INTRODUCTORY LECTURE,

DELIVERED IN THE

PHILADELPHIA COLLEGE OF MEDICINE.

SESSION OF 1847–48.

BY

JAMES M'CLINTOCK M. D.,
Professor of Anatomy and Surgery.

PUBLISHED BY THE CLASS.

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PHILADELPHIA, NOVEMBER 16, 1847.

PROF. JAMES McCLINTOCK, M. D.

SIR,

At a meeting of the Students of the Philadelphia College of Medicine, held November 15th, the undersigned were appointed a Committee to request for publication, the very able and interesting Introductory Lecture delivered by you at the opening of your course for the present session. We therefore respectfully request a copy for said purpose, by complying with which you will confer a great favor on the class.

Very Respectfully,

Your Obedient Servants,

N. RICHARDS MOSELEY, of Penn.,
C. DWIGHT PRESTON, of Conn.,
THOMAS KENNEDY, of Va.,
L. G. VINAL, of Me.,
W. Z. W. CHAPMAN, of Mass.,
E. J. RECORDS, M. D., of Del.,
E. BENTLY HALL, of N. J.,
E. de St. ROMES, of LA.,
G. W. LOMAX, of S. C.,
J. C. HATHEWAY, of N. B.,
A. P. GROSVENOR, of N. Y.

PHILADELPHIA, NOV. 17TH, 1847.

GENTLEMEN:

It affords me great pleasure to furnish you a copy of my Introductory Lecture for publication, in compliance with the wish of the class of the Philadelphia College of Medicine, as expressed in your polite note of yesterday.

Please accept for yourselves, gentlemen, and those you represent, the best wishes of

Yours truly,

JAMES McCLINTOCK,
No. 1 North Eleventh Street.

To Messrs. N. RICHARDS MOSELEY, &c.

INTRODUCTORY LECTURE.

GENTLEMEN,—

It has often been my duty to open a course of lectures on Anatomy and Surgery, but never under circumstances more agreeable than on the present occasion. The success of a great enterprise is always a source of joy: and with feelings joyous, even buoyant, I see before me to day the first fruits of a success even more brilliant and decided than the patrons and founders of the Philadelphia College of Medicine could have ventured to hope for. In this spacious hall, one of the most pleasant lecture rooms that either you or I have seen, surrounded, as I shall be, with all the appointments necessary to successful and complete instruction in my favorite branches, and above all, with an audience before me so well disposed to sympathise in all our hopes and rejoice in our success, I cannot, gentlemen, but greet you with more than mere words of courtesy: I cannot but enter upon my duties with better hopes and surer anticipations than ever before.

At such a time, and with such feelings, it would be pleasant for me to amuse you, were it in my power, with a cheerful hour's talk: to select some topic in the history of our science, or its bearings upon practical life, that would admit of ornament and give play for declamation. It would be pleasant, I say, for me to do this,—it might, perhaps, be more agreeable to *you;* and I admit, therefore, both for your sakes and my own, that the temptation is a strong one. But I remember, gentlemen, that, after all, we do not come here, either you or I, to *amuse* ourselves; that although the path of science may be strown with flowers for those that walk in that path with a right spirit, they are flowers that are only to be gathered by the way. I remember that we are now entering upon a long and toilsome journey, and our first duty is to gird ourselves for the road. If you share these views and feelings with me (and I cannot doubt it) I am sure of your patient attention while I shall attempt, briefly, to unfold the extent and importance of the branches which it will be my pleasure and my duty to teach.

To some of you the field is entirely new. You have just commenced your studies, and although you may have some idea of the amount of toil which they will require, it is not to be expected that you should yet know, very distinctly, the ends for which your labor is to be expended. As yet you only see the beginning of the highway over which you are hereafter slowly and carefully to travel. Others of you have been engaged for a longer period in your investigations, and have consequently become somewhat acquainted with the road, and are in a measure familiar with the landmarks erected in its course. That part of my audience which belongs to the latter class, will, I trust, excuse me while I try to present to their junior brethren of the first class, a few remarks upon the outlines of Anatomy and Surgery, upon the mode of teaching which I shall adopt, and the duties which will devolve upon those who honour me with their presence during the ensuing course.

