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W. Mac Cormac Esq M.D -
with the author's kind regards
MEDICAL STUDY: 6.

ITS METHOD, AIM, AND ADVANCES.

AN

INTRODUCTORY ADDRESS,

DELIVERED IN THE THEATRE

OF THE

ADELAIDE HOSPITAL.

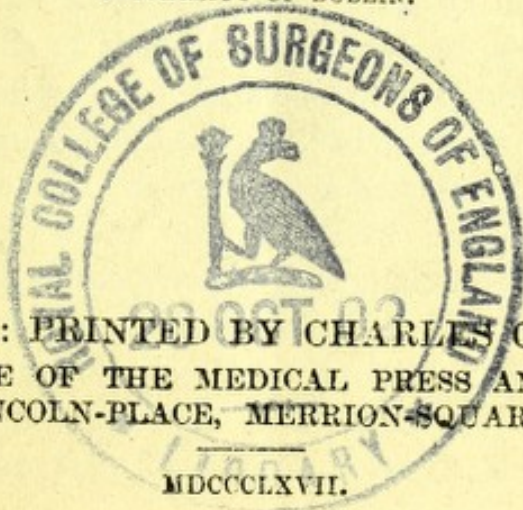
WEDNESDAY, NOVEMBER 6, 1867.

SESSION 1867-68.

BY

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MEDICAL STUDY

ITS METHOD, AIM AND ABILITIES

INTRODUCTION

CONTENTS OF THE VOLUME

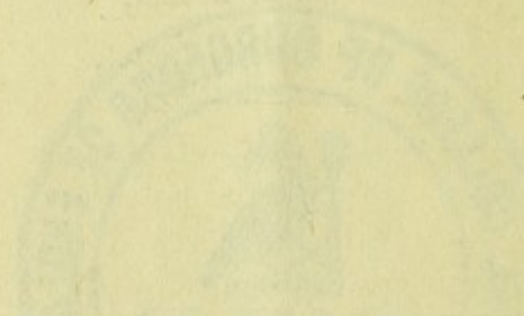
ADELPHIDE HOSPITAL

NEW YORK, 1887

SESSION 1887-88

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LECTURER IN MEDICAL STUDY, ADDELPHIDE HOSPITAL, NEW YORK



ADDELPHIDE HOSPITAL, NEW YORK

INTRODUCTORY ADDRESS

DELIVERED AT

THE ADELAIDE HOSPITAL.

GENTLEMEN,—At the commencement of a new session, it devolves upon me, on behalf of my colleagues, to bid you welcome. Many of you have sojourned with us here during one or two past sessions, and are familiar with the practical working of this institution, but some now for the first time enter upon the active duties of a career of professional study. To both classes I have a few words to say to-day as introductory to a season, which I hope will be one of hard work, both on the part of teacher and student.

To those of you now for the first time entering upon the varied paths of medical study, to whom everything is new, much obscure, and some objects even repulsive, I would first congratulate you in your choice of an hospital. Each school and each city has its own way of teaching, and there are some peculiarities in the Dublin system which, I believe, render it superior to some others. Here we have numerous general hospitals of moderate size, instead of two or three monster establishments monopolizing clinical teaching. Now, there are doubtless great advantages in point of variety of cases, &c., in very large hospitals, but recollect, it is of infinitely more value to have a moderately large number of cases stereotyped in your mind ineffaceable, than to have transient impressions of myriads. It is not the attendance on great operations, exciting though they be, that fits a man for the work of his after life, for in private practice these are very few and far between; it is the steady

watchfulness over selected cases, each series forcibly impressed before the impression is dissipated by too great a variety. Among the many valuable hospitals in this city, I am proud to say that this institution is second to none in point of its educational capacity ; and of the different advantages which your teachers will bring before you, I trust that you will watchfully avail yourselves. Here we have a sufficient number of cases always under your eye, and our children's ward and fever wards, give ample opportunities for studying special diseases ; while, at our dispensary, which I would venture to say is one of the largest in Dublin, we have crowded attendances of the suffering poor of all classes, admitted without any other qualification than that of sickness or accident. During the last year, upwards of 18,000 cases have presented themselves for advice, and surely that constitutes material ample for any purposes of instruction. And I can truly promise that if you only work as hard to learn your profession, as my colleagues and I will work to teach you, there will be a class going in for examination from this hospital, such as the examining board of the college has rarely seen the equal of from the beginning.

We have likewise instituted a special ophthalmic department, in which diseases of the eye will be explained, and when I say that it will be presided over by Dr. Stoney, I need say no more regarding its efficiency of management.

