

Mott (V.)

NEW YORK UNIVERSITY—MEDICAL DEPARTMENT.

No. 11

AN

INTRODUCTORY DISCOURSE.

DELIVERED IN

The University of New York,

SESSION MDCCOXLIX—L.

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BY

VALENTINE MOTT, M. D.,

PROFESSOR OF SURGERY.

NEW YORK:

JENNINGS & HARRISON, PRINTERS, 122 NASSAU ST.

1850.

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NEW YORK UNIVERSITY, MEDICAL DEPARTMENT, }
 October 31st, 1849. }

PROFESSOR MOTT,—

Dear Sir—At a meeting of the Students of the Medical Department of the University of New York, held October 30th, 1849, JOHN M. SNYDER of Memphis, Tenn., being called to the Chair, and JOHN A. DICKSON of North Carolina, appointed Secretary, it was unanimously

Resolved, That a Committee be appointed to present to PROFESSOR MOTT the thanks of the Class for his able and instructive Introductory Lecture, delivered on the evening of the 29th inst., and to request a copy of the same for publication.

The undersigned having the honor thus to represent the class, take the liberty of adding to the message they were delegated to convey, their personal solicitations that you will not refuse to confer upon them so great a favor.

We remain, very respectfully, your ob't serv'ts,

J. M. SNYDER, *Tennessee*, Chairman.

E. W. POPE, <i>Nova Scotia.</i>	A. P. DALRYMPLE, <i>Maryland.</i>
J. K. MIGHT, <i>E. Canada.</i>	E. L. WAGER, <i>Virginia.</i>
D. B. WRIGHT, <i>W. Canada.</i>	J. J. REGISTER, <i>N. Carolina.</i>
L. H. GULICK, <i>Sandwich Islands.</i>	J. D. O'BANNON, <i>S. Carolina.</i>
S. D. WASHBURN, <i>Maine.</i>	M. P. DEADWILER, <i>Georgia.</i>
E. G. BARTLETT, <i>New Hampshire.</i>	H. SHEARER, <i>Alabama.</i>
G. W. McKEON, <i>Vermont.</i>	J. M. TODD, <i>Mississippi.</i>
T. H. SMITH, <i>Massachusetts.</i>	A. GRIMES, <i>Louisiana.</i>
D. A. FOX, <i>Connecticut.</i>	W. H. BRADFORD, <i>Florida.</i>
C. E. NICHOLAS, <i>Rhode Island.</i>	J. S. STEVENS, <i>Ohio.</i>
T. WALSH, <i>New York.</i>	W. H. CUNNINGHAM, <i>Kentucky.</i>
W. KITCHELL, <i>New Jersey.</i>	G. L. ANDREW, <i>Indiana.</i>
J. A. GLENN, <i>Pennsylvania.</i>	S. W. EVERETT, <i>Illinois.</i>

J. A. DICKSON, *Secretary.*

DEPAU PLACE, Nov. 1st, 1849.

JOHN M. SNYDER, and others,—

GENTLEMEN,—I received this morning your kind and flattering note. The Discourse you refer to, was delivered in compliance with the wishes of my colleagues, the Medical Faculty of the University of New York, and was not written for publication.

If you think it will be gratifying to your friends and the class to have it published, it is at your service.

With sentiments of great regard, I remain your friend,

(Signed)

VALENTINE MOTT.

DISCOURSE.

GENTLEMEN, STUDENTS OF MEDICINE :—

The period has again arrived when it is at once my privilege and my pleasure to welcome you to these Academic halls. With the faces of many I am familiar. I rejoice to see you again at your posts, and eager, I hope, to pursue, with assiduity, the acquisition of knowledge which you have so happily began. You return, I trust, refreshed by a period of comparative repose, passed in the homes of your childhood, and in the bosoms of your families, during which you have, I hope, pondered upon the information which was here imparted; arranged in your memories the facts and principles laid down to you, and are not only prepared for a vigorous advance in science, but better qualified to profit by the lessons of your teachers.

