Lecture, introductory to the study of medicine, delivered in Anderson's University, on 2d November 1842.

To Baltic Boyle with the author's respects.

10

LECTURE,

INTRODUCTORY

TO THE

STUDY OF MEDICINE,

DELIVERED IN

ANDERSON'S UNIVERSITY,

On 2d November, 1842.

BY

J. A. EASTON, M.D.,

PROFESSOR OF MATERIA MEDICA,
MEMBER OF THE FACULTY OF PHYSICIANS AND SURGEONS,
AND SURGEON TO THE GLASGOW POLICE ESTABLISHMENT.

Published at the request of the Students.

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To J. A. EASTON, M.D.,

PROFESSOR OF MATERIA MEDICA IN ANDERSON'S UNIVERSITY.

SIR,

We, the undersigned Students of Medicine in Anderson's University, and formerly, or at present, pupils in your class, deeply sensible of the value of the important principles and precepts contained in the introductory lecture to your class this session, and appreciating the able and eloquent manner in which these were stated, discussed, and enforced, respectfully request you to publish it, in order that we may be enabled to possess ourselves of a copy of what appears to us so well calculated to serve as a guide to us, both during the period of our Medical Studies, and in our after life; and, at the same time, to be a memorial of the learning and talents of a Teacher from whom many of us have received most extensive and valuable information.

John H. Wilson.
Duncan Glass.
Michael Baird.
Hugh Bryce.
Alexander Kelso.
Charles Brown, Surgeon.
Fergus Steven.
Robert D. Reid, Surgeon.
James Hutcheson.
R. Johnson.
Robert Parker.
David Robison.
Hugh Kennedy.
P. B. Hislop.
James Hannah.
Robert B. Marshall.
James Eadie, Surgeon.
James M'Ewan.
R. W. M'Donnell.
John Graham.
Thomas Pullar.
R. B. Smith.
John Graham.
George Young.
David Miller.
William Black.
James Dickson, Surgeon.
Andrew Wotherspoon.
Robert Connell.
Duncan Mackay.
James Ewing.
John F. Gray.
Charles Brackenridge.
James Glass.
James Stark.
John Shaw.
William Jones.
Francis H. Thomson, Surgeon.
Robert Wilson, M.D.
James A. Nisbet.
James Fraser.
James Norval.
Charles M'Kay.
David M'Keown.
James Bryson.

Anderson's University,
30*th Nov.*, 1842.

To the STUDENTS of ANDERSON'S UNIVERSITY.

Gentlemen,

It gives me great pleasure to comply with your request; and I beg leave most respectfully to dedicate to you this lecture, and to assure you that

I am

Your sincere friend,

J. A. EASTON.

1*st Dec.*, 1842.
Anderson's University.

LECTURE, &c.

GENTLEMEN,

UNTIL very lately, it was customary for one of the Medical Professors in this University to commence the Session with a lecture introductory to all the departments of medicine, and explanatory of the manner in which it was thought that these should be cultivated, so as to produce the greatest amount of benefit to those who honoured us with their attendance, and the greatest amount of credit to ourselves, as teachers in an Institution which was designed by its illustrious Founder to enlarge the dominion of science, to perpetuate its peaceful triumphs, and to diffuse its blessings among all classes of the community. It is my intention this evening to revive that useful custom; and I now appear before you, not as on former occasions, the encomiast merely of fœtid gums and fragrant aromatics; not as the interpreter of the operations of Pharmacy; not to recommend the study of Dietetics, but to welcome you to this school as students of medicine in general; and, as the representative of my colleagues, to greet you all with the right hand of fellowship. Permit me, therefore, in the

sequel of these necessarily general observations, to make a few remarks on the origin of medicine; on the preliminary training which is necessary for the successful cultivation of it; on the various subjects which the science embraces; the manner in which these ought to be studied; the objects which you have in view as students; and the encouragements that are held out to you to prosecute your labours with zeal, with industry and perseverance.

