

**Introductory lecture to a course of lectures on the institutions of medicine /  
by John Fletcher.**

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INTRODUCTORY LECTURE  
TO  
A COURSE OF LECTURES  
ON THE  
INSTITUTIONS OF MEDICINE,

BY  
JOHN FLETCHER M. D.

FELLOW OF THE ROYAL COLLEGE OF SURGEONS  
OF EDINBURGH.

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*Printed at the solicitation of several of his Friends and Pupils.*

EDINBURGH:

PRINTED BY JAMES WALKER,  
Old Bank Close.

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1830.

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A COURSE OF LECTURES

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## INTRODUCTORY LECTURE.

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It is my intention, Gentlemen, to deliver, in the following Course of Lectures, the best description in my power first, of the several Processes going on in the living human body during health ; secondly, of the Influence upon it of those agents by which diseases are occasioned ; thirdly, of the Changes observable, as well in the aspect of the body, as in the processes going on within it, during disease ; and lastly, of the Influence upon it of those agents by which health is restored. A very great part of such explanations being necessarily theoretical, they constitute, collectively taken, the Theory or Institutions of Medicine, or Full Physiology ; the consideration of the first part forming the proper business of Elementary Physiology, or Physiology properly so called ; that of the second of Etiology ; that of the third of Semiology ; and that of the last of Therapeutics.

It is obvious that the Theory of Medicine is connected, more or less intimately, with almost every other branch of Medical Science, and taught more or less fully by the several Professors of each of these branches. The Lecturer on Anatomy, for example,



is almost compelled to intersperse with his descriptions of the various parts of the body, some disquisitions respecting their functions and diseases; the Lecturers on the Practice of Physic and Surgery can hardly enumerate the causes of diseases—their symptoms and treatment, without entering occasionally into some explanations of the nature and operation of the first, the immediate cause of the second, and the mode of action of the last; and the Lecturer on *Materia Medica* is still more frequently induced to interweave with his descriptions of the properties of medicines, some rationale of their beneficial effects. Still, to each of the Lecturers just mentioned, the discussion of any one of the topics alluded to is more or less a work of supererogation. They are indeed so far connected with their immediate business as to be with difficulty altogether avoided, but, at the same time, so far estranged from it, as to be omitted without any imputation of neglect. Hence they are commonly touched upon by each only by fits and starts, without any attempt at a regular system; and the Student is thus led, by different Professors, perhaps a dozen times through some paths of the extensive district before him, while into others equally interesting, and abounding with equally useful productions, he never enters at all, and is in all likelihood unconscious of their existence. But instructed in this imperfect and desultory way, even admitting (what is very improbable) that the Teachers of so many different Sciences all inculcated the same views of matters out of the immediate province of any one of them, it is evidently impossible that the Student



can attain a comprehensive knowledge of the subjects in question ; and it is, at the same time, very improbable that he will attain a true knowledge of them as far as they go. For the most part they are brought forward, by volunteer Teachers, with that air of indifference, and perhaps half real, half affected contempt, which men generally display when alluding to subjects not exactly in their own line, and are indeed seldom introduced at all, except when an idea, apparently particularly happy, has been accidentally stumbled upon ; but as the Lecturer feels himself quite uncalled upon to prosecute this idea any further than he may find convenient, he is at once cut off from the chief and almost only criterion of its justice. Any person at all versed in the Science of the Theory of Medicine will immediately agree with me when I assert, that it is easy for a man of ingenuity to make any one of perhaps twenty different explanations of the same fact, considered abstractedly, appear equally satisfactory to the uninitiated ; and that it is only when collated with others that the hollowness of perhaps the most feasible of them becomes obvious. “The application of particulars to a whole,” says Cullen, “will often discover their fallacy ;” but the off and on Teachers of the Theory of Medicine never apply their speculations to the whole, but to parts only ; and the consequence is, that their Theories, “like Angel visits few and far between,” are not only necessarily imperfect as a system, but frequently also false in detail. It was to remedy these imperfections in the System of Medical Education that Courses of Lectures professedly on the Theory or



Institutions of Medicine were first established, and an attendance on such a Course subsequently made an essential qualification to a Medical or Surgical Diploma. In such a Course it is understood that the Lecturer, while he is obliged to presume that his hearers are acquainted with at least all the broader facts of Anatomy, of the Practice of Physic and Surgery, and of the Materia Medica and subservient sciences, (although he may occasionally find himself obliged to invade, in turn, some of these departments in illustration of his own) will carry them systematically, and in detail, through every important principle of Physiology, Pathology and Therapeutics; and that in such a manner, that one and the same spirit may pervade all his explanations, and that each may be tried, as it is successively offered, by the ordeal of all that have preceded. It is in this way alone that a comprehensive and consistent System of the Theory of Medicine, or Full Physiology, can be conveyed; and it is such a system alone which can be generally useful, or is at all entitled to rank among the Medical Sciences.