Others, again, I see here, who, as yet, are strangers to me. We shall soon, I hope, become intimate; and when we again separate, I shall have, I trust, equal reason to be gratified with the punctuality and diligence of the new class, as of the old.

To all, I may safely say, that they enter upon and pursue their medical studies under the brightest auspices. Never, since medicine has been taught as a science in this country, have such advantages been presented to the medical student, as at the present time. If, to begin with their enumeration, we consider the condition of the Institutions devoted to his instruction

in the sublime mysteries of his high and holy calling, we shall find that they scarcely admit of improvement. Capacious and commodious edifices are erected for the reception of the student—arranged with perfect adaptation to his wants and comforts. Faculties, composed of men of undoubted eminence and learning in their profession, selected from the great body of the fraternity for their peculiar adaptation to the duties which devolve upon them, stand ready, with conscientious zeal and consummate ability, to develop to him the principles and practice of his art.

Nor is the *materiel* for illustration less copious and appropriate.

Spacious, well ventilated and cleanly dissecting rooms, amply supplied with subjects, presided over by accomplished demonstrators, are prepared to initiate him into the most intimate acquaintance with the fearful and wonderful machinery of the human fabric. Museums, rich in every variety of preparation of natural parts, by which the skill and industry of man has contrived, in a thousand ways, to demonstrate its component parts, their internal structure, and their anatomical relations, are open for hourly inspection; rich, too, in every variety of singular and mal-conformation, and in illustration of the ravages and the nature of Disease.

The exquisite designs of the later eminent pathologists, supply to the professor of Theory and Practice the amplest opportunity of exhibiting to his class the minute Morbid Anatomy of the diseases which he describes; and scarcely any have not been figured with a beauty and life-like accuracy which a glance at the morbid specimen serves only to confirm. The cabinet of the professor of Materia Medica is replete with every variety of vegetable substance, indigenous and exotic, used in the practice of the healing art; and with

the principles which Chemistry has extracted from them by their destructive analysis. Every simple and mineral body, with its compounds, is to be found upon its shelves. Colored plates of the vegetable *Materia Medica* adorn its walls; and the diligent student need not, and ought not, to be unacquainted with the outward appearance, color, smell, taste, &c., of every substance which he is hereafter to dispense in the exercise of his vocation.

The high priest of *Lucina*, too, falls not a whit behind his brethren in the amplitude of his resources for the imparting of a thorough and accurate knowledge of his most delicate, difficult, interesting and important department of the *Iatric art*. To allude to the facilities given to the professors of *Anatomy and Surgery*, for the illustration of their lectures, after a notice of the perfection of our dissecting rooms and museums, and the skill and zeal of our demonstrators, would be superfluous. And a glance at the varied and costly array of *Chemical and Philosophical apparatus*, contained in the cases of the unsurpassed apartment in which the truly eminent professor of that most delightful, instructive, and important department of your professional education, unfolds with a true eloquence, based upon a profound knowledge of his subject, the invaluable resources with which Chemistry has endowed the *Materia Medica*, and reveals the hidden mysteries of that inestimable science, will convince you, that nothing is wanting in that department, in the principal medical schools of our Union, for the perfecting of the student in its countless minutiae.

In short, Gentlemen, I need but ask of you to perambulate these halls to-night, opened for your and the public inspection—to attend a very few only of the prelections of your professors, to be fully assured, that

everything that can contribute to the comfort and instruction of the student, is now a part of the organization of a well endowed, well managed, and well patronized Medical School.

In this enumeration, Gentlemen, of the superior advantages enjoyed by the medical student at the present epoch, immeasurably greater than in the past, derived from the perfection of the organization of our medical schools, I have left unattended to the Clinics and the Text-books of the day. Of the former I shall speak hereafter. In regard to the latter, I cannot forbear to congratulate you upon the very great advantages you enjoy in their superiority to those of former times, and in their perfection of adaptation to the purposes for which they are designed.