Medicine is of great antiquity, and though its claims to be regarded as a science are comparatively of recent date, there can be no doubt that it was practised as an experiment in the very infancy of the world. For I need scarcely remind you, that the period of exemption from bodily suffering was but of short duration; that the glories of paradise were soon obscured by the clouds of Omnipotent vengeance; or that no sooner had man fallen from pristine innocence, than he became the prey of disease, and the victim of death. But with the bane, Nature most mercifully sent forth the antidote; and from the aromatic shrubs that decked the gardens of the East, "the world's grey fathers" would cull the means to alleviate pain and chase away disease; and though their attempts to mitigate the intensity of human woe, and to prolong the span of human existence, must necessarily have been empirical and frequently abortive, still we may be sure that observation, the parent of so many discoveries, would soon instruct mankind in the art of relieving disease, by means which the nascent condition of science could neither suggest nor authorize. Indeed, the origin not only

of medicine, but of all natural science, may be traced to some fortuitous circumstance, to some phenomenon accidentally observed. Thus, to use the beautiful language of my accomplished relative, Dr. Macfadyen, "he is to be regarded as the founder of Astronomy, who amid his flocks on the plains of Chaldea or India, first discovered the erratic nature of the planets; and he is to be regarded as having made the first step in Mineralogy, who returned from the mountains with some beautiful crystal to adorn the rude cave that sheltered him; she also was the first Botanist whose gentler spirit first took delight in the cultivation of flowers;" and he, I may add, was the first Physician, who by the banks of the Tigris or the Euphrates, assuaged with some unpretending herb the violence of the first disease that visited the first son or daughter of affliction. Experience would thereafter send in her invaluable contributions; each father would suggest the remedy that had benefited his son; each mother would detail, with the pathetic eloquence of sorrow, the treatment which had almost saved her first-born; facts would thus accumulate upon facts, and at length would arise some local Hippocrates to arrange the crude misshapen mass, and lay the foundation of that magnificent structure which we are about to examine.

Medicine has stronger claims on your notice, however, than what are derived from its mere antiquity. It is a profession honourable, ennobling and learned, and he who would successfully pursue it, must not only accustom himself to observe accurately, and reason correctly, but must

likewise be versant in the languages of ancient and modern times.

I have said that the student of medicine must be trained to observe accurately, and to reason correctly. Now let me here remark in passing, that merely to note a number of unconnected circumstances, without comparing and classifying them, or deducing from them sound inferences, is not what is meant, philosophically speaking, by observation. This coarse, wholesale manner of taking cognizance of facts—by the ton as it were—though it passes current for observation in much of our modern statistics, is not observation at all; it is only *seeing*, and seeing, be it remembered, is not observing. The traveller, passing along the highway, sees some splendid edifice; he is struck with its gorgeous outline, and his vision receives a momentary impression, which is effaced however by the next object of attraction. This person has *seen* the building undoubtedly, but he has not *observed* it; and of its relative proportions, its minute architectural beauties or defects he is entirely ignorant, and hence his transient impression cannot be made available, on a future occasion, in the planning or building of a similar structure.

The medical student must also be trained to reason correctly. Medicine being a science which professes to be based on observation, analogy, and inference, it follows, that he who would add to its facts where these are deficient, or correct its doctrines where they are erroneous, must inure himself to a species of mental discipline of the most

strict and severe description. In prosecuting the study of medicine, therefore, and especially in pursuing its practice, the sickly ratiocination of modern times must be avoided, and the sturdy logic of a former age be had recourse to and cultivated. Now, I know of no preliminary training which is so well adapted to confine the excursive mind of youth within the limitations of correct reasoning as an intimate acquaintance with the precisions of mathematical science; and, therefore, I would strongly recommend those of you, who have not yet availed yourselves of this excellent mental corrective and invigorator, to commence its regimen forthwith; and to those who have done so, I would say, shrink not from its stiff realities, for be assured that the effect will be permanent and incalculable advantage. Combined with a knowledge of mathematics, the student of medicine will derive great benefit, in the study of his profession, from an acquaintance also with the laws of physics and the mechanical powers, particularly with optics, acoustics, hydraulics and pneumatics.

