mere glance at the *effects of this underlying basis* of the eight formative studies when their seeds happily do take root in you, as healthy subjects governed by proper habits and character. These seeds —students—after due SELF-CULTURE, are calculated to issue in the development and education of *mental power*. Any attempt to obtain knowledge without *labour* and *mental discipline*—an attempt so common in these days when books are so many—generally ends without producing any superstructure whatever! The

best system of scholastic education is to lead out the mind, not merely to inculcate.

Teaching is but an instrument, it is not education. Self-education is the only true principle of education, though this fact is too much overlooked. It is as natural—said Quinctilian—for the human mind to *learn*, as it is for the bird to *fly* or the fish to *swim*. Early training is essential, nothing more valuable; but for all that, *self-culture*—as Wiseman well expressed it—is, in fact, the essence of all education. As regards self-culture, it was an old saying of Gibbon that, of the two kinds of education—that which was given to us, and that which we *gave ourselves*—the one we gave ourselves was incomparably the best. Under the *old* system, men formed themselves; under the *new*, their knowledge is too much filtered through the minds of others, called in the schools cramming, or, not inappropriately, a state of intellectual indigestion. The education of each young person before me *really began* when he began to feel his intellect strengthened and his fancy glow as he perused the pages of our classic authors, and understood their meaning. You must make the improvement of *your own* minds the great object of your study. We are not responsible for the growth of the body, for the growth of the mind we clearly are. Self-culture of the intellectual and moral powers stands in striking contrast with self-culture in the pure artizan, and Adam Smith was not mistaken in his idea that there is a tendency, in setting men to direct mechanical work, and chaining them to it, to destroy the elasticity of their minds for general appli-

cation and power, and for general usefulness. What you do for the mechanic's body, in so *limiting* his exertion, you do for his mind too—his mind is undisciplined to reading and thinking. It was otherwise with the sage Samuel Johnson, whose previous education of mind furnished him with the capacity for submitting himself, and his great faculties, to the categorical imperative in the way of sitting doggedly down—as he said he did—and doing of work required of him, in order to provide that vulgar commodity yclept bread for his wife and children. The faculty of doing will not thrive unless it is used. You fail to retain those powers or faculties that you leave unused. The condition on which we are enabled to maintain the power of using even our limbs, is that we use them. None of you can long preserve, in an efficient working condition, powers you do not exercise. It takes doubtless some time to throw the mind into the attitude of thought, though the power of doing this, and in general, thinking, is amazingly increased by habit; and a *little hard thinking* will supply the place of a great deal of reading. Sidney Smith says he never could find any man who could think for two minutes together; it was a perpetual deviation from a particular path, and a perpetual return to it; yet, *imperfect* as the operation is, it is the only method in which we can operate with our minds to carry on any process of thought. Abercrombie said the habit of calm and serious thinking makes the real difference between one man and another. The tone of a man's thinking gives the colour and complexion to his whole

life. The importance of watching over our thoughts, and exerting control over them, is apparent when we remember that they are the gateways to action; and without such watchfulness, no one can bring to bear on any pursuit in which he is engaged, the concentrated activity of a vigorous mind. An aspirant to a liberal profession should educate himself to master his mind, to follow *close* thinking, to follow thought presented to him in a concentrated style. The career of the naturalist Count De Buffon, whose saying was, Genius is patience, illustrates what self-denial, and a life devoted to *self-culture*, may effect in one whose mind was *slow in its evolution*, and whose talents were, in youth but mediocre. Yet this *self-imposed restraint* he practised with composure and due self-reliance. After the same mode, then, is it that the *student's mind is to be educated*, chiefly by a course of self-development, effected by an earnest and faithful cultivation of the gifts implanted in him through the exercise mainly of unflagging attention and concentration of thought-power,—withal a severe mental discipline. And a man who exercises his mind vigorously and well, duly inspecting and questioning himself, experiences a satisfaction in it which tells him he has been acting up to one of the great objects of his existence,—for his faculties have done that which they were created to do. What is most desirable for professional aspirants, you observe, is a well-balanced strength and breadth of thought in all his intellectual faculties, something of that robust shaggy common sense which we like to observe, of which *Rembrandt* expressed himself to be

such an admirer, and which beams forth in his exquisite portraits. To such an aspiring youthful mind we may apply the words of John Hunter's apophthegm—USE a part naturally, and it will become perfect; and finally, as Sidney Smith beautifully has it—if you are made happy now by faithful study and application of mind, you will find *that* make you happy twenty years hence, by the memory of it.