But a few years since, I could only place upon the table in my office, for the use of my students, the works on Practice of Cullen, of Gregory and Thomas—the Anatomy of Munro, of Bell and Wistar—the Obstetrics of James, Burns and Dewees—the Surgery of the Bells and of Cooper, and the Materia Medica of Cox and Murray; books that are now seldom met with, if in print, and which no student of the present day would purchase at any price. When we contrast the earlier Text-books of the Schools with those which have succeeded them, you will see that my eulogy is not overstrained. Many professors in Medical Schools, both at home and abroad, have either prepared original works upon the branches which they teach, as text-books for their classes, which in fullness of information, and clearness of enunciation, leave nothing to be desired; or have edited the works of others with ability. In Anatomy, we have now the great works of Wilson, of Harrison, of Cruveilhier, of Horner, of Quain and Sharpey; in Physiology, of Müller, Carpenter, Roget, Dunglison,

and the yet more recent and elaborate labors of Todd and Bowman.

In the Practice of Medicine, we have now to boast of the entertaining and instructive volumes of Watson, the works of Wood, of Dunglison and of my worthy and talented colleague, Dickson. In Surgery are now extant and easily accessible to all, the able lectures of Ferguson, Miller and Liston—the mighty work of Chelicos, and the still more voluminous and comprehensive tomes of Velpeau, which, translated and so ably edited and copiously enriched by my late lamented friend, Dr. P. S. Townsend, and to whose pages the experience of him who now addresses you has made additions, neither few, nor he hopes, insignificant, is an almost perfect compendium of the art. In Midwifery, the unsurpassed work of Churchill and that of Chailly, so ably translated, improved and favorably recommended by my talented colleague, the Professor of Obstetrics; to say nothing of Moreau, Maygrier, Ramsbotham, Murphy, &c., leave nothing to be desired; whilst of every remaining branch of medical science, the same may be justly said.

Independently of the excellence of their arrangement, the extent of scientific information which these works contain, and its being brought thoroughly up to the level of the science at the present day, the excellence of their typography, the beauty, fidelity and number of the illustrations with which they are supplied and embellished, and their multitudinous notes, contribute in a high degree to facilitate the progress and increase the comfort of the student.*

*The author regrets to have recollected since the delivery of this Lecture, that, owing to the haste in which it was composed, injustice has been done in that portion of it which alludes to the literature of the day, to several of his colleagues of this Faculty. Under the head of text-books of Anatomy, for example, no notice was taken of the editions of Cruveilhier

But, Gentlemen, if such be the state of the literature of the profession, at the moment at which you enter upon its study, how much more must we be amazed, gratified and interested, upon a survey of the present actual condition of the Sciences themselves, which constitute in the aggregate that of Medicine, and which it is the separate business of each professor of this Faculty to unfold to you? Here, indeed, is a wide field for exultation and self-gratulation.

Never since Medicine was cultivated as a Science, has it been studied as at the present day. The chimeric imaginings of a Stahl, a Hoffman and a Cullen, have yielded to the safer and calmer results and reasonings of a strictly inductive philosophy, in the labors of a Bright, a Carpenter, a Bowman, and an Andral. The pathology of a Lientaud, a Morgagni, of a Baillie even, meritorious at it was, sinks into insignificance by the side of that of a Hope, a Carswell, a Bright and a Cruveilhier. The fallacies of a Boerhave, in his day the most eminent of his profession, and the Chemistry which he taught, and upon which he founded alone the principles and the practice of his art, fall before the searching analysis of a Liebig and a Müller.

and Masse by his distinguished colleague, Professor Pattison. The vast learning, research, industry and logical acumen evinced by his friend, Professor Paine, in his great works, (the Medical Commentaries, the Institutes of Medicine, and Materia Medica) and which are among the most elaborate and valuable contributions to the Science of Medicine and its accessory branches—Physiology, Pathology and Practice—ever made by our own country, had escaped what they so richly merited, a particular allusion. The valuable additions made by the late lamented Revere to the Physiology of Magendie were not indicated. The outlines of Chemistry of Professor Draper, and though not strictly a text-book, the work of Professor D. on Light, may be fairly included in the above list, as decidedly one of the ablest productions of American Science, and as completing the summary of proof of an ardent devotion to the advancement of Medical Science, and high professional and scientific attainment on the part of the Faculty of the University.