It is not however quite superfluous to inquire whether Theory in Medicine, in whatever way it be prosecuted and inculcated, be of any real utility; and whether it be not rather a flitting and unsteady glimmer, adapted to amuse alone, if not to mislead the practical man, and to retard him on his way to reputation and fortune, if not to divert him from them, than a real and substantial luminary, calculated to light him on his road to success, both as a medical man, and a man of the world. It is rather too



late in our times to revive the old and tiresome contest, whether the practice of the healing art should be strictly dogmatical, or entirely empirical,—a contest long ago settled, in the minds of all intelligent persons, by the decision, that it should be neither the one nor the other, but that Theory and Experience should be regarded in the light, not of adversaries, but of allies, and be made in every thing to co-operate together, not adduced only in opposition to each other. Still it is not uncommon, even at present, to meet with persons who despise, or affect to despise every thing like reasoning in Medicine ; and who hold, or affect to hold every thing connected with the profession exceedingly cheap, except the bed-side and the operating theatre. “ He who hath no wit by nature nor “ by art,” says Touchstone, “ may complain of good “ breeding, or comes of a very dull kindred.” But without retorting in this trite way upon them, let us inquire, for a moment, who they are that for the most part indulge, in the present day, in these novel sarcasms against Theorizing in Medicine ? They are generally either very young men, actuated by a strong but mistaken spirit of ratiocination, who having in evil hour discovered (for this is the time of life for making great discoveries) that reasoning is quite inadequate to explain satisfactorily many of the functions of the healthy body, and has more frequently led to fatal errors in practice, than to the discovery of any useful remedies of diseases, have concluded (for this is the time of life also for drawing sweeping conclusions) that Theory is quite out of place in Medicine ; and have accordingly, with great self-com-



placency, settled themselves, in ten minutes, into more profound Philosophers, than persons who have given months and years to a careful and laborious study of the subject have been enabled to do. Or they are, on the other hand, oldish men, somewhat perhaps of the dullest, at least not violently addicted to reasoning at any time, who having succeeded in attaining a tolerable reputation, and in scraping together perhaps a tolerable commodity of money, without reasoning, have voted Theory, as unnecessary to these necessary consummations, altogether valueless to a man of the world ; and continue to chuckle, with lack-lustre eye, and with all the petty malignity of half-conscious imbecillity, over the superior straightforward understanding which they wish to flatter themselves, and to persuade others, nature has given them, in lieu of the splendid reasoning talents with which some luckless wights are, to their great prejudice, endowed. It is melancholy that one should be subject to listen, in the present day, on the one hand, to such false Philosophy, or, on the other, to such wretched drivelling as this ; but as they must be often listened to, so they should now and then be answered.

It cannot indeed be denied that reasoning, on the subject of Physiology, is often dreadfully at fault ; and that many of the processes going on in the living body are so obscure and so complicated, as to appear to be almost entirely unintelligible. But because we cannot thoroughly comprehend every thing, are we, on that account, to acquiesce in total ignorance of those things which may be understood ; and how can we



ascertain that any thing is intelligible, unless we frequently and earnestly attempt to understand it? Every other Science has advanced only progressively to maturity; and is it reasonable to expect that Physiology, perhaps one of the most intricate of all, should all at once become perfect, or to discard it altogether because it is not so? The most violent declaimer against this Science cannot deny that it has advanced much since its origin, and that it is still rapidly advancing; but what would now have been its condition, had men always argued as he argues? Amidst his common-place and hacknied sneers at Medical Theories in general, such a man is commonly remarkably brilliant in sneering at the crude notions of the ancients in these matters; but he forgets, in the meantime, that these crude notions are all that we should at present have possessed, had the people of every age been all as senseless as he. The subsequent cultivation of the study of Physiology has enabled him to see the defects, in these matters, of the ancients; the continued cultivation of it will probably enable the people of future ages to detect those of Modern Theorists, till at length the Science shall arrive at perfection. The goal is not yet attained, and a great part of the fruit of our labours is perhaps as absolutely out of our reach now that we are distant from it probably only a few feet, as it was when we were many miles off; but these few feet will, in all likelihood, be speedily passed over, if we flag not in the last stage of our journey. The man who has all his house finished, except the roof, is not much more defended from the pelting of the pitiless storm, than



he who has but just laid his foundation-stone ; but he is in a fairer way of becoming so. The whole fabric of Physiology may, in like manner, perhaps want only a few links—a few rivets, to perfect it, and to amalgamate parts at present apparently baseless, chaotic and grotesque, into a firm, a consistent and a beautiful whole. Besides, to an aspiring mind, there is always something infinitely more exciting in the idea of prosecuting a study in which something still remains to be done, than one in which every avenue to discovery, and consequent distinction, is closed ; and to such a mind therefore the very imperfection of the science of Physiology, so far from being an argument for declining the study of it, will be one of the strongest arguments for persevering in it. Enough has been already done, to show that the attainment of perfection is not impossible ; enough still remains to be done, to inspire in any, but the most sordid mind, an ardent desire of being in some degree instrumental to the attainment of that perfection.

But Theorizing in Medicine, it is further alleged, has less frequently led to the discovery of useful remedies, than to practices absolutely pernicious. This argument can be urged only by those who are either very ignorant, or very unjust. It might indeed have been expected *a priori*, that a science, not yet arrived at maturity, would not have given rise to any wonderfully useful results ; and we might have been content to wait for these till the good time should come, when the accumulated contributions of all preceding Physiologists should be collected into a stupendous whole by some Master-mind, who doing



for the Theory of Medicine what Newton did for Natural Philosophy, Linnæus for Botany, Lavoisier for Chemistry, and Bichât for General Anatomy, should separate the wheat from the chaff, and make every thing work together for an honour and a blessing to mankind. All this might have been patiently waited for, without affording any fair ground of reproach against the Science in question : but such prospective fruits are not all that mankind has even already derived from the cultivation of the study of Physiology. It would not indeed be difficult to prove, that, so far from no useful remedies having been suggested by Theory, there are in fact but very few useful remedies which may not be traced to this source. “ Amongst the least informed people, and “ in the remotest villages,” it has been lately observed, “ there are old saws and rules regarding “ health, sickness and wounds, which might be “ thought to come from mere experience ; but they “ are, on the contrary, for the most part the remains “ of forgotten theories, and opinions laid down by “ the learned of former days.” Dr Gregory used to remark, that it was a great mistake to imagine that old women and ignorant people in general do not Theorize—that, on the contrary, they are for the most part incorrigible Theorists ; but this is not quite the case. Such persons, left to themselves, do not Theorize—in such circumstances, they are governed in general by the most brutal superstition. When they appear to Theorize, they only repeat the Theories of the learned of ages long forgotten ; and a person of research may still often recognise, in the really