But the medical student should not only have had his mental faculties sharpened and disciplined in the rigid school of mathematics, and enlarged by an acquaintance with the laws of physical and mechanical science; he ought also to be conversant with polite literature, and a thorough master of the languages of ancient and modern times. In regard to this subject, let me impress upon you the fact, that the public, on whose favourable opinion you are to depend for professional existence, form their ideas of the

value of a medical practitioner, not from the amount of his *professional* knowledge, for of that they are no judges, but from the extent and variety of his *general* attainments; and they naturally enough conclude that he who is destitute of the latter is not likely to be overburdened with the former. Now I willingly admit, that there is some fallacy in this reasoning, and that great talent in medicine is not always adorned with the graces of polite literature, or combined in some cases with the humbler adjunct even of ordinary scholarship. The obscure carpenter, who emerged nearly a hundred years ago from a neighbouring village, and repaired to the great metropolis, could neither write grammatically, nor spell correctly, yet by the native force of his mighty intellect, he revolutionised the empire of medicine, so that the civilized world—*a Gadibus usque ad Ganges*,—will ring till the end of time with the praises of JOHN HUNTER. But though I hope I am addressing many who will emulate the fame and imitate the zeal of that illustrious man, it were the grossest flattery to say that you were all endowed with his genius; and therefore let me impress upon you, that a blemish, which was unheeded in a Hunter, because lost in the blaze of his natural talents, will be exposed and ridiculed in one of his less gifted successors, and that consequently it becomes a matter of policy—to say nothing of its intrinsic value and importance—not only in the student, but also in the practitioner of medicine, to cultivate these departments of literature in which the uninitiated in medicine take pleasure, and by his attainments

in which they estimate the extent and variety of his professional acquirements. Who, think you, is the more likely person to succeed in his profession—the man who captivates a promiscuous company by the universality of his knowledge on subjects, in which most people can follow, if they cannot join him, or the medical bore whose only contribution to enliven the drawing room consists in a soporific exposition of *his* particular views on the theory of fever, or the essence of inflammation?

Hitherto I have directed your attention to those preliminary studies which may be said to be accessory and ornamental, rather than essentially useful and important, and the cultivation of which, though of great advantage, is not so absolutely imperative on the student of medicine, as is the cultivation of the ancient and modern languages; to which topic let me now very briefly direct your thoughts. Assuming that you are familiar with the grammar, the genius, the idiom, and much of the literature of the English tongue, I would strongly inculcate the utility of making yourselves acquainted with some of the languages of modern Europe, with those particularly of Germany, France and Italy. For, independently of the delight which every one must feel in being versant in the languages around which Goethe, Molière and Dante have shed the halo of poetic inspiration, this advice derives great authority from the circumstance, that in these languages are written some of our most valuable works on medical science, and farther, that some of the best books from the French and German schools

have not been translated into the English tongue. But while it is incumbent on the student of medicine to be familiar with the young and fashionable languages of modern times, he should not neglect their venerable ancestors of ancient Greece and Rome. On this subject a vast amount of idle talk has recently been expended, and the tendency of the present generation undoubtedly is to confine the education of youth to those departments of literature that are alone assumed to be useful, and to sneer at the languages in which Tully spoke and "burning Sappho sung," as being dead, and therefore unworthy of being cultivated. Out upon such cold-hearted utilitarianism! Dead, indeed, they are, but being dead, they yet speak. They tell us of bravery unflinching, of justice inflexible, of patriotism most pure and exalted. They tell us of despotic dynasties being overthrown, of liberty triumphing over every obstacle, of virtue subduing vice, and of knowledge sharing in the peaceful conquest. But not only is a knowledge of these languages useful to us as students of medicine, seeing that from them we derive the chief part of our nomenclature, it confers moreover the more solid advantages of invigorating the mind, improving the taste and exalting the fancy. Accordingly we find that the classical student, refreshed with the lore of those consecrated places where

The landscape glows with eloquence,
The rivers roll in song,*

* From a MS. volume of poetry about to be published by my esteemed friend Mr. John M'Whirter, Council Chambers.

possesses a robustness of understanding, and a copiousness of diction, which we seek for in vain in the pointless style of the merely modern linguist, and enjoys at the same time more real satisfaction and delight than can be procured from the accumulation of vulgar wealth or the possession of the fleeting honours of the world. "The man of letters," says Henry Mackenzie, "from the society of Cicero and of Atticus, of Socrates and of Plato, looks down with an honest disdain on the wealth-blown insects of modern times, neither enlightened by knowledge nor ennobled by virtue."