There is nothing more unquestionable than that Anatomy is the basis of medical science. A medical education, without Anatomy, would be like the

play of Hamlet with the Prince left out. To attempt the practice of medicine without anatomical knowledge, and still more, to pretend to perform surgical operations without an extensive and accurate acquaintance with this science, is to practice a gross and criminal fraud upon society. So great, indeed, is the absurdity of thus attempting to build the house without laying the foundation, that I do not suppose you capable of it, and shall therefore not occupy your time with arguments to prove the indispensable importance of anatomical knowledge to the physician, but shall enter upon a direct consideration of the topics embraced under the generic title of Anthropography or Human Anatomy. In this widest sense, it investigates the structure of the body in every aspect, whether in the healthy or diseased condition, or with reference to accidents or surgical operations.

With a view to distinct scientific arrangement, Anatomy has been divided into a number of branches, to the most important of which, I now direct your attention. The parts to which I shall allude are 1st, General Anatomy or Histology; 2d, Special or Descriptive Anatomy; 3d, Pathological Anatomy, and 4th, Relative or Surgical Anatomy. The first, General Anatomy, has for its object the structure of textures, under which is comprised a knowledge of the elements of the organism, and likewise of the proportions in which they combine to constitute the different tissues composing the various organs and systems. The development of this department of our subject has not only greatly enlarged the bounds of the science by the settlement of fixed principles, but has given rise to splendid improvements in the medical art itself. Considered merely in a scientific point of view, Histology is one of the finest generalizations in the whole history of human knowledge; and in point of clearness, precision and beauty, it stands unrivalled in the whole range of medical science.

At first glance, the body presents to us an assemblage of organs and systems apparently very dissimilar, their constituents appearing in both solid and fluid forms. Investigations in General Anatomy have demonstrated that the simplest condition of every animal substance is fluid; it is shown also, in the last analysis, that the elements of the whole organization are capable of reduction, if not to material atoms, at least to microscopic globules or cells which intermingle with this fluid, sometimes in a coagulable and sometimes in a coagulated form. This substance retains its liquid condition in some of the elements, as for example, in the animal fluids. But when coagulated, and combined with the globules, or, as is thought to be the case in some of the tissues, without them, it forms the different solids. When these elementary globules are arranged in a linear series, the interstices being filled with the coagulated fluid, they form, in the simplest combination, a filamentary solid. And by another disposition, the character of which is not fully understood, they constitute delicate layers of solid matter, which, by combining with the filaments, form a kind of areolar or cellular structure. Indeed, the whole class of textures which we call tissue is formed by the various combinations of these elementary forms of matter, under different modifications.

By the union again of several of the tissues, an *organ* is formed. By the combination of two or more organs, the performance of whose functions tends to the same end, though the organs themselves may be, and often are, of a different character, both as to their structure and separate functions, an *apparatus* is constituted: for example, the digestive apparatus consists of the mouth, pharynx, esophagus, stomach, alimentary canal and appended glands, organs very unlike each other, but still all concerned in the performance of the one function, digestion. On the other hand, a *system* is a combination of organs of similar structure; for instance, all the nerves of the

body possess the same constituents and unite to form what is called the nervous system. Thus, by a beautiful series of combinations, we rise up from the simplest forms of organized matter to the entire structure of the human frame, and find that we have employed the same material, been conversant with the same elements throughout.

I have thus given you a very brief view of Histology as a branch of Anatomy, but beautiful as its developments are, and attractive to you as they no doubt already appear from their relations to general science, you will find, as we proceed, that you must apply it more definitely to practical uses in the acquirement of that knowledge so essential to the well informed practitioner of our noble calling.