III. The Profession of your Choice.

Students,—you have seen, that it is essential, in the words of a late Lord Rector of Edinburgh, to educate the mind of your man before you educate your professional man, and that the training for the study of the MEDICAL PROFESSION is precisely that which is demanded of the student of the other liberal professions. It is a prodigious point gained, when in looking to a liberal profession, you find out where your special powers lie, and what are your deficiencies. One with solid and reflecting judgment, is not likely to make a rash or hasty choice. After, I trust, full consideration, you have made your deliberate choice. This, your decision, being now arrived at, fail not, in the exercise of a strong will, to adhere to the choice made. Dismiss unprofitable reflections. Let your resolution be—like Teneriffe or Atlas—unremoved. This must induce, in your daily walk, increasing activity and circumspection. Love to your profession, not very ardent

possibly at first, may be generated through a strong sense of duty; and years will only serve to confirm you in your determination to do *your very best* in it. *Love* will easily conquer all difficulties that beset your career—*Nihil difficile amanti.* Your *hearts* being in your profession, you will be carried over all difficulties, just as a colt leaps the hedges and ditches which lie between him and a clover-field. But, students, is this profession altogether *worthy of your choice for life?* I reply, is it that practical philanthropy and ardent desires for a field to improve the practice of medicine and surgery animate you? Here, these aspirations have an outlet; amid majestic opportunities! He who sets his heart on such objects of a generous ambition, is *sure* to be satisfied. Or, is it that scientific renown is your aspiration? Your liberal education, self-culture, and tributary accomplishments—whatever you know well—will be a help to you in this walk of our profession. Owing to the mental advantage resulting from three to five years of your student life being expended on the culture of some of the deepest and most interesting of sciences, the powers of the intellect must needs be developed and enlightened. Medical life, too, is pre-eminently active and social. It is no calling for what the French name a self-concentrated man. Its functions demand self-denial, patience, perseverance, forbearance, good temper, and good manners. You have *chosen* a calling that gives healthy work to all the faculties of mind and body, and satisfies all the longings of man's nature. You will learn, at our Dispensaries, to look upon a patient as *another self*,—

you will endeavour to turn the scale between life and death;—you will never let it be said of you—He did his *duty*, but he did no more,—you will do *your best*;—and, in the same measure as your own heart has been taught to believe spiritual realities, so will you in season, *unobtrusively*, seek the proper moment to drop the word of life into a fellow-mortal's ear. As a new generation of students, it is *your* good fortune to begin at a point which the profession has reached only through painful toil. The stores of knowledge which have been industriously accumulated up to the present hour, are all at your command; and it cannot be esteemed other than a great privilege to stand, as we teachers of medical science do, in connexion with the training of a power such as the eloquent Cicero, in his well-known sentence, called the *almost divine calling* of the physician.

(1*st*.) Your conception of Proficiency.—The very highest IDEAL, probably, of a *student* of medicine, is, that he should *resolve*, from the commencement of his career, on obtaining as high qualifications to practise as his means permit. He will also, if wise, aspire to such as are described as environed with almost insuperable obstacles, remembering that the time and labour judiciously expended in preparing for a difficult and practical examination, are employed in the manner most fitting to equip him as an educated and skilful practitioner,—that the value of degrees and diplomas is in the direct ratio to the labour employed

in obtaining them,—and always regarding his examiners, not as persons, but simply as forces aiding his real progress. Thus will you, students, enjoy the unspeakable comfort of an approving conscience, and the approbation of discerning men.