Having considered the requisite preliminary training, let us now glance at the various subjects which are to engage the attention of the student during his scholastic career, and at the relative position and value which these occupy in a well-conducted medical education. Though during the earlier ages of the world medicine assumed rather a homogeneous form, in consequence of so little being known concerning it, yet, in later years, when the stores of knowledge began to amplify, and men got more enlightened on the importance and extent of medical science, it was found convenient to subdivide the study of it into the various departments which you are now about to cultivate. A thorough knowledge of all of these is indispensably necessary; but some of them are confessedly more important than others, and require more attention and assiduity in their cultivation; hence the division of medical study into primary and subsidiary branches; the former being considered the basis, the latter the superstructure of medical education.

Gentlemen, the whole fabric of medicine rests on the solid foundation of *Anatomy*. This is such a truism, that an apology is almost required for repeating it, even before a mixed audience. Yet, though all admit the correctness of the statement in theory, how many are there who dispute it in practice! To such let me address one or two remarks. What, let me ask, is the great object of the healing art but to check the ravages of disease, and to prolong the term of human existence? And, though in deference to almost general consent, and to avoid inopportune discussion, we may at present concede what under other circumstances we might not have felt inclined to admit, that some diseases have their origin and seat in the functions only, what an infinitely greater number reside in the organization of our bodies! How futile then must be the attempt to repair the irregularities of an organ with whose regular structure you are but imperfectly acquainted! The advice to study anatomy minutely speaks with emphasis to all of you, the more especially that it is too much the fashion for students to suppose, that a knowledge of it is of no great consequence to the Physician, being chiefly required by the pure Surgeon —the mere hewer of flesh and drawer of blood. But, my young friends, supposing that this were true—which it is not —let me remind you, that time which effects many noiseless, as well as many tumultuous revolutions, has effected this revolution also; it has abolished the whole generation of *pures*, and has substituted the more valuable fraternity of general practitioners, who combine in their individual

persons the plural—or to speak more correctly, the single—capacities of physician and surgeon. And a wise substitution it is; for a surgeon without medicine is an operating automaton; and a physician without surgery is a graduated fop! Convinced, therefore, that he will require to exercise all the departments of his profession, as an undivided and indivisible art, the embryo practitioner should explore with accuracy and minuteness the wondrously delicate adjustments of that intricate machine whose occasional aberrations it will soon be his business to correct.

Anatomy is divided into human and comparative. Too little attention, I am sorry to say, is paid to the latter, and the student of medicine, exclusively intent upon what he conceives to be more dignified pursuits, is apt to look upon the study of the organization of the inferior orders of creation as an unnecessary adjunct, a useless encumbrance. But, gentlemen, if such be your notion, believe me, that you have fallen into a grievous error, and that if you think you can make yourselves good anatomists by confining yourselves to human and neglecting comparative anatomy, you have begun at the wrong end, and that the sooner you retrace your steps the better. Let me assure you, that it is only by commencing your studies at the lowest grade in the scale of organization—at the radiated family of animal existence, and by ascending gradually through the molluscous, the articulated, and the vertebrated divisions of animated being—tracing, examining, comparing their resemblances and dissimilarities—that you can detect the great

law of development which pervades the universal animal creation, or become intimate with that very mechanism which is the object of your exclusive attention.

Human Anatomy, again, is subdivided into descriptive, regional, surgical, general and developmental. On all of these subjects you will receive ample instructions in the appropriate place; and it only remains for me, to enforce into your minds the paramount importance of studying anatomy in all its divisions carefully, minutely, scientifically, not only on account of its essential usefulness in studying the other branches of your profession; not only because it is to be your chief guide in pursuing its practice; but also on account of the elevating emotions which a knowledge of it is calculated to excite. Thus, while examining the fossil remains of the majestic Mastodon and the Megatherion that roamed at large in the world before the flood, the scientific anatomist holds intercourse in thought with the primeval habitants of earth; and penetrating still farther, his imagination insensibly retires to that unknown void which preceded the antedeluvian world—to that awful period when upon the face of the deep brooded chaos, and darkness, and silence, till A VOICE proclaimed, Let there be Light: and Light was.