The province of *Special Anatomy* is to examine the form, magnitude, weight, situations and connections of the different organs forming the system. The human frame is a machine endowed with the power of voluntary motion. But its organization is not permanent; the matter of which it is composed undergoes constant change, union and separation; it dies and is renewed with every moment of time; evidently, then, it has the power of reproducing itself. Again, it has the power not only of self-renewal, but of propagating the species. These several powers are classified in Physiology under the divisions of 1st, functions of relation; 2d, functions of nutrition; and 3d functions of generation. We find full provision made in the organism for the performance of each of these functions. The instruments of motion we find in the system of *bones;* the organs of motion in the *muscles;* in the *ligaments* and *cartilages*, arrangements to facilitate motion by combining pliancy and flexibility with strength; while in the nervous system, we find the *source* of motive power. So, too, for the performance of the functions of *nutrition*, by which the dying atoms are every moment renewed; we find organs for breaking up and preparing the food, others for conveying the prepared materials to the several structures whose waste they are designed to repair, and others for throwing off the effete elements by appropriate channels of depuration. The study of these several organs, and of those employed in the function of generation, constitute the different divisions of Special Anatomy. Even this imperfect sketch of them will suffice to show the impossibility of understanding the process of life without an accurate knowledge of the machinery by which its operations are accomplished.

Pathological Anatomy examines the organism in its aberrations from the normal state. But while, in the first place, it investigates the organic changes produced by disease, it does not stop here, but seeks for the vital modifications that produced them, and for their tendencies to affect the general actions of the system. Considered in this light, it must be regarded as the basis of all sound pathology. To examine this interesting department fully, would take up too much of your present time. I can only assure you of its indispensable necessity to enable you to become skilful and scientific practitioners.

We proceed now to a brief consideration of the last division of this part of our subject, Surgical Anatomy. Our object in this branch of the science, is to investigate the importance of the different organs and structures of the system, in reference to diseases, accidents and surgical operations. Laying aside then, the physiological considerations which formed the chart of our progress, and assigned the order of our movements in the division of Special Anatomy, we must here, with another end in view, adopt an entirely different mode of procedure. We must still learn the size, form, relations, connections and situation of the different organs; but we do not examine them independently of each other, nor with any view to systematic classification,

according to the elements of which their structure may be composed. Our method is topographical then, rather than general. We study a part of the system with reference to its connection with other parts; to the effects which disease or injury in it may inflict upon them, to the ease or difficulty with which it can be operated upon surgically; and to the practicability of its removal from the system, should such a course ever be necessary for the preservation of life. Obtaining, in the first place, a clear outline of the frame, we must fill it up so as to have an adequate picture of the entire surface, fixing the position and defining the character of all its eminences and depressions. We then divide the whole body into regions, either by natural indications or by artificial lines, for distinctness sake. Each of these regions or subdivisions is taken up in turn, and the organs and elements of the structure contained in it studied, so that we may understand its relative importance. Thus we learn where the knife may be introduced, and where its employments must be forbidden, where inflammation may be fatal, and where comparatively harmless; where a blow may cause slight injury, and where it will produce compression, concussion or death.

It must be obvious to you, that, as I have remarked, our course of procedure in Surgical Anatomy must be widely different from that which is so useful in the study of General or Descriptive Anatomy. There our business was to ascertain the structure of the different systems; and in pursuing this investigation upon the dead subject, we cut at pleasure through the superior parts in order to expose those which lie beneath. So in studying the organs entering into any system, we have only to expose and analyse them: and again, in determining the character and relations of the tissues, we employ all our efforts to discover these, regardless of the injury we may inflict upon surrounding parts. But in Surgical Anatomy, our design is far different. Taking the body *as it is*, we examine not the parts themselves, but their relations to each other, and never apply the knife without knowing where it is to cut; avoiding all injury, as far as possible, to the surrounding parts, and reaching our object by the shortest and safest road. It is only by continued study of this kind that the skilful surgeon is educated. Trained by such discipline as this, to perceive at a single glance the relations of all the parts that may be concerned in any operation to which he may be called, he contemplates his dangerous work with a steadfast eye, takes up his knife without fear, and makes his incisions with an unfaltering hand, because he comes to his task with that only preparation that can ensure a genuine courage—an adequate knowledge of the dangers he must encounter and of his capacity to surmount them. Any other boldness than this, in the man who holds the life of a fellow being in his hands, is sheer presumption.