valuable precepts of the sick-room, the tenets of the Dogmatist and the Methodist, the Chemical Pathologist and the Iatro-Mathematician. Thus, the employment of cold and heat, in the diseases in which they are respectively useful ; of animal food in some cases, and vegetable in others ; sometimes of pure air, at others of the reverse, has, in most cases, originated in Theory ; and it is to this that we owe the introduction into Medicine severally of Sialagogues, Er-rhines, Demulcents, Emetics, Purgatives, Blisters, Diaphoretics, Diuretics, and almost every other class of useful medicines. To take the last as an example : had it not been for the notion entertained by Hippocrates, that dropsies arose from a preternaturally attenuated state of the blood, and that the natural office of the kidneys was to thicken the blood by drawing off its thinner particles, it is impossible to say how long it might have been before we had stumbled on the use, in these diseases, of Diuretic Medicines, on which we now place our chief reliance ; and a very similar remark might be made with respect to all the other classes of medicines just mentioned, as well as to innumerable others. We forget all these things, or (what is more probable) we have never known them, when we join in the senseless outcry against the utility of Theorizing in Medicine. Few, for instance, are perhaps aware, when applying hartshorn or other pungent substances to the nostrils in Hysteria, Epilepsy or Syncope, or when introducing a pessary to support a prolapsed womb, that these practices owe their origin to a wild Theory, propagated by Hippocrates and Plato, that the womb was



a kind of living animal, of a very unsettled disposition, and that as often as it found itself deficient in heat and moisture in its usual quarters, it was capable of wandering about in search of more. In these wanderings it was said usually to ascend, (for they made very light of its ligaments) touching sometimes at the liver—sometimes at the stomach—sometimes at the heart, or even at the fauces, to the great discomfiture of these quietly disposed organs, and the consequent production of a fit of Hysteria. On other occasions however it was described as descending, particularly when the deficiency of heat and moisture seemed to arise from a too-sparing gratification of its natural desires ; and, under these circumstances, sometimes peeping from forth its natural recesses, in order to inquire a little into the state of affairs in person, and to ascertain the reason why it had been so long unsatisfied. If you want your work done, says the proverb, *go*, if not, *send* ; and in conformity with this precept, the womb was represented as sometimes presenting itself, without ceremony, before the astonished multitude, and thus constituting a Prolapse of that organ. Now the said womb, as an animal, was of course susceptible of pleasure from agreeable odours, and of annoyance from the reverse ; and accordingly, as, when it ascended, it was to be frightened from above, as well as enticed from below, by assafoetida, or any other offensive substance applied to the nostrils, while, at the same time, aromatics were introduced into the genital organs ; so, when it descended, it was to be



disgusted from below, as well as attracted from above, by the application of fetid and aromatic substances respectively to the vagina and to the nostrils. The application of offensive substances to the nostrils soon led to that of any other substances equally pungent, and the advantages derived from remedies of this kind in Hysteria soon led to their adoption in Epilepsy, Syncope and other disorders ; while the pessaries of antiquity, as employed in Prolapse of the womb, consisting in like manner of fetid substances, soon gave way to machines of wood and ivory : but still it is to Theory, and that too of the most unpromising character, that we owe the introduction of both these classes of remedies into medical practice. I might add, likewise, as further examples of excellent remedies the introduction of which we owe to Theory, Galvanism, Acupuncture and numerous others ; but sufficient, it is presumed, has been already said to refute the random assertion, that practical medicine owes no useful remedies to the prosecution of Theory, and to prove that the commonplace cant of the empirics, “ non post rationem medicinam esse inventam, sed post inventam medicinam, rationem esse quæsitam,” is as false, as it is hacknied and tiresome.

With respect to practices absolutely pernicious having originated from this source, it cannot indeed be denied that such has occasionally been the case ; but if a little Theory has sometimes done harm, a little more has commonly corrected it. Thus, if the cruel practice of denying cool air to patients parched with fever took its rise from the pernicious doctrines



of the Chemical Pathologists, that the process by which a fever was to be expelled was analagous to fermentation, and therefore to be promoted by heat, that of freely admitting it was the consequence of the doctrine, that the essence of fever was excess of heat, of which cold was the best, as well as the most direct remedy. So also, if the barbarous practice of inculcating abstinence from drink in fevers and in dropsies took its rise from the doctrine, that in the former it added fuel to flame, as water sprinkled on the fire only serves to make it burn more furiously, and that, in the latter, it still further diluted the blood, which was too much diluted already, the opposite practice of allowing the free use of liquids in both originated in the notion, that they favoured the action, in fever of diaphoretic, and in dropsy of diuretic medicines, from the free operation of which respectively the cure of each disease was principally to be hoped for. But it is superfluous to multiply instances to prove, that if Theorizing sometimes does a little temporary mischief, it always sooner or later abundantly repairs it ; and I shall presently have occasion to show, that if erroneous practices have sometimes resulted from Theory, practices much more erroneous have still more frequently resulted from the neglect of it, and the idle superstition with which this neglect is always accompanied. From errors arising from the latter source we can have no reasonable hope of deliverance ; but if Theory bring occasionally a bane, it brings likewise, more or less speedily, its antidote ; and while, in these instances, the benefit derived



from it is at least equal to the injury, in others its advantages, confessedly imperfect as it still is, are without alloy, and so numerous and considerable, as to furnish us with a ready and decisive answer to the few and meagre arguments which can be brought forward on the opposite side of the question.