Now, to those of you who are now commencing your studies, I would give a little counsel on some matters. There are two objects before every medical student, a proximate and an ultimate. The first is that of passing his examination ; the second, and by far the greater, is that of fitting for the subsequent active duties of a professional life. It is, unfortunately, quite possible for a student who walks the wards of the hospital occasionally in the morning with his hands in his trousers pockets, and with a short cane under his arm, by diligent reading and grinding, to accomplish the former object, and it is possible, too, for the same man to get a good place at the Army Board as a

fully qualified surgeon, but it is this sort of man who will put his tourniquet below the wounded vessels, and will, in amputating, make his flaps the wrong way, bringing thus himself and his teachers into disrepute. You may take it as an axiom that it is absolutely impossible to fit yourselves for the active duties of professional life but by attending to the daily and practical details of hospital work from the day of your commencement. You will not find it easy to do this at first ; the duties may be irksome—study is always a weariness of the flesh, but remember—*nil sine magno vita dedit labore mortalibus*, and by degrees, if you patiently follow up your work, you will be amply rewarded ; it is not great spasms of work, and alternate periods of idleness, that prove advantageous either as modes of labour or relaxation. It is not the freshet or the flood that wears the channel in the rock. *Gutta cavat lapidem non vi sed sæpe cadendo.*

The first principle which I would inculcate is, that you should adopt a plan regularly for your daily course not to be departed from under ordinary circumstances ; you cannot attain to this without punctuality, but as that virtue is one of the most important in life, you cannot take too much pains to cultivate it. Be at your hospital at nine o'clock every morning in time to meet the visiting surgeons. You have very much to learn from them during your first year ; and though I would not encourage you to devote much of your time and attention to the practical details of hospital work during your commencing session, yet, I would strongly urge you to lose no opportunity of gaining information from your teachers. During your first and second years you will find it necessary to devote your time and attention to anatomy chiefly, not in the classroom or lecture-room alone, but in the dissecting-room ; and in doing this, endeavour to make your fingers and eyes as well acquainted with the tissues of the body as your brains ; familiarize yourselves with all parts of the human frame in health, and you will find it an extraordinary help to your investigations of structure in disease. But while chiefly

attending to your anatomy attend the hospital carefully, and take pains to read a little upon each case that you see, so as to try and keep up with the clinical remarks made from day to day. Let your plan of study be something of this kind:—First, having provided yourselves with a text-book on every one of the subjects of your course, and your teachers will easily enable you to choose the best in each line, I would recommend you during this session to learn the names and modes of examination of disease, the classes into which diseases are divided, their localities and leading features. Study carefully the bones and joints, and thus make yourselves masters of the foundations of anatomy, work out the anatomy of the muscles in the dissecting-room thoroughly and well, learn the connections and position of the viscera, the localities of the main arteries, and the regions of the body. Above all, in the dissecting-room, strive to make your dissections neat, it is by many looked upon as a waste of time to clean a subject thoroughly in your dissecting-room, but I assure you it is nothing of the kind, and it is only when you will come to work on the living body that you will find what a good thing it has been to take pains in examining the structures in your anatomical subjects. In addition to this, attend to your lecturer on physiology, and learn something of the working of that wondrous machine, the human body; and above all, this season, take up one or other of the collateral sciences, and cultivate it in your spare hours. Chemistry is the study of the greatest powers in the world, one teeming with interest, and one, a knowledge of which is necessary before we can understand a sound physiology. Botany is an easy and delightful study, and one which cultivates the observing faculty to the highest degree—take either of these and work it—and you will find the relaxation in so doing to be far better in kind and far greater in degree than the false excitement of the theatre, or the equally pernicious sensation novel; and if you do these things for your first session you will have gained several ends, you will be accustomed to work, you will have laid a

good foundation of knowledge, and your subsequent studies will be all the easier. It is when these principles have been thoroughly attended to, that the catechetical system of instruction, miscalled grinding, which is nearly peculiar to the Dublin school, is of use, and its usefulness is proportionate to the amount of absolute study and preparation made by the student beforehand; it is, indeed, to your industrious men that this system is invariably the most beneficial. If, in the summer recess, you wish for any exercise of use, I would recommend to you two; one, the study of German, the other the art of drawing, the former is the most useful practical language in the world, even French is comparatively useless to the student when contrasted with the grand old language of thought, in whose literature the fullest and best value, and information on almost every subject will be found. The latter accomplishment is one of great practical utility as a means of preserving records of cases in a form the most striking and easily understood.