Equally essential, as a primary and fundamental branch of medical education, is a knowledge of the delightful science of *Chemistry*. While Anatomy unfolds the wondrous adaptations of *animal* life, and Botany displays the unostentatious charms of the *vegetable* kingdom, Chemistry

takes a more comprehensive range, and reveals not merely the mysteries of both departments of organic being; but, acting as the interpreter of nature, she brings to view the elements of creation itself throughout the countless varieties of organic and inorganic existence. Before her resistless influence the dumbness of inanimate matter is made to proclaim the creative power of an Almighty hand. All nature is unveiled at her potent mandate. The forests with their choral bands, the mountains covered with perpetual snow, the everlasting rocks scowling defiance at the storm, the green landscape, the portentous thunder cloud—Earth, Sea and Air—the irrational tribes of being, the corporeal essence of proud man himself,—all, all have been demonstrated by this analytic science to be resolvable into a limited number of distinct, inanimate elements.

When Science from Creation's face
Enchantment's veil withdraws,
What lovely visions yield their place
To cold material laws!

The inanimate elements to which I have just alluded are fifty-five in number; and every object in nature and art —be it solid, liquid, or äeriform—in short, the universe itself, and all that it comprehends, are resolvable into one or more of these, either separately, or in diversified combination.

In addition, however, to being a most interesting department of general science, Chemistry is also a useful and essential branch of medical education. Without a

perfect knowledge of Chemistry, you must continue ignorant of the proximate principles that form the basis of organized existence, and of the ultimate elements into which these may be resolved. How unscientific, then, to use no harsher term, is it to be unacquainted with the composition of those textures which you profess to have made the object of your especial study! Ignorant of the constitution of the tissues, you are not likely to be familiar with the composition of the fluids of the body; and consequently you must be unacquainted with some of the most interesting phenomena of the animal economy. An accurate knowledge of the composition of the fluids is of more consequence than many may suppose at first sight; for let me inform you, that it is frequently from the state of the fluids, and particularly from that of the urine, that the practitioner receives the first hint, so to speak, of the existence of serious structural degeneration. Lastly, without a knowledge of Chemistry, you can have no notion of the nature and properties of many of our most important remedies, no acquaintance with toxicological science, and but little with forensic medicine generally.

Let me now call your attention to *Physiology*, another of the primary branches of medical education. As Anatomy teaches the form and mechanism of organized structure, and as Chemistry discloses its constituent elements, so Physiology makes known the functions which it performs, and the uses it subserves. To use the well known language of Richerand, Anatomy is the science of organization, Physio-

logy the science of life. Without perplexing you with the theories that have been promulgated on the subject of life, or mystifying you with the elaborately obscure enquiries that have been made regarding the vital functions, it may suffice for the present to inform you, that man carries on in his single person what may be called a compound life. He, in common with the animal kingdom exclusively, is endowed with a species of life whereby he takes cognizance of objects around him, and holds intercourse with external nature. By means of that kind of life he is regaled with the fragrance of grateful perfume, his eye surveys almost indefinite space, his ear is charmed with the strains of witching melody, his taste gratified with exquisite delicacies, while the sense of touch, like a sentinel, warns him of unseen danger, and locomotion enables him to follow out his desires in every region of the globe. This form of life, which distinguishes the animal from the vegetable kingdom, is called *the life of relation*, and is carried on by the organ of the mind, by the external senses, and the muscles that obey the mandates of the will. But while this kind of life is subservient to our gratification, it does not contribute to the nutrition and growth of our bodies, and makes no provision for the loss which they are continually sustaining. These important objects, so essential to the conservation of organized existence, are effected by functions which are nearly similar in animals and vegetables. Hence the combined operations of these functions, carried on as they are by both departments of organized being, constitute what