(*2dly.*) Again, AIM,—*aim* at high things, else you'll never reach them. Suetonius has it—Altius ibunt qui ad summa nitentur. Remember Bacon's principle of superficial knowledge being worse than ignorance. Rest not in knowing *about* a structure while not knowing what that structure *is*. Let Chalmers' maxim be yours, in relation to your acquirements—*Quid est* is one thing, *quid oportet* is quite another thing. You need not be ashamed at the absence in yourselves of genius; but of *no desire* to excel, BE ASHAMED. Antoninus says—*Use* thyself even unto those things that thou doest at first despair of;—and John Hunter's maxim—Do *not think* but *try*, is that upon which his pupil Jenner long and earnestly worked in the way of effecting his great discovery of vaccination. Sir Joshua's remark to his pupils was—Those who are resolved to *excel* must go to their work willing or unwilling, morning, noon, and night; they will find it to be no play, but very hard labour. Labor ipse voluptas. Nevertheless, though as students you may never weary *of* your work, you must needs feel weary *in* it! Certainly, then, cultivate not only the cornfields of the mind, but the pleasure grounds also—the motto of Dr Whately. The true rule of all Britons is,

as Gladstone expresses it—When he works, to work;—when he plays, to play; when he fights, to fight; and when he has done, to shake hands. Lose not *time*, Students, but *cheerfully* commence at once upon the duties of the moment. Realize an impetuous longing to be at your daily labour in good time, recollecting that as is the self-denial, so are the ultimate honour and success to be reaped. Of Sir Isaac Newton's passion for high science, and his eager desire to excel, it is said that his hand shook like that of an aged man, while he wrought out the problem of the sun, and was drawing figures of it.

(*3dly.*) Once more—as to METHOD in your studies—a work well begun, says Plato, is half ended. Let your manner of working be to go to the bottom of every subject you deal with, mastering it in its *minutest* details. Ovid shows us, by the fable of the nut-tree, that the more it is beaten, the more plentiful the fruit. It is not so much the amount of time we have at our disposal, as the use we make of it. Give equal attention to all branches of your studies, the curriculum being *cumulative*. Avoid that delusion of appearances in attempting too much in one session, or—as Abernethy used to say—Never put more into the oven than it will bake; else, loss of heart, disappointment, and disgust, will eventuate. It is the daily little that holds; according as you sow, so shall you reap. And if you are, as you ought to be, a whole man to *one* thing at *one* time,—l'une après l'autre—

George Canning's rule of business—then, in energy and industry, you will be followers of the greatest men of modern times and of antiquity, who, like Apelles, did *something every day*, WHATEVER HAPPENED; hence the proverb, *nulla dies sine linea;* and thus, even while here as students, you will contribute your own share of *character* towards the nobility of the medical profession.

POSTSCRIPT.

Since the foregoing was printed, I wrote to Sir James Paget, with a request that he would kindly peruse it, and favour me with his views; as well as furnish me with a reference to his paper on "Medical Students." To this request Sir James very courteously replied as follows:—

"1 Harewood Place, Hanover Square,
London, W., *March* 15, 1877.

"My Dear Sir,

"I have the pleasure of sending you my essay on 'What becomes of Medical Students?'

"I think that the chief or only lesson which it may teach to Students is, that such as they are at the Schools such will they be in later life. There are a few exceptions to the rule, but not enough to affect its general truth.

"I really cannot suggest any change in the good advice that you give. I hope it will be justly weighed and obeyed.

"Believe me, my dear Sir,

"Very truly yours,

"JAMES PAGET.

"Dr Handyside."

From this valuable and well-timed Essay—reprinted from St Bartholomew's Hospital Reports, vol. v.—I append the following extracts:—

"*What becomes of Medical Students?* By James Paget, F.R.S.

"It is said that, on entering the anatomical theatre for one of his Introductory Lectures, Mr Abernethy looked round at the crowd of pupils and exclaimed, as if with painful doubt, 'God help you all! what will become of you?'