But we have still to defend ourselves from the leaden attacks, not of the mistaken Philosopher, but of the Goodman Dull—the downright matter-of-fact man—the stupid, indolent and worldly minded, who, provided he succeeded in the world, in his grovelling acceptance of the term, cares no more than Mrs Shandy did, whether that world go round or stand still. Such men as these have succeeded, as they call it, in the world ; but it was at a time when the world, and the medical profession, were not what they now are, and still less what they every day more and more promise to become. The time has been when his bigotted patients looked upon their Doctor as upon a being who had become, by either study or inspiration, something almost supernatural ; but these were times in which Doctors were scarce, and every avenue to medical information being closed upon the profanum vulgus, the elect few had, like the monks of the dark ages, a monopoly, if not of learning, at least of the credit for it, and certainly of the loaves and fishes which were intended as its reward. At present, Doctors are not, as they once were, “*ri nantes in gurgite vasto*,” but rather like the stars of heaven for multitude ; and the persons by whom they live are considerably more behind the scenes. The late rapid, and every day progressively more and more



rapid march of improvement has, 'thank Heaven, already wonderfully contracted, and promises shortly entirely to obliterate that great gulf which was formerly fixed, as between Lazarus and the rich man, between the Philosopher *ex professo* and the *οἱ πολλοί*. The greater diffusion of school education, in the first place, which renders every body capable of reading, and the shoals of publications on every branch of science and literature, and on Medicine perhaps more than any other, which emanate every quarter, every month, every week, and almost every day from the press, and many of which come in such a questionable shape, that they are read by almost every body who *can* read; the number of scientific and literary societies in almost every town, in which subjects, till lately clouded in pomp and mystery, are familiarly discussed by all classes of people; nay, the improved tenor of the most every-day kind of conversation, in which it is no longer considered indecorous for the scavan to laugh with the plebeian, nor presumptuous for the plebeian to dispute with the scavan—these have already done much towards establishing every man, and in particular every medical man, on his proper level of reputation with respect to his attainments, and will ere long, it may be confidently expected, entirely sink every claim to notice, in this respect, of all who do not thoroughly deserve it. But not only must the medical men of the present day labour to gain knowledge in proportion as their patients become better judges of their standing in this respect, but they must labour hard, in proportion as the knowledge now to be gained is



more deep, more extensive, and more mutable, than formerly. In former times medical authors were comparatively few, facts and opinions were slowly collected, and doctrines once established required the lapse of ages to undermine and subvert them. At present every medical man almost thinks and writes, as well as reads, the discoveries and notions of every body are diffused, with the rapidity of lightning, by innumerable channels, through every quarter of the civilized globe, and revolutions in medical doctrines are now so frequent, and so fundamental, that an old student on returning to his College ten years after having left it, (if he have not in the mean time continually kept up his stock in trade) hears nothing, in reply to his sagest remarks, but Moliere's sweeping answer, " Nous avons changé tout cela," till at length he can hardly believe that he really belongs to a profession of which he had previously perhaps flattered himself he was no inconsiderable member. Let not then a young man trust for success, at present, to the same quiescent modicum of scientific information which peradventure helped forward his grandfather or his father to riches and to honour; let him not trust to connections, to intrigue, to address, to any thing but a thorough manly knowledge of his profession, and that not of a description in which every old nurse will perhaps at last excel him—not practical only, but theoretical also. The big wig and the gold-headed cane have long been out: it is long since it was thought necessary, as remarked by Dr Black, in order to appear a man of deep learning, to resemble a Professor



of Necromancy, a lethargic Philosopher of Laputa or a scientific monster; and the days are fast approaching, when neither a severe and pompous carriage on the one hand, nor a bluff and blustratious demeanour on the other, will deceive mankind into the belief that a medical man either possesses science, or that he despises it. In every thing, scientific as well as political, the age of farce is gone—the mist of delusion is fading away. In every town and village where there is any thing worth competing for, a medical man will meet with worthy competitors, and with patients who can judge of his pretensions. The latter will be among the first to “see the bottom of “Justice Shallow.” If they read nothing else, each will read all he can find about his own case. He will question his Doctor upon all the various opinions, and all the arguments for and against these opinions, on every subject directly or indirectly connected with it. His Doctor, if he be a blockhead, will soon betray it, (for the eye of the lynx is dull, compared to that of an anxious patient, when scrutinizing his medical attendant) he will be incapable of parrying, by either artifice or bravado, the home-thrusts he will receive; his quivering lip will refuse any longer to furnish the ready smile; he will be convicted of ignorance and presumption, and share the just reward of the ignorant and presumptuous, contempt and disgrace. But it is not his patients only who will be his judges. The subjects of Physiology come home to every man’s business and bosom, and in every company the medical man is the Sir Oracle, to whom all appeals on such subjects are made. What if he can-



not meet these appeals—if, in the first company he enters in the town in which he has set up his brass plate, he meet with a dozen persons better informed on these subjects than himself? An ignorant medical man of the present day, in addition to all his practical high crimes and misdemeanours, must almost necessarily be a despicable shuffler. No man can know every thing; but he who knows much can afford openly to confess when he is at a loss. An ignorant professional man, on the contrary, cannot afford to be honest. He must equivocate, and hedge, and lie, at every turn; and be obliged to take, perhaps during a long life, ten times the trouble in order to *appear* well informed, which it would have cost him, during a few months, while a student, to *become* so. But all will not do; he will soon see that he is known and despised, and soon feel that he is neglected and abandoned.