Consider for a moment the precision which Diagnosis has attained by the observance of physical signs, chemical tests and a more accurate Pathology. Think how the Surgery of the day, with its ceaseless progress and improvement, both of principle, capability, and appliances, compares with that of the ruder, the barbarous days, I may say, in which Pare and Garangeot flourished, and compare, lastly, the Obstetrical art at this time, with its condition when Chamberlain first employed, and Smellie improved, the most useful of our embryulcic instruments. I say nothing in this place of the recent employment of anæsthetic agents, because I shall allude to them as they deserve, at a later period of this discourse.

Lastly, consider, Gentlemen, the immense and valuable additions which modern Chemistry has made to the *Materia Medica*, which were unknown to our ancestors, and say, whether at the present day the science of medicine has not attained to a height to which, at no previous time it had begun even to aspire.

In every part of the globe where Medical Science is cultivated, thousands are at work in attempting the solution of its mysteries, and with more or less success. The periodical press teems with the innumerable, interesting and important results of their isolated labors; while larger tomes collect their scattered stores, deduce from them facts and principles, erect theories and explain phenomena, and apply them to the elucidation of problems, physiological and pathological, and to the treatment and cure of disease. The Anatomist and Physiologist, armed with the scalpel, and aided by that important instrument, whose great perfectionment in modern times has contributed, and will hereafter contribute so much to our knowledge of diseased and healthy structure—the microscope—are busily subject-

ing every organ and tissue to the most rigid scrutiny, to establish the nature of their internal structure, the very manner even of its development, its anatomical relations, and its physiological purposes. Aided by the same high power, the pathologist seeks, and in some instances has found, in the minute investigation of diseased tissue, the evidences of an arrangement of component parts that distinguishes malignant from the simply abnormal tissue, and detects, amid the ravages of disease, the secret of its destructive energy, and thence infers the rationale of the cure.

The Chemist is everywhere occupied in subjecting to analysis, not only the animal tissues, but their component parts, and deducing thence, equally, the explanation of many of the most interesting and important phenomena of life, and the means of controlling its higher functions. It is not possible, gentlemen, to estimate too highly the claims of Organic Chemistry upon your attention, nor the deep and intimate relations which it bears to the most subtile phenomena; nor, with all its apparent contradictions should we suffer our confidence to be shaken in its methods of investigation. The truth, however, must sooner or later be apparent. For all its problems are, in the last resort, resolved by the balance—that severe and impartial instrument, whose introduction into chemical investigation has changed the whole face of science, and which appeals to the most unalterable attribute of matter.

To Lavoisier, guided by a new and profound thought, by the motto, “nothing is lost, nothing is created,” is owing the introduction of this instrument, and the physiological revolution now so happily in progress, and of which the future fruits are incalculable. Organic Chemistry and Structural Anatomy, are now in-

dissolubly united, and function is regarded as the result of their mutual relations.

Nor is the attention which is now paid to the practical part of Medicine less rigorous, or its results less cheering. Bringing to the aid of a most rigid scrutiny and interrogation of the rational, the strictest exploration and the most satisfactory explanation of the physical signs, and aided by the light which Chemistry and the microscope throw upon its phenomena, the nature and locality of disease are now established with a certainty to which the physicians of former ages were entire strangers, and a scientific and rational basis afforded for the application of the means of cure. The true value of remedies is tested with care in extensive series of cases; symptoms accurately noticed and compared with the results of the most critically conducted autopsies; results are recorded in numerical succession; and thus are fading away, before the illuminating rays of a truly scientific *ratio medendi*, the innumerable errors and prejudices of a past empiricism, and the *farrago* of so-called remedies, which, prescribed according to some false and fancied theory, served but to delude the physician when apparently successful, into a false conviction of their efficacy, to deceive or injure the patient, and to discredit the art.