is called *organic life* to distinguish it from the *life of relation*, which being possessed by animals alone, is sometimes denominated *animal life*. The great business of the functions of organic life is to prepare a fluid from which all the tissues may be derived. In man and in animals generally, that fluid is blood; and hence the sole object of these functions is blood-making, because it is from the blood that every solid is elaborated, be it nerve, membrane, muscle or bone. But how is this blood manufactured? The first step in the process is to procure food, which, in the case of man is not restricted, as in that of some of the lower orders of creation, to a particular kind. He, I need scarcely remind you, is neither a herbivorous nor a carnivorous animal exclusively, but bearing his commission from the Almighty, he exacts tribute from the teeming earth, and the cattle on a thousand hills—the mineral world alone sending no supplies to the granary of human nourishment. This food, however, has to be digested, and out of its essence is derived the nutritive fluid called chyle, or rudimentary blood; absorption conveys the chyle to the heart, where the transformation from chyle to blood is consummated; respiration imparts its life-giving energy to the precious fluid; and the hydraulic machinery of the circulation propels it to every corner of the frame. Tissues are thus created and consolidated, loss is repaired, necessary fluids are separated, noxious excretions ejected, and life and vigour diffused throughout the exhausted system. Well, indeed, and truly have the functions been styled conserva-

tive, which effect such wondrous results; and I doubt not that you perceive how infinitely more important such functions are to us, *considered as merely vegetating beings*, than those which are connected with the life of relation. The latter, indeed, minister to our comfort and enjoyment as *rational* beings; they expand the mind, enliven the fancy, and elevate the affections, by enabling us to hold intercourse with man, with nature, with God. But they are not essential to our existence as merely living beings; for a man might *live* though he could not reason, and he might eke out an existence—a miserable one no doubt—though he could not move—though his eye were closed against the beauties of nature and his ear deaf to the voice of the charmer, charm he ever so wisely. Not so with the functions of organic life. By them we may be said emphatically to "live and have our being;" and any thing which puts an end to their regular and harmonious operation, puts a period to existence. But though these different functions provide for the nutrition and enjoyment of man, they do not provide for the continuance of the species; and had there been no other than animal and conservative functions, the human family should have been limited to a single generation. Such, however, was not the design of the great Creator, for

"οιη περ φυλλων γενεη τοιήδε και ανδρων.
φυλλα τα μεν τ' ανεμος χαμαδις χεει, αλλα δε θ' υλη
τηλεθυωσα φυει ἔαρος δ' επιγιγνεται ὥρη.

Like leaves on trees the race of man is found,
Now green in youth, now with'ring on the ground;
Another race the following spring supplies,
They fall successive, and successive rise.

The important duty of continuing the species has been entrusted to the organs of reproduction; and thus you perceive that Physiology, or the Science of Life, has especial, though by no means exclusive, reference to the formation, development, growth, nourishment and continuance of the species, and to the means which elevate us as social and immortal beings above the irrational creation.

Having thus directed your attention to Anatomy, Chemistry, and Physiology, as the primary branches of medical study, let us now consider, very shortly, the remaining subjects and duties which are to occupy the attention of the student during his scholastic career. Three of these may be included I think under one head—*Surgery*, *Practice of Medicine*, and *attendance on Hospital*—because, as has been well remarked, what the dissecting room is to Anatomy, the hospital is to lectures on Surgery and Medicine. It is in the hospital that the instructions of the lecture room are tested, and illustrations given of the principles which are there inculcated. Hence you ought always to be at the Infirmary at the hour of visit, not to meet with one another for the purpose of rehearsing the important achievements of the previous night's "lark," but to familiarise yourselves with disease in its varied aspects, and to mark how these are produced by differences of

structure, by age, by sex, by peculiarities of constitution and previous habits. The effects of different modes of treatment should also be carefully watched, and how these likewise may be modified by the circumstances which have just been stated. It is only in this way that the prelections on the *Practice of Medicine*, for example, can be made either interesting or useful. In that department of study your attention will be directed to the nature of morbid actions, to the symptoms by which they are detected, to the causes which produce them, to the characters which distinguish one disease from another, and to the general doctrine of Therapeutics. In a course of lectures on these subjects certain leading principles are explained, enforced and inculcated; and though I am aware that the prelections in this school on the practice of medicine are enlivened and enhanced by ample illustrations, selected from an extensive field of practice, by one who is well able to guide you through "the mist of false theory and delusive speculation," yet believe me, that it is by observing for yourselves in the wards of the hospital that these valuable precepts are to be imprinted on the memory, and turned to substantial and abiding advantage.