With regard to your reading, I would caution you, among other things, to beware of that vicious habit of skimming books so fatal to the student. Take one good text-book and read it thoroughly and well, then, and not till then, read such parts of others as bear on subjects in hand, but whatever you read, do it with concentrated attention, for, otherwise, though you have gone over all the college library you would be very little the better for it. An acute thinker once said—*cave hominem unius libri*, and I think it was Butler who made the remark, that he never was afraid to meet in argument with a man who had a large library. The next counsel which I would give you is, attend with regularity to all your lectures; your instructors take pains to prepare to teach you, and it is only courteous that you should be as regular to endeavour to learn. Some may be better worth attending than others, but remember that all of them know many things that you will require to learn, and that the habit of concentrating your attention thus acquired is worth all the trouble of the

concentration, and all the time spent in the class-room. I would recommend you likewise to acquire the habit of taking notes of lectures, then of transcribing them and reading them over afterwards; indeed, in your reading you will find it a good, though perhaps a slow plan, to jot down in your own words any striking thought or new fact that you may meet with; thus, your note-book will be the quickest and most complete cyclopædia of your reading that you could possess. Such writing does not weaken the memory, on the contrary it stimulates and strengthens it. Demosthenes tells us that to improve his style he copied out Thucydides' history eight times, and you would find it a capital exercise and a ready mode of purifying your style and method of expression if you would take notes from such books as Miller's Surgery, Watson's Practice of Physic, or Carpenter's Physiology.

To those of my auditory who have already been initiated into the study of medicine, I would say, your time of probation is shortening, therefore, it behoves you to work hard and avail yourselves of all the facilities for study which we offer you. Be diligent in noting cases and tracing their history and treatment, thereby alone you will gain that experience which will render you successful in your profession. Medicine occupies a rather anomalous position among the sciences, for it is one that has to do with vitiated actions, not natural phenomena, and, to use an illustration borrowed from astronomy, the perturbations of the natural course of phenomena are so varied and dissimilar, even when springing from causes apparently alike, that it takes a clear mind and a concentrated attention to follow the track of these, and to reason thence to the laws which preside over disease, and thus medicine requires a deep insight into anatomy and physiology as its basis, or else it is nought but an empirical art.

The man who imagines that he is a physician because he knows that calomel is good for this case, and opium and tartar emetic for the other, and quinine for the third, is in reality very little better than the blacksmith who told Sir

Walter Scott that he physicked the country side with two drugs, laudamy and calamy, and sometimes tried one and sometimes the other. Such a man is really but an empiric, or in plain English a quack, although he be decorated with all the honours which the colleges can bestow. True, there are many cases in which the most skilful can do little upon scientific principles, but these are happily becoming the exceptions in practice, not the rule, and as science brings her aids in the form of the endoscope, the stethoscope, and microscope, new facts and new laws are constantly being brought to light, assisting in our practice. In spite of all these, however, we have still much to learn ; it is ever true that

“ Science moves but slowly, slowly, creeping on from point to point,” but it is better to creep on with science, than to try rash leaps into fancy, and find ourselves landed into the mire of uncertainty.

Medical science, every year, is extending the fixity of its basis, and every year its aids are increasing in number, and in the certainty of their teaching. A few years since and all that even the most accomplished surgeon had to guide him in the diagnosis of the deeper diseases of the eye, was the uncertain evidence of symptoms, or the dim or obscure appearances to be seen by an external inspection ; now every year brings its improvements in the construction of the ophthalmoscope, an instrument by which the deepest recesses of the organ may be brought within the range of vision, and even magnified views of the interior of the structures of the eyeball can be distinctly obtained. Thus diseases can be recognised, remedies used successfully, and, by timely treatment in the arrest of early disease, much suffering and misery are obviated. Formerly, diseases of the larynx and throat were the subjects of very great doubt and obscurity, and even in cases where local applications to the membranes lining the upper opening of the air-passage were deemed advisable, there was much difficulty in applying the required remedies. So much uncertainty, indeed, attended the application of any

instrument, that in a case in which an eminent physician in New York had introduced a tube into the air-passage, as he supposed, with the greatest care, the patient, by vomiting through the tube, demonstrated that even the *tactus eruditus* of the physician was at fault.

Now, thanks to Czermak and others, we are able to see, by means of the laryngoscope, the interior of the entire voice organ, to detect lesions, and to apply, under the guidance of our sight, any medicament which we may deem necessary for the diseased surface. Thus medical science is advancing, in every department of its allied branches an annual improvement is taking place, and external scientific aids to medicine are fast raising the status of the practice of the physician from a mere art into a science. I can illustrate this, perhaps, in the most striking manner by a reference to a very few of the advances which have been made during the past year in the departments with which I am myself more particularly identified, namely, anatomy and physiology, in their bearings upon practical medicine.