"I am not aware that any attempt has hitherto been made to answer such a question. The grounds on which I venture an answer are in the knowledge of what became of a thousand of my pupils within fifteen years of their entrance at St Bartholomew's Hospital. The number may suffice for the grounds of that degree of general

belief which, in a matter of this kind, is as near an approach to knowledge as we are likely to attain. And I believe that what may be told of the pupils of St Bartholomew's would hold true of those of all the metropolitan schools; for with us the varieties of students, according to differences of birth, wealth, and previous education, are collected, I believe, in very nearly the same proportions as would be found in all the other metropolitan schools together.

"Of the thousand—

23 achieved distinguished success.
66 ,, considerable success (including 3 dentists).
507 ,, fair success (including 7 dentists).
124 ,, very limited success.
56 failed entirely.
96 left the profession.
87 died within twelve years of commencing practice.
41 died during pupilage.

. . . . . .
. . . . . .

"On the whole, looking over the list and remembering the characters of those who left the profession for other pursuits, there appears no reason for believing that they have 'bettered' themselves. Some have succeeded, some have failed; the result would have been, I think, the same if they had remained in their first calling.

"Last comes the melancholy list of deaths, telling that of those who entered nearly 13 per cent. were dead within fifteen years.

"The number agrees so nearly with the general average mortality that it gives no reason for considering the medical profession either less or more healthy than other pursuits, at least in its earlier stages. For according to the 'English Life Table No. 3,' out of any 1000 males who have attained the age of 19 years, 131 will die within 15 years.

"Of course, in watching and reflecting on the careers of my pupils, I have come to some strong beliefs on subjects of medical education; but this is not the place for publishing them. Only one I will set down, which may be of use to future pupils, and is justified by some hundreds of personal recollections. In remembering those with whom I was year after year associated, and whom it was my duty to study, nothing appears more certain than that the personal character, the very nature, the will, of each student had far greater force in determining his career than any helps or hindrances whatever. All my recollections would lead me to tell that every student may draw from his daily life a very likely forecast of his life in practice; for it will depend on himself a hundredfold more than on circumstances. The time and the place, the work to be done, and its responsibilities, will change; but the man will be the same, except in so far as he may change himself."

Trachea and Œsophagus at the Apex of the Thorax and Root of the Neck. (23.) On the Permanence of the Foramen Ovale of the Heart.

PHYSIOLOGICAL.—(1.) Experimental Essay on the office of the Veins, Lacteals, and Lymphatics, respectively, as Absorbent Vessels. (2.) Harveian Prize Experimental Essay on the effects of Lactucarium on the Lower Animals. (3.) Theory of the Cause of Death after the *rapid* entrance of Air *in large quantity* into the Veins—illustrated. (4.) On a remarkable Case of Suicide from Asphyxia by Choking—illustrated. (5.) Successful Cases of Transfusion of the Blood, with precautions to be observed—a new Phlebotome-canula employed. (6.) Description of the Vertically-revolving Drum Microscope, for viewing at one focus 12 objects of different thickness; with its uses in teaching Anatomy. (7.) Fixed Lever-tractor, in use for practising Injections and Post-mortems to draw apart the lateral halves of the Sternum, etc. (8.) Evidence given before the Royal Commission on Vivisection in 1875.

SURGICAL.—(1.) On Osteo-Aneurism, or Aneurism of the Arterial Capillaries of Bone. (2.) Syllabus of Course of Operative Surgery. (3.) Cases of Necrosis of the Os Femoris. (4.) Cases of Spasmodic Affections of the Larnyx, and Tracheotomy. (5.) Case of Amputation at the Hip Joint—recovery. (6.) Cases of Amputation at the Ankle Joint; and History of that Operation. (7.) Cases of Ovariotomy. (8.) Experience of the Rapid Cicatrization of Lupus by repeatedly leeching *the cavities* of the Sores. (9.) Spontaneous Closure of an Umbilical Fistula extending two inches along a partially-closed Urachus in a male infant. (10.) Cases of Amputation beneath the Trochanters, and Occlusion of the Arteries by Acupressure alone; in first case Needle removed from Femoral at forty-ninth hour—with History of that mode of treatment. (11.) On Cartilages, semi-detached and loose, in Joints. (12.) Jubilee Chronicon of the Medico-Chirurgical Society of 1821–1874.