Your attention must now be called for a few moments to SURGERY, that noble branch of our science, whose object it is to obviate the effects of injuries done to the body, whether occasioned by internal or external causes. It is true, gentlemen, that there can be no practical distinction between Medicine and Surgery, that there are few diseases called surgical which may not at the same time as well be called medical, and that, to succeed in the treatment of disease, even by the actual employment of the knife, medical means are generally indispensable. But theoretically, and for purposes of instruction, a distinction may be usefully drawn to the following effect. Whenever the results of injuries must be obviated by the use of *mechanism*, whether by bandages, outward pressure and the like, or by using the knife at once, in direct interference with the organism itself, we are said to employ *surgical* means, and the science which treats of their proper application is called

surgery. As taught in the schools it is usually divided into the Principles of Surgery, and Practical, or Operative Surgery.

The first of these branches, which explains the treatment of lesions of the organism, is by far the most important division of the art, although its lustre is dimmed for many minds by the glare of its more dazzling rival. It is indeed a great thing to use the knife well, but it is a greater thing by far to cure a case without using it at all. To remove part of your patient's body is to mutilate him for life. Dr. Physick truly said, that every surgical operation is only a confession of the imperfection of the art of healing. But yet, in the present state of our science, the use of the knife is often indispensable.

You may make up your minds to it, gentlemen, that if you intend to practice medicine in this country, especially out of the large cities, you must be prepared to perform the ordinary operations of Surgery, and even some of the more difficult ones. I know that many students commit, at the beginning of their course, the grave error of neglecting this branch of our science, in the hope that they will not be called upon to practice it, but I must warn you, earnestly and faithfully, against a mistake so momentous. Few medical men can pass through a practice of many years, out of our cities, as I have said, without being placed in circumstances that compel them either to operate or sacrifice the life of a patient, and their own reputation with it.

And now, gentlemen, what are the qualifications essential to the performance of duties thus manifestly inevitable? Were I to give you the requisites of a *great* Surgeon, I should recount a rare catalogue of natural gifts and acquired advantages; but even for a moderately successful practice, one must possess a degree of knowledge of the human structure, and of the extent to which it will tolerate interference, which is called for in no other branch of the healing art. The firm and steadfast mind, the clear eye and the untrembling hand, which Celsus describes as attributes of the skilful Surgeon, are never due to mere natural gifts alone. The higher a man's qualities in this respect may be, the less he will be disposed to exercise them, unless with a clear and accurate knowledge of the parts to be operated upon, as well as of the mode of peforming the operation itself.

I should be a traitor to my office, gentlemen, if I did not enforce upon you the necessity of sound and minute anatomical knowledge in order to a successful practice of even ordinary Surgery.

Is it not obvious upon the first view of the question, that the man who is to decide when the knife shall be used to remove a part of the human organization, and who is afterwards to wield that knife, ought to be thoroughly acquainted with the organization itself. Have you ever heard or read of a good Surgeon who was not a good anatomist?

All men, gentlemen, who have gained skill and fame in this branch of our art, have done it more by thorough anatomical knowledge than by any other one quality or acquirement beside. Genius they may have had, and knowledge, and self-possession—but neither genius, nor knowledge, nor self-possession, will guide a man's hand safely among the narrow channels of the living body when a single false movement may endanger life or limb, unless he *know the way*, and that he cannot know without anatomy. So obvious is this fact, so manifest is the absurdity of cutting and carving at the human body without a thorough knowledge of its structure, that you may perhaps suppose that no one would be so fool-hardy as to attempt it. Yet I assure you that I have met with more than one such case myself.