This, Gentlemen, is the only scientific and rational practice of legitimate medicine, as contrasted with empiricism and routine. This it is which truly merits the confidence of the public—this it is, as far as it is yet established, which I thank God, you will here be taught, which you will teach, and which you will practice; destined, as I trust you are, to be the pioneers in the spread of a truer pathology, a more successful treatment, a higher glory of our divine and inestimable art.

Permit me, Gentlemen, to survey, briefly, and imper-

fectly—for, indeed, without a most extended research from the beginning, I could only so accomplish it—the present state of some of the separate branches into which the Science of Medicine is divided, as deduced from the labors of the investigators of the past quarter of a century—a period rich in results, I hesitate not to say, beyond any that has preceded it, of which the beginning is only, and of which you may, individually, augment the amount and importance, to your own and your country's glory, and the good of humanity.

The science of Anatomy and Physiology, in their very nature inseparable, how differently are they studied at the present day, as compared with the past! The one is no longer the abstract and dry detail of parts and relations, nor does the other consist wholly in crude and often hypothetical notions of function, founded often upon fallacious experiment and incorrect ideas of structural arrangement. Without claiming for them at the present time any infallibility of perfection or pretending to assert a perfect harmony in the views and deductions of their cultivators, and while acknowledging that there is much that is discordant yet to be reconciled, many errors of observation yet to be corrected, and an immense *lacuna* of knowledge to be supplied, to the effecting of which our present means, greatly improved and extended as they are, are wholly insufficient, it cannot be denied that the progress of these sciences, within the last twenty years, has been great, and the basis on which they are now pursued that alone which promises success; and that from the vigorous prosecution of the researches now in progress, and in which it is, Gentlemen, your happy privilege to be about to engage, the most brilliant results are to be expected.

The Anatomy of the day is textural—the Physiology

chemical; and it is by their combination and modes of research, that the nature of the organs and of the functions which they exercise in the economy are being revealed, and at every step new cause elicited for astonishment at the intricacy and perfection of the wonderful mechanism by which organized beings are created, reproduced, live, move, and have their being—new motives for reverence for the wisdom and beneficence of the great Author of Creation.

“It is the province of Physiology,” say the ablest authors of our time, “to investigate the ways in which the functions of living beings are effected; and their investigation naturally involves the examination of their mechanism, of their chemical constitution, and of the properties of their component textures. The study of Anatomy must always accompany that of Physiology. The history of the last shows that it made no advance until the progress of anatomical knowledge had unfolded the structure of the body. There is so much of obvious mechanical design in the intricate structure of the various textures and organs, that the discovery of that structure opens the most direct road to the determination of their uses.

“A correct Physiology must ever be the foundation of Rational Medicine. In Medicine the first step towards the cure of disease is to find out what the disease is, and where it is situated. Without a knowledge of the offices which various parts fulfil in the animal economy, our search to determine what organ or function is deranged must be most vague and indefinite.

“Pathology is the Physiology of disease, and it is obvious that no pathological doctrines can command confidence, which are not founded upon accurate views of the natural functions. It is also certain that im-

provements in Pathology must follow in the wake of an advancing Physiology."

If then, Gentlemen, such are the inevitable and indispensable necessity—the inestimable advantages—the deep interest—the rich rewards, of a devotion to a close and untiring investigation of these momentous branches, should I not fail in my duty as your teacher and monitor, your guide and friend, alike to you and my profession, if I did not impress upon you, with all earnestness, the duty of their cultivation? Can I do otherwise than congratulate you upon the delightful task that is in store for you—the rich returns which await your zeal and perseverance? Nor are these all the sources of pleasure and instruction which lie open to you.