The remarks which have just been made on the importance of sealing on the mind the principles of the Practice of Medicine by a personal application of them to the cases in the Infirmary, apply with equal force to him who is attending lectures on *Surgery*. Inseparably united as Medicine and Surgery undoubtedly are, the barbarism still

remains of consigning to a particular person, called a Surgeon, all those diseases which attack the external parts of the body, and are supposed to require for their cure nothing but ointments, bandages, knives and red hot irons. Hence the young student is impressed with the belief that Surgery is altogether a mechanical art, which in its principal features bears a mingled resemblance to the occupations of the butcher and the farrier. This, however, is a grievous error; for let me assure you that the great object of the Surgeon is to *cure*, not to *cut;* and that though occasionally he must *cut* before he can *cure*, it is his great boast to avoid, by skilful treatment, the mechanical part of his duty as much as possible; and that nothing can be more erroneous than to suppose that a mere knowledge of Anatomy, combined with a good eye and a steady hand, is all that is necessary to constitute a Surgeon. Besides being a good Anatomist, the Surgeon must have a thorough knowledge of the vital functions, and be as conversant with Pathology, with Chemistry, and with Medicine, as his more dignified brother the Physician, who rejoices, it may be, in having the half of the alphabet appended to his name. Indeed I can conceive that such a *lusus naturæ* may exist as a physician ignorant of surgery—some solemn looking personage stalking about the sick chamber with dignified gait, placing the tips of his fingers on a delicate wrist, or learnedly shaking his head with oracular mysteriousness, and then writing a prescription which sets chemical compatibility at defiance, but fortunately for the

patient ultimately resolves itself into a very innocuous compound—I say, I can conceive that such a person may exist, but I confess that I am unable to fancy the existence of such an anomaly as a man styling himself a Surgeon, yet ignorant of the principles and the practice of medicine. Study then, I beseech you, every branch of your profession, that you may be able to practise it in all its departments.

But what avails all your knowledge of anatomy, of chemistry, of physiology, of surgery, and of medicine, if you are unacquainted with the means wherewith to reduce the strongholds of disease? What though you can pick out the filamentary tissue from the plantar region, so minutely as to expose each fibril and capillary; what though you can apply a spirit lamp to a retort, and crack it most scientifically; what though you know all about pepsin and the red globules; what though you can phlebotomise most dexterously; what though you can hear sounds by the stethoscope, which no one else can hear; what, I ask, will all these accomplishments avail, if you are ignorant of the *Materia Medica?* The mere outward man of the practitioner—encasing it may be a richly stored mind—will neither alleviate pain nor cure disease; and, notwithstanding what some of the London authorities say to the contrary, a medical man carries not about with him mesmeric influence, and even though he did, patients are not lulled into health, any more than the hapless Desdemona was not beguiled into marriage, by charms, by conjuration, or by mighty magic. Disease must be exterminated, not by abstract

speculations and finely spun theories, but by carefully chosen and skilfully directed material instruments; the description, properties and application of which are considered in that department of medical study with which I have the honour to be connected. Preferring, however, that the claims of the materia medica should be advocated by another, rather than by a partial witness like myself, permit me to lay before you what was recently said of it by my former colleague, Dr. Hunter. "Materia Medica," says he, "is not only an interesting and useful, but a most extensive department of medicine; it draws its resources from every kingdom of nature. With one foot resting on the sciences of mineralogy, botany and zoology, and the other on the science of chemistry, it waves its sceptre over the whole of animate and inanimate nature."

It still remains for us to glance at the departments of *Midwifery* and *Medical Jurisprudence*, the former being of special, the latter of general application. The former is exclusively directed to the female sex; and while prosecuting the details of obstetrical science, the student considers the anatomy, physiology, pathology and surgery of all that pertains to the generative process. He investigates the irregularities of the uterine secretion, attends to the anatomy of the gravid uterus, to the diseases, accidents and sympathies which take place during utero-gestation, familiarizes himself with the mechanism of parturition, and studies the rules which are to guide him in the management of both mother and child at the consummation of that im-

portant event. Aware, however, that the duty of the practitioner does not stop with the safe conduct of the new visitant of earth, the expectant accoucheur should investigate with care and attention those diseases, likewise, which occasionally follow the parturient act.