So much then for the arguments commonly adduced against the cultivation of the study of the Theory of Medicine, as useless either to the medical man, or to the man of the world; but an additional and very forcible argument on the opposite side may be collected from a consideration of what would necessarily become its condition if this were deserted—in other words, of what has always been its condition in those countries in which Theory has either never had a beginning, or has afterwards, from political degradation, been abandoned; and of what is still its condition with those persons among us who, from either weakness of intellect, or defect of education, from infancy or old age, are incapable of Theo-



rizing. It is idle to say We will not look to causes—we will regard effects alone. The human mind—“that mind, that mind of man, that god-like spring of action,” must be continually employed in some way or other. The most abject savage, the gibbering idiot, the untutored clown, the puling infant, and the decrepit dotard—all must have their minds, such as they are, in some degree engaged; and what they want in reason, they invariably make up in credulity and superstition. In as far then as we desert Theory in Medicine, it is reasonable to believe that we shall become deluded by hallucinations incomparably worse than the worst into which Theory can possibly lead us. It is needless, in support of this position, to go into all the absurd fancies which the people of former ages, or the savages of modern times, have entertained, and still entertain with respect to the causes of diseases; or the idle measures to which they have resorted, and still resort in the treatment of them. From this degraded state the practice of medicine has only very gradually recovered itself in European countries—and recovered it may be said to be, in spite of the grimaces of the Messmers, the metallic tractors of the Perkinses, the fanatical intercessions of the Hohenloes, and the mystic bottles of the St John Longs, of which one is condemned still occasionally to hear—but among the barbarous and semi-barbarous people whom Theory has not yet enlightened, the opinions still prevalent respecting the causes of diseases are as wild, and the practices still had recourse to in cases of sickness as idle and absurd, not to say as revolting and cruel, as ever. We learn



from one of Plautus' plays, that it was the custom, in the ruder days of ancient times, for all the bystanders to spit upon a person affected with Epilepsy, as a means of restoring him, whence one of the numerous names of the disease was *Morbus Insuperandus*; and the other remedies sometimes resorted to in these cases by the ancient empirical physicians, such as making the wretched patient regale himself on slices of the human heart, or on the powder of the skulls of suicides, washed down with potations of dung, urine, semen, menstrual fluid, or hot blood from the wounds of slaughtered gladiators, or on the testicles and penes of various animals, the scurf from horses' legs, or dried weazles devoured whole, together with numerous other delicacies which exceed in horror "the grease that's sweaten from the murderer's gibbet," or any other more execrable ingredient of Macbeth's cauldron, are worse—ten thousand times worse, than the worst enormities to which errors in Theory ever gave rise. And many of these, and others as bad or worse than these, are still habitually resorted to by the savages of modern times. Thus the Plautian remedy of Epilepsy is still in full vigour among the tribes of Columbia river, and other barbarous hordes, in a great variety of diseases; and not only wearing the dried dung of the Grand Lama hung in little boxes round their necks, but absolutely eating it mixed with their food and drink, is still a chief remedy of all diseases with some of the inhabitants of Tartary. For the purpose likewise of frightening away evil spirits, or some other equally sagacious, it is a prevalent practice in many savage nations to whistle, and



sing, and roar by the side of the sick, and sometimes to rattle stones in shells, to ring bells, blow trumpets, or strike cymbals into their ears ; and what must be the result of such a practice, the offspring of the blindest superstition, in a great majority of diseases, may be easily imagined. But the custom at Labrador of thumping the head on the floor to music in order to cure the headach, and those in the Sandwich and Friendly Is'ands of drawing a tooth or cutting off a finger as a remedy for diseases in general, (customs so prevalent, that, according to Captain Cook, scarcely an individual is to be found in these Islands with his proper complement of teeth and fingers) are still more singular and shocking ; and certainly such as, among all the evils which have been so thoughtlessly said to have resulted from Theory, cannot fairly be laid to its charge.

I have been thus particular in endeavouring to refute the charge of inutility, if not of an absolutely mischievous tendency, so recklessly laid upon the study of Physiology, because I conceive that it is to the prejudices thus inconsiderately excited against it, that we must ascribe the comparative lukewarmness with which this branch of medical study is commonly entered upon by Students of Medicine, and the comparatively inconsiderable progress which they generally make in it. From a prolonged and intimate acquaintance with the more advanced Students of Medicine of this University, I feel justified in asserting, that in no branch of their profession are they in general more deficient than in this ; and this can arise, I imagine, only from the false views com-



monly entertained of the scope and tendency of this Science, since the Science itself is certainly not less interesting than those in which proficiency is so much more common, nor the Teachers of it in general less talented or attractive than those who profess the other branches of a medical education. The imperfect attention however (whatever be the cause of it) paid by Students in general to the study of Physiology, during the period of their professed studies, has consequences the most distressing when they subsequently turn (as most of them now *do* turn) authors; and it is to this cause that we must attribute the host of hollow and absurd Theories which, advancing as this branch of science unquestionably is, one is condemned, even in the present day, frequently to hear bandied about, if not trusted to and acted upon by medical men. To many of these I shall have occasion to allude particularly in future; but, in the meantime, I cannot avoid mentioning, in proof of my assertion, the majority of those advanced in the ponderous and pompous tomes recently published by a learned Nosologist, whose pretensions are such, as to render his errors and deficiencies at once less pardonable, and more pernicious than those of others. Of this work almost every page is defaced, under the misnomer of Theories, with strings of "words, words, words," heedlessly looped together, always without any general bearing, frequently without any meaning at all, and sometimes (when any meaning can be detected) in direct opposition to each other. The mere fact that this work has attained, I will not say any popularity, but