Taking it for established, then, that the basis of Surgery must be laid in Anatomy, I shall endeavor to set forth the *principles* of the science simply

and methodically, in the course of the lectures, and to illustrate the *practice*, by performing all the major and minor operations on the subject, in your presence.

I have thus glanced, briefly and cursorily indeed, at the two great branches which it is my business to teach, and at their connections with each other. It is proper that I should now say a few words to you in regard to the manner in which I shall try to discharge the duties devolving upon me. I come to you with no high or lofty pretensions, but, offering you the advantage of what little experience and skill I may have acquired in more than a score years' unwearied devotion to the sciences which I profess to teach. It is for you to decide whether the offer is worthy of your acceptance. Whatever industry and zeal can do, I will render to you here, and shall rely with entire steadfastness upon your gentlemanly feeling, for all the indulgence which my circumstances may require. As to *modes* of teaching, I profess no peculiar views. Whatever use may be made elsewhere of quackery and charlatanry, no recourse shall be had to them here. There is no royal road to learning in ours, more than in other branches of science, and I promise you no new machinery for grinding out anatomical or surgical knowledge. To present the leading principles of these sciences clearly—to expose the parts involved in any discussion with precision and accuracy—to state the latest discoveries in this or other countries—to direct your attention to essential features, and prevent any waste of time by a misapplication of your efforts—these are the duties of a good teacher, and these I shall endeavor faithfully to discharge. Without unnecessarily occupying your time in verbose description, for the purpose of showing what I know, I shall endeavor to instruct you in what you *ought* to be familiar with, and thus to explain to you everything which will be of practical advantage.

You will find, gentlemen, that in addition to the duties of the lecture room, there is another and a most important theatre of study in our departments. You may rest assured that all the advantages of books and lectures which you may enjoy will not compensate you for a neglect of dissection. It is *utterly impracticable* to obtain a sufficient knowledge of Anatomy to fit you for the duties of the profession, without dissection. I speak positively, gentlemen, because I deem it of the utmost importance that you should have right views on this subject. A diploma, indeed, you may obtain; you may go out into society and secure practice; but as to becoming skilful physicians or Surgeons, without the knowledge that can be obtained *only* by dissection, it is preposterous. The profession, to be sure, contains many men who pass current in society as respectable physicians, who have never handled a dissecting knife in their lives; but then, gentlemen, these are the *quacks* of the profession, the sciolists who bring contempt upon our noble calling in the eyes of all thinking men.

I am assured that you have no intention to settle yourselves among the band of dunces that disgrace our noble vocation. Your presence here declares the contrary. Bear with me then while I reiterate the declaration that the *dissecting room* is to be your principal anatomical school, the dead subject your best text book, the knife your surest assistant. By being diligent here, and only so, can you become accurate and skilful anatomists.

This department will be under the care of Dr. S. R. McClintock, Demonstrator of Anatomy, who will not only devote as much of his time as may be necessary to the duties of the room, but will also recapitulate, to those who take his ticket, the lectures on Anatomy.

As to material for dissection there is no probability that we shall suffer from a deficiency of supply, for in addition to our share of subjects furnished in