During the past year much light has been thrown upon the structure of those obscure bodies, the supra renal capsules, by that patient and indefatigable worker, Julius Arnold, of Heidelberg. He has shown that the cortical matter is composed of a threefold structure, which he names *zonæ glomerulosæ fasciculatæ* and *reticularis*; he has demonstrated that there is a twofold system of cortical blood-vessels in this part, and that Leydig and Kölliker have probably mistaken the nature of the medullary corpuscles in considering them as nervous; from his researches the supra renal capsule will probably take place as a blood former or modifier. Chrzonszczewsky has shown that the radical lymphatics are in direct communication and continuation with the corpuscles and vacuoles of connective tissue, which explains the frequency of lymphatic complications in erysipelas, and other similar diffuse areolar diseases; he has shown that the wall of blood capillaries is twofold, one a structureless external, and second, a fusi-

form series of epithelial cells differing from the polygonal cells of the smaller arteries. The same accurate observer describes a complete epithelial lining to the air-vesicles of the lung, thus affording additional evidence on one of the most vexed questions of anatomy.

Bischoff has made many striking discoveries in nerve physiology and anatomy, especially in unravelling some of the more puzzling meshes of structure about the head; he has shown that the lesser petrosal nerve does not join the genuform swelling of the portio dura, but that, as Böck suggested, the communicating trunk is an artery. He has also shown that there are no anastomoses between the three great special sense trunks and other nerves. Thirdly, he has unravelled the connection between the lingual and the pneumo-gastric which he describes as purely areolar, and has shown that the union of the vagus and spinal accessory is inseparable. Max Schultze has made elaborate investigations with regard to the nature of the component parts of the retina, and has done much towards unfolding the uses of that layer, first described by our late worthy Professor of Physiology in the College of Surgeons, Ireland, Dr. Jacob. From certain facts in comparative anatomy, he has inferred that the bacilli of that lamina are perceptive of the quantity of light, while the bulbs and cones are perceptive of its colour and quality.

In our acquaintance with the physiological actions of certain remedies, we have obtained much new knowledge within the past year.

Dr. Brunton, of Edinburgh, has given us a great amount of information on the physiological action of digitaline, showing—1st. That it increases primarily the strength, while it diminishes the rapidity of cardiac action; 2nd. That it at first contracts the capillaries, but finally they dilate before death; 3rd. That it acts as a primary diuretic in health. Aconitine has been investigated by Achscharumow, who shows that it paralyzes the motor nerves of the heart, does not affect the brain, irritates the medulla oblongata, and, by paralyzing the vagi, lowers the tem-

perature and blood pressure. Gamgee, of Edinburgh, has followed Hoppe Seyler, Bernard, and Meyer, in investigating the action of charcoal fumes and carbonic oxide. When blood is placed in contact with this gas, the carbonic oxide displaces a portion of the oxygen contained in combination with the hæmoglobin, and gives rise to the formation of a definite compound nearly incapable of reduction, an important fact as showing the dangerous mode of operation of this poison on the body. The action of the calabar bean, so lately introduced as a powerful agent in ophthalmic surgery, has been thoroughly investigated by Laschkewich, Fraser, and Robertson, its effects have been proved to be the increase of arterial tension, followed by a sudden and rapid diminution ; a sympathetic paralysis shown by permanent capillary dilatation, myosis and cessation of the peristaltic action of the intestines, and by the increase of secretions, mucous, lacrymal, and salivary ; these properties show it to be a remedy of great power and promise, and the success which has hitherto attended the limited application of it in tetanus, and other nervous diseases, in the hands of Giraldes and Watson, lead us to hope great things from its more extended use.

The observations of Leyden on narcotism are likewise worthy of note, as confirming our previous information on that subject, proving that the influence of narcotizing agents increases the endocranial blood pressure, and mydriasis results from the last named condition.

Strychnism has been the subject of examination by Dr. Ingram Spence, who maintains that its action is not principally on the true motor cells of the spinal cord, but on a second series of intermediate cells, and this agent has been chemically detected in the spinal cord by Gay.

An important branch of practical surgical physiology has been investigated by Hermann, of Berlin, namely, the influence of anæsthetics upon the brain and nerve centres, and he has shown, among other things, that chloroform, ether, amyl, and all are capable of dissolving the blood corpuscles, a property due to the solubility of the new

principle protagon, described by Liebreich, which is supposed by Preyer to be a phosphoretted fat ; Hermann has found that this principle exists in considerable quantities in the brain, and has originated a physical theory of anæsthesia that it is due to the chemical action of the inhaled agent conveyed by the blood from the lungs to the brain capillaries.