any toleration among us, is abundant evidence that the Theory of Medicine is not, even at this advanced period, generally cultivated with that attention, nor its doctrines generally delivered with that precision which they deserve ; and it is obvious, that as the want of mature study of the subject seems to result from the degree of distrust which Students very frequently entertain of Theory in Medicine, so the want of clear and consistent ideas, and precise language, when they become authors, must have the effect of perpetuating this distrust, and thus of materially obstructing, if not of entirely stopping up every avenue to improvement.

Having thus endeavoured to demonstrate that the study of Physiology, imperfect as this Science still is, has already done much for the profession, both as an art and a science ; that its imperfect state is an argument rather for, than against the study of it ; that we may reasonably expect that a proficiency in it will become every day more and more essential to the success of a medical man ; and that such a proficiency is to be obtained, not by the desultory and isolated contemplation of a few phenomena, as they now and then present themselves, and as we now and then find ourselves in the humour to descant upon their causes, but by a continued plan of study, to be steadily prosecuted through all the principal phenomena of health and disease ; it remains only that I mention what plan I consider best adapted to the end in view—in other words, what plan I propose to adopt in the following Lectures. Previously to doing this, however, I shall subjoin a few general hints, on the best



means of privately prosecuting these studies, and on the disposition of mind with which they should be uniformly conducted.

Far be it from me to discourage the method of studying Physiology and Pathology by experiment. I am abundantly well aware how much this plan of interrogating Nature has done, in modern times, for every branch of Physical Science ; but I am equally well aware that these advantages have been in general overrated—at any rate that Students, in this respect, generally begin at the wrong end, and are often engaged in experimenting on animals, in hopes of finding out some one thing or other, on which to found some new and surprising doctrine, while they take no manner of notice of the great number of things continually going on in their own bodies, of the rationale of which they are as ignorant as the child unborn. It was a precept which I learned from my first teacher in medicine, the venerable Abernethy, never to forget that I carried always about with me the best subject for observation and experiment, one the most easily to be consulted, since it was quite in my power, and one the phenomena of which should be the most interesting to me, since it was with similar beings alone that I should in future have any immediate concern ; and this precept I have never lost sight of, and I beg now most earnestly to recommend it to my hearers. If from the time of rising to that of betaking ourselves to rest, we accustomed ourselves, during both health and sickness, to endeavour to explain rationally every thing which took place in our own bodies, and to assign a consistent cause for every motion and sensation



within us, we should have comparatively little to learn, I apprehend, from experiments on dumb animals; and should be, in a great measure, secured from deception by the hollow explanations sometimes offered of the phenomena in question. Let those then who are so prone to indulge in the prevailing cant of the great superiority of the analytical system of science, as cultivated by the moderns, over the synthetical system, as adopted by the ancients, continually keep in mind that a Physiologist and a Canicide are not synonymous terms; that the best subject for analysis is themselves, and the most useful contemplation that which relates to the most common processes; and that, till they understand all which can be readily understood, with a little reflection, about themselves, and know the rationalia of all familiar phenomena, it is preposterous to pore over the penetralia of other animals, in search of things recondite and comparatively useless.

Another thing also to be done, in order that the young medical Theorist may not betake himself, as many do, to motiveless and tiresome experimenting, is to study with attention, not only the notions at present generally entertained of the several subjects of his investigations, but those which have been at any previous time held respecting them, albeit at present generally abandoned. This I know is considered by many persons a very superfluous labour, one of the best Physiologists of the present day being unfortunately a good deal addicted to decrying any study, in prosecuting this science, except that of the animal body; and there is consequently a remarkable



tendency to the adunque, observable in the noses of most people, (for most people think only as their pastors and masters direct them) as often as the literature of Medical Theory is mentioned. It is however a little inconsistent with the professed principles of the said declaimers against medical literature that they are still incessantly writing themselves; since, if people universally followed their advice, *their* books, as well as those of their predecessors, would be entirely useless. Fortunately however for them and for themselves, people in general are not quite so senseless. Before they can experiment with advantage themselves, they feel, or ought to feel that they must know what previous experimenters have done; and before they can draw satisfactory conclusions from their experiments, they feel, or ought to feel that they must know what conclusions have been drawn before, and for what reason these conclusions are either still countenanced, or have been already abandoned.

Furnished in this way with all the light which continued reflection on every-day occurrences, and diligent study of the opinions successively entertained on every point connected with the subject can afford, the Student of Physiology will proceed to consult Nature experimentally with some prospect of advantage, since his experiments will be instituted with some definite design, and his conclusions from them tempered and corrected by a knowledge of the past and present state of science, with regard to, not only the subject immediately in hand, but all others directly or indirectly connected with it. He will not moreover if so furnished, give himself more credit for what he may perhaps contribute to the advance-



ment of science than he deserves. For the most part, the discoveries of modern Philosophers are to be attributed, not so much to them, as to the age in which they live. So many are the heads and hands at present employed in advancing science, and so rapid are the strides which it is now every where making, that what one man does not hit upon to-day, another is almost sure to hit upon to-morrow ; the most important discoveries are, as it were, forced upon the discoverers of them ; and in making them we only add perhaps an inconsiderable link to a long chain already all but perfect, and which any body else might have added as well as we. The general diffusion of science is as unfavourable to vast reputations, as the general diffusion of morality is to vast virtues, or the general diffusion of wealth to vast fortunes. Where all are well informed, no one can, to any surprising degree, surpass his neighbours ; and it is only in ages of general darkness that we meet with an Aristotle, as it is only in ages of general vice and debauchery that we meet with a Cato, and of general want and wretchedness with a Lucullus.