Medical Jurisprudence again takes in an almost unlimited range. It travels through every department of medicine, and makes each subservient to its important investigations. Holding in his hands the liberty, and often the life of his fellow-creature, the medical jurist must be master not only of one, but of every branch of his profession; and fearful, indeed, will be the responsibility of that man, who through ignorance of what he pretended to know, has been the means of consigning an innocent person to the horrors of a dungeon, or the ignominy of a scaffold. Students! I rejoice that the superintendence of this branch of study in this Institution, has been committed to one who, I know, brings to the discharge of his duties high talent, a vigorous intellect, and an ardent desire to promote your improvement.

Nor, amidst our enumeration of the varied branches of medical study, should we overlook the beauties of *Flora*. Unthinking persons are apt to undervalue the importance of Botany, and to sneer at it as being a science merely of description and nomenclature. Little, indeed, do such persons know of the interesting science which they thus presumptuously consign to unmerited degradation. What can be a more pleasing task than to contemplate nature in her lovliest aspect, and to become intimately acquainted with

those living, though mute, unmoving tribes which captivate our senses, minister to our enjoyment, and are essential to our very existence! On this inviting theme, however, I cannot enter, and for the present shall content myself with congratulating the Trustees, the Teachers, and the Students of this Institution, and the lovers of botanical science generally, that the chair of botany in this school is about to be occupied by a gentleman of European fame, by one who has revelled amidst the beauties of Flora in many a clime, from the romantic glens of his native land, to those regions of the New World, where

> Andes hides his cloud-wreathed crest in snow,
> And roots his base on burning sands below.

Thus have I presented you with a brief epitome of medical science. For reasons which it is needless to specify, I have given no opinion as to the order in which its several branches should be cultivated. But one or two words of advice I will take the liberty of giving, and these are to recommend you not to attempt too much at once; to be methodical in your studies; punctual in your attendance at the lectures; and to improve these at home by a judicious course of reading. Acquaint yourselves thoroughly with each subject as you go along, and, I beseech you, dream not of neglecting your studies during the early parts of your career, in the vain hope that you will be able to make up for previous omissions by studying in good earnest during the last year of your probation. Such conduct is sure to

plunge you in the depths of misery and remorse. Let us suppose the case of a person who has misimproved the period which ought to have been devoted to study, and that the last session of preparatory tuition has arrived, at the termination of which he should go forward for examination; and suppose that now the qualms of conscience are superadded on the importunities of upbraiding friends, and that he makes the attempt to concentrate his mind on the best course of study; what a thick mist obscures his path! how do the diversified details of our science flit like so many apparitions through his benighted brain! what a variety of plans is there collected in Babel-like confusion! In the morning, he skims over some region of anatomy; in the evening, he gropes through the materia medica; to day, he stumbles on an abstruse point in physiology; and to-morrow, he is lost amid the mazes of the atomic theory! But, my young friends, I would hope better things of you; and while I would not underrate the difficulties which every assiduous student must necessarily encounter, while it must be admitted that there is no Royal road to medicine, any more than to any other department of knowlege, still, what man *has* done, man *may* do; and let me assure you, that there are no *peculiar* obstacles in the prosecution of your studies, which may not be overcome by diligence, by zeal, by unwearied industry and indomitable determination. The struggle may be arduous, the labour incessant, but the reward will be great, the victory glorious. Place before you the objects for which you are struggling, contemplate

the great end of this noble enterprize, which all of you may be said to be but commencing, and tell me if these little clouds which hang over your path and partially intercept your vision, do not disperse and vanish before the brightness of that expanding prospect? Recollect, and let those also who depreciate our profession recollect, that you are encountering all these difficulties, enduring all this labour, not for the selfish purpose alone of personal aggrandizement or worldly gain, but for the far higher and nobler object of being the instruments, under Providence, of assuaging pain and checking disease: and, for your encouragement, let me remind you, that on the successful application in after life of your present labours there attend rewards and honours higher far than those

> Which Alexander sigh'd for,
> Cæsar bled and died for—

—there await you the testimony of a good conscience, the gratitude of fellow-men, and the smiles of approving Heaven!

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