this city, we have special arrangements which will ensure any number we may desire, so that I think I can say with certainty that in this respect we shall be abundantly furnished. Nor has it been necessary for us, in making these arrangements, to enter upon such undertakings as have sometimes been resorted to by medical men, and which have frequently led them into strange scenes of adventure. Vesalius, an eminent anatomist of the sixteenth century, was among the earliest of the moderns who pursued human dissection to any great extent; and he gained himself an immortal name by his discoveries. His disciples imbibed all his enthusiasm for dissection, and had to undergo great hardships and hazards in that age of prejudice, in obtaining material. "They prowled by night in charnel houses, they dug up the dead from the grave, they climbed the gibbet, in fear and silence, to steal the mouldering carcass of the murderer; the risk of ignominious punishment, and the secret sting of superstitious remorse, exalting, no doubt, the delight of these useful, but not very enviable pursuits." And, by the way, Vesalius himself came to a bad end at last on account of his devotion to science; for the Inquisition condemned him to death on a charge of dissecting a Spanish gentleman before his life had departed; a punishment which he only escaped by undertaking a pilgrimage to Jerusalem, in the course of which he died on one of the Ionian Islands. But here, gentlemen, you will find ample means to gratify any passion with which you may be inspired for anatomical practice, without undertaking any such romantic or perilous adventures. It is earnestly hoped that you will avail yourselves of them.

But, gentlemen, while I promise faithfully to discharge the duties devolving upon me, you have equal obligations resting upon you. It is the less necessary, however, that I should insist upon these, as your presence here is a sufficient proof that you are conscious of them. I trust you desire not merely to obtain diplomas, but to secure that of which the diploma has been heretofore the certificate, a sound medical education. I am happy to say that I believe the tone of our profession is gradually rising in the country; that in most schools, diplomas are not so freely granted as formerly; and that the general character of medical men for intelligence and competency is better than it was twenty years ago. Let me assure you, therefore, that it will require better attainments to give you a standing in the profession now, than if you had entered it years ago. Enterprising young men in all the land are studying medicine with a new zeal; the opportunities of improvement are vastly greater than formerly; all appliances and means of cultivation are within your reach; and accordingly, the public and the profession will demand better things at your hands than were expected of your predecessors. Resolve, gentlemen, that you will satisfy these reasonable expectations. Resolve that you will not add to the number of drones that infest our noble profession. Adopt for yourselves a high standard of scientific and professional excellence. Strip yourselves for the race of distinction. The goal lies afar, but it may be reached. Not as victors, however, will you reach it, except by straining every limb and every muscle to its utmost tension. Turn either to the right hand or to the left, and a more vigilant and persevering competitor will pass you in the course, and seize the laurel even before your eyes. You must toil, then, unceasingly, if you would be successful or elevated in your calling, for by this means only can you attain, what I hope you all aspire to, a prominent position in your noble profession.

PHILADELPHIA COLLEGE OF MEDICINE,

FIFTH, SOUTH OF WALNUT STREET.

THE SPRING AND SUMMER COURSE OF LECTURES FOR 1848, will be commenced on Monday, March 6th, 1848, and be continued four months, by the following faculty:

JAS. McCLINTOCK, M. D., *General, Special and Surgical Anatomy.*

J. R. BURDEN, M. D., *Materia Medica and Therapeutics.*

D. P. GARDNER, M. D., *Chemistry.*

HENRY GIBBONS, M. D., *Theory and Practice of Medicine.*

LOUIS H. BEATTY, M. D., *Obstetrics and Diseases of Women and Children.*

JAMES McCLINTOCK, M. D., *Principles and Practice of Surgery.*

HENRY GIBBONS, M. D., *Institutes of Medicine and Medical Jurisprudence.*

S. R. McCLINTOCK, M. D., *Demonstrator of Anatomy.*

RICHARD BURR, M. D., *Prosector of Surgery.*

Fee for the full course, $70. Fee for those who have attended two full courses in other Colleges, $40. Matriculation to be paid once only, $5. Graduation $20. Practical Anatomy, including Recapitulatory Lectures, $10. The Dissecting Rooms will be opened on the 1st of March.

From arrangements now pending there is every reason to hope that the chairs of Anatomy and Institutes of Medicine will be occupied by distinct Professors at an early period.

For further information inquire of

JAMES McCLINTOCK, M. D., DEAN,
No. 1 *North Eleventh Street.*

Philadelphia, December, 27, 1847.