Now, I have brought all these modern scientific researches, and they are but a few of those which last year has produced, under your notice, for the purpose of showing how much in one department has been done towards the formation of a correct pathology ; and, as I will mention subsequently, a true reliable pathology is the only possible basis for a correct and successful medical practice. It should not be for us blindly to adhere to any line of ideas because our fathers held them before us, but to weigh the evidence given to us by all reliable investigators, and to judge for ourselves regarding the conclusions to which we should come.

Now, I believe the proper course of study for one who wishes to be a true physician is, first, to make himself familiar with all that is known of the anatomy of the human frame, the minute anatomy even. It is a common thing to hear students saying, " Oh, there is no use in our learning the vidian nerve, and those very minute things ;" and it is not long since some sapient practitioner complained of the Court of Examiners for expecting the candidates for letters testimonial, to know the structure of the eye, of the sympathetic and the spleen. But I tell you there is scarcely a nerve-twig in the body which might not give rise to anomalous symptoms, which would give you endless trouble to understand unless your knowledge of anatomy be sufficient to enable you to explain them. Study, then, the minute anatomy of the human body ; and with anatomy, study physiology, for, as Abernethy once expressed it, in his own peculiar quaint phrase, anatomy without physiology, is like an old maid without a dowry. The next step is to gain a knowledge of the changes which

the organs in the body undergo in disease, and this constitutes part of the science of pathology, which embraces not only the study of the changes produced by disease, but also the causes which produces these alterations. This science is, as I have said, the basis of all rational medicine, and until it is studied, even more carefully than it has been hitherto, and more scientifically and systematically in connection with symptoms, we cannot expect to be able to frame a true and perfect system of medicine. The next, and equally important part of your medical education is that which deals with the remedies you are to use in the course of practice, and although the appearances, natures, and properties of each can only be taught in the chemical laboratory, the *materia medica* lecture room, and the botanical class-room, yet it is in the hospital that you have to learn the exact effects of each remedy on the human frame. The physician deals with remedies of immense power, for good or evil, according to the use made of them, and he who meddles with them without a thorough understanding of what he does, is liable to do an immensity of harm.

With regard to each remedy you have to learn—first, what are its effects when given to a healthy subject? and your class-books will furnish you with abundant material for study in this respect. Secondly, you have to study what are the diseased conditions which your remedies enable you to combat, and you will see at a glance that without pathology, therapeutical science is powerless, for, as opposite pathological conditions frequently produce symptoms in some respects closely resembling, it is manifest that he who treats disease with reference to symptoms, and not to pathological causes, will fall into many and egregious blunders. Doubtless this latter mode of medical practice is easy and saves labour, but it is not founded on a true basis, and is open to many and grievous failures. The true scientific basis of medical practice, after which we are all to strive is this, the recognition of the immediate producing cause and conditions of disease, and the correct

remedies to remove the morbid conditions and counteract the cause.

But this will require hard work, intense study, diligent attention, without which, in this age of competition, you will not succeed. Above all, never be ashamed to ask a question if you are not acquainted with any fact or theory, do not be afraid to ask about it. Perhaps few men ever accumulated such a fund of fact or incident as Sir Walter Scott, and this to some extent was his secret. He tells us that he never met a man from whom he did not get some point of information which he did not know before. Remember you will never in after life have such opportunities of learning as you have now, and you have many more advantages of acquiring information than numbers who have had their names inscribed on the roll of fame. You remember the young apprentice of the bankrupt carpenter of Kilbride, who made his way to London, and setting about medical studies with a will, earned for the name of John Hunter the veneration of his successors; or the young blacksmith, known to us as the much-honoured Velpeau, so lately lost to science; or the only son of the poor Coblentz shoemaker, who revolutionized the classification of the animal kingdom, wrote the best book on physiology of his time, and who left a name imperishably associated with the human body as long as the retina has Müllerian fibres, the kidney its capsules, or the Wolffian bodies possess excretory ducts.

The profession which you have chosen has few very great rewards; no snug sinecures with thousands a year and little work. With some in it, there is little to earn and many to keep. But, perhaps, it is not much the worse of that, for there is the less temptation to venality and time-serving. It is the highest point to which any of us can strive, that we preserve a good character for knowledge and skill, and an unspotted reputation, but even that is a sufficient reward for a life of labour. Your place in society will be a high one, unless you forfeit it voluntarily, and few have greater influence and wider spheres of use-

fulness than the members of our profession. "Honour a physician with the honour due unto him, for the Lord hath created him. For of the Most High cometh healing, and he shall receive honour of the King. The skill of the physician shall lift up his head, and in the sight of great men he shall be in admiration."