But precipitancy, ignorance and self-conceit are not the worst faults from which perhaps the Student of the Theory of Medicine requires to be defended ;—the study is said also sometimes to give rise to irreligion. That ignorance should occasionally make men Atheists or Deists is sufficiently intelligible ; but how the continued study of the most subtle actions of the sublimest of God's works should have ever led to either atheism, or a disbelief in revelation, I can no more conceive, than how the contemplation of a beautiful and intricate piece of me-



chanism should lead either to a denial of the existence of the mechanic, or a disbelief in his account of the purposes and destinations of his contrivance. It was remarked by the sublime Plato, "The world is "God's epistle to mankind;" and it is sufficiently well known that Cicero, in his work *De Natura Deorum*, dwells more upon the fabric and functions of the human body than on any thing else, when he wishes to prove the existence of a Supreme Cause; that Seneca and Pliny were almost as much preachers as philosophers; that Galen's work *De Usu Partium* may be regarded almost as a prose hymn to the Creator of the universe; and that the excellent Paley, (to omit numerous other authors) in his *Natural Theology*, draws his strongest proofs of the existence, the wisdom and the goodness of God, from the facts afforded by Physiology. It is perhaps out of my province to dwell more particularly on this subject here, especially as I shall probably have occasion again to allude to it, when treating of those parts of the Theory of Medicine, the investigation of which is said most frequently to have led to this deplorable result; and I have certainly no desire to be considered inordinately gloomy or puritanical. I cannot however avoid cautioning Students, and young Students in particular, to receive with the utmost reserve all those flippant and irreverent remarks, sometimes unhappily met with in Physiological works, the tendency of which is to shake their faith in truths which it must distress them to doubt, and wither them to disbelieve. A want of religion is not a mark of profound philosophy, for the deepest Philosophers have bowed before that Being in whose



sight their utmost wisdom is as foolishness; not of extensive erudition, for the most universal Scholars have left behind them imperishable monuments of their devotion; not of superior spirit, for the greatest Heroes have been as renowned for their religion as for their courage; not of high fashion, for Persons of the most exalted rank have been no less conspicuous for unaffected piety; but, on the contrary, it is a mark, and, as far as my experience goes, a never-failing one, of a half-witted and half-educated—a dastardly and vulgar reptile, not daring, (as he perhaps tries to persuade himself) since his wretchedly contracted views of things render him unconscious of what he braves, and the furthest possible from well-bred, since good manners would have taught him to treat with deference even the errors of the great and the good of all ages and of all nations.

Having made these preliminary observations upon the scope and utility of the study of the Theory of Medicine, upon the manner of conducting that study, and upon the feelings by which those engaged in it should be actuated, I proceed now to describe, as shortly as possible, the general plan which I propose to adopt in the following Lectures. I have already said of how great importance it is that persons, engaged in the pursuit of any science, should have some knowledge of its history and progressive advancement; but it does not follow that the account of this progressive advancement ought to precede (as by many Lecturers on all branches of Philosophy it is made to do) the account of the things themselves. If the facts of a science cannot be well understood



without frequent reference to those who have established them, and of whom our hearers probably know nothing, neither can the merits of the improvers of the science be duly appreciated without frequent reference to facts, of which probably they are equally ignorant. But in which case are we required to suppose the least—in treating of the facts of a science before its history, or in treating of the history of a science before its facts? Unquestionably in the former; and on this account I must consider the common practice of prefacing a Course of Lectures with a history of the science to be treated of, as one “more honoured in the breach than the observance.” If a general history of the science be anywhere to be delivered, I conceive it will be more useful at the close, than at the beginning of such a Course; the more especially as the facts of a science, being certainly of the greater importance of the two, should have appropriated to them that period at which the energies of our hearers are most fresh and vigorous. I shall take leave, therefore, to plunge at once *in medias res*: but to determine in what order these should be treated of is a matter of very considerable doubt and difficulty. With regard to Elementary Physiology, it was a remark of Hippocrates, which has been very frequently repeated, that every process going on in the living body constitutes a portion of circle which has neither beginning nor end, and in describing which we may set off almost where we please. In this respect it is quite impossible to do wrong, but, for the same reason, it is equally impossible to do right. “Wherever we be-



“gin,” says Dr Hunter, “we find that there is  
 “something preceding which we ought to have  
 “known. If we begin with the brain and nerves,  
 “for example, we shall find that these cannot  
 “exist, even in idea, without the heart ; and if we  
 “set out with the heart and vascular system, we  
 “shall presently be sensible that the brain and nerves  
 “must be supposed : or should we take up the  
 “mouth, and follow the course of the aliment, we  
 “should see that the very first organ which present-  
 “ed itself supposed the existence both of the heart  
 “and brain.” In treating of a science then where  
 so perfect a *carte blanche* is offered to us with respect  
 to arrangement, it appears to me the best plan, as  
 the most conducive to simplicity and precision, (the  
 only legitimate objects of arrangement of any kind)  
 to begin with the consideration of Irritability, or that  
 property which especially distinguishes living matter  
 from dead, and of those Stimuli from the action of  
 which on the irritability of the several organs of the  
 body result, directly or indirectly, all the Functions of  
 living animals ; and in prosecuting these several Func-  
 tions, to treat first of those which appear to imply the  
 possession of irritability alone, and to be more or less  
 common to all living beings, such as Respiration and  
 the other functions commonly called Organic, and af-  
 terwards of those which seem to imply the possession  
 of other properties superadded to irritability, and to  
 be more or less proper to the higher classes of living  
 beings, such as Sensation and the rest of those com-  
 monly distinguished by the name of Animal. Such  
 then is the general arrangement which I propose to



follow in treating of Elementary Physiology, my reason for adopting which, in preference to innumerable other, if not more perfect, certainly by far more complicated plans, I shall state more fully in future. With regard to Etiology, I see no good reason for deserting the established division of the Causes of diseases into predisposing, exciting and proximate; and I shall accordingly treat of the influence, under these respective heads first, of all those Permanent conditions of the body, and Accidental variations of circumstances affecting it, from which result morbid changes, and afterwards, of all those Morbid changes themselves, which more immediately give rise to diseases. In treating of Semiology, I shall endeavour to explain, in the first place, the changes effected by diseases in the Aspect of the various organs of the body, and their secretions; and secondly, the changes so effected in the various Functions, following up these in the same order as they were described in the state of health. Lastly, in treating of Therapeutics, I shall follow the old division of the remedies of diseases into those referable to Diet and Regimen, to Medicines and to Surgery; and shall investigate the influence, under each of these heads successively, of all those curative agents "after their kinds" of which we commonly avail ourselves in the treatment of diseases.

With respect to Elementary Physiology, although I must take it for granted (as I said before) that my hearers in general are acquainted with all the broader facts of Anatomy, I shall not allow myself to be so far misled by this idea, as to omit prefacing the account of every function with a slight description of



the apparatus immediately subservient to it, and this, not in the human body alone, but in that of the lower animals also ; since it is obviously impossible that we can reason fully or justly on the functions of any organ in the human body, without some knowledge of the structure of the corresponding organ in the inferior animals, and the means by which the same function is performed in them. It is only by proceeding in this way, from things simple to things complicated, that we can be made to understand what parts are essential to each function in man, and what are merely supernumerary ; and can be spared many false conclusions in the detail, into which a more circumscribed view of the matter would necessarily lead us. At the same time I am perfectly aware how useless it is to be continually harping upon the mere names of such animals, and describing their organs and functions, while perhaps the majority of our hearers are hardly conscious of their existence, and know absolutely nothing of their nature. In order to remedy this evil as far as possible, I shall, in most instances, present a rough diagram, as well as give a short description, of those parts in the lower animals to which I shall have occasion more particularly to allude ; and, under the same conviction of the greater impression always made when the images of the things talked about are presented to the senses, I shall endeavour to illustrate, in the same way, every subject of Human Physiology, as I successively come to it. The diagrams at present hanging up relate to the function of Respiration, (the first to which we shall come after dis-



cussing the subject of Irritability) and may serve as specimens of those which I shall introduce when speaking of each of the other functions. The first parcel is intended to illustrate the respiratory process in the Invertebral animals, according as they breathe by gills, bladders or tubes. The second set contains those illustrative of the same process in Fishes, Reptiles and Birds ; and the third and fourth those illustrative of the same process in the Mammalia, and especially in Man. Many of these are still very imperfect, and some hardly begun ; but I shall endeavour to remedy all defects, as far as possible, either by chalk sketches, or by a fuller description. The scale on which I began rendered it impossible for me to perfect my plan all at once ; but, in consideration of what still remains to be done, I beg leave respectfully to invite those Gentlemen who intend to honour me with their attendance this winter, to attend as often as they please in future, when I hope to make my plan, both in this respect and in every other, as perfect as the nature of the thing will admit of. The several subjects connected with Pathology and Therapeutics are less susceptible of this kind of illustration than those of Elementary Physiology ; but it will, in the same degree, become less necessary, since if we thoroughly understand the functions of the healthy body, there will be little difficulty in following up all the changes induced in it by disease, and in understanding how it is liable to be affected by the various agents, by which either diseases are occasioned on the one hand, or health is restored on the other.



In conclusion, I have only to recommend to my hearers as regular an attendance as possible ; since I shall have occasion, as we proceed, to make perpetual reference to facts and principles previously described and inculcated, and must of course presume that these facts and principles have been already understood and assented to : and should I at any time be so unhappy as not to make myself sufficiently intelligible in my Lecture, (since I cannot pretend, in any instance, to exhaust the subject in hand) I have to request that my hearers will have no hesitation in applying to me for further explanation in private ; and this I do, not merely *pro forma*, but in the earnest desire that it should be acted upon. I have no pursuits, at least none so dear to me, as those of my Profession ; and so far from considering any application of this nature a trouble, I shall always regard it rather as a compliment, and meet it with the greatest readiness and pleasure. To-morrow then I shall enter upon the subject of Irritability, in the most extended sense of the word.

FINIS.



In conclusion, I have only to recommend to my  
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 application of this nature a trouble, I shall always  
 regard it rather as a compliment; and meet it with  
 the greatest readiness and pleasure. To-morrow  
 then I shall enter upon the subject of Electricity, in  
 the most extended sense of the word. I will be sure  
 to supply you with a list of the names of the  
 most useful authors, and of the experiments which  
 you are to make. I will also be sure to supply you  
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