I can briefly allude, only, in this place, to the importance of the study of Comparative Anatomy, of the Microscope, and the study of Organic Chemistry. "In the living body," say the sagacious writers from whom I have borrowed, "the most delicate chemical processes are unceasingly going on, for the formation of new compounds, and the destruction or alteration of old ones. It is evident that no progress can be made in the investigation of these invisible processes, unless we can arrive at an exact knowledge of the chemical composition of the various substances which are employed in them." "Henceforward," they continue—and the remark is one which, I trust, will bias your pursuits and control your studies, not only whilst nominally students, but when, really students, you enter upon the active duties of the study and practice of your profession, for which you are now only laying the foundation,—“Henceforward, in physiological research, anatomical and chemical analysis must go hand in hand—the

former to ascertain the minute mechanism of the various processes ; the latter, to determine the nature of the affinities by which the compositions of the living laboratory are effected."

The textural Anatomist begins his researches with the very earliest embryonic trace of existence—the formative cell. He notes its wall, its nucleus, and its nucleolus. He sees, with wonder and delight, new cells developed within the old—(so incalculably minute, remember, that the aid of the most perfect and powerful lenses alone can enable him to watch their progress)—the nucleus dividing into segments, and the formation of a cell around each, which then becomes the nucleus of a new cell, and each in its turn the parent of other nuclei—or, the formation of a granular deposit between the cells in which the development of new cells takes place. Thus, and by ulterior changes, wonderfully and mysteriously, under the fiat of Omnipotence, are formed the elementary parts of tissues, normal and pathological.

Where fibrous, the cell membranes—(fancy, if you can, Gentlemen, their tenuity and their own ultimate organization,)—elongate, and become so folded or divided as to give the appearance of a subdivision into minute threads or fibres. In the muscles and nerves, the cells are joined end to end, and the partitions at each extremity being removed, their cavities communicate, so that, together, they form a tube or sheath, in which the deposit of the proper muscular or nervous matter takes place. The smallest or capillary blood vessels, also, are formed by the coalescence of the walls of the cells, not at one or two, but at several points, owing to their elongation, here and there, into pointed processes, which unite and form the ramifications of the vessels.

From minute organic elements, the cells continue, throughout every period of its existence, to perform the most important agencies in various functions of the body. By them the secretions are separated, and most of the organic processes effected, from the separation of the embryo from its parent, to the development, growth and nutrition of the adult individual.

Such is a mere allusion to one of the multitudinous mysteries of animal organization, which the science of Anatomy at the present day reveals to us, the further investigation of which is replete with interest and importance, which it will be your pleasing task to pursue, and of which it will be your duty to acquire a thorough knowledge.

I might occupy your attention for hours in alluding only, with equal brevity, to other equally curious and important results of the recent investigations into textural and organic Anatomy. The influence of simple transudation; the remarkable property first described by Dutrochet, *endosmose* and *exosmose*, in effecting secretion and absorption; the singular phenomenon entitled ciliary motion, in the transmission of fluid particles to their proper reservoirs, &c., are among the number.

But I have said enough, I trust, to convince you, not only of the deep interest and value of the study, but to show, as I originally intended, the minuteness of investigation which is devoted to the study of Anatomy and Physiology at the present day, and the magnitude—imperfect as they yet are—of its results.

If now, we turn our attention for a few moments, to the present state of the science of Chemistry, we shall find that, both as it respects Physiology, Pathology and Therapeutics, it has the strongest claim upon our regard. It has already been remarked that, by the application to it—following the example of Lavoisier—of

weight and measure, it has, in a singularly short period reached a high degree of perfection.

Previous to this time, and so long as the investigations of its votaries were confined to inorganic Chemistry, but little service was rendered to Physiology and Pathology; but during this period, Physiology has acquired new ways and methods of investigation within her own province. "Useful as is the most exact anatomical knowledge of the structure of the tissues, it cannot teach us their uses; nor the minutest microscopical examination, the functions of organs. The most beautiful and elevated problem which the human intellect can propose to itself—the discovery of the laws of vitality—cannot be solved without an accurate knowledge of chemical forces; and the *qualitative* method, which Physiology has so long applied to the investigation and removal of morbid conditions, brings us not a step nearer to a knowledge of the former, nor to that of the causes and essence of disease. Useful remedies, or modes of treatment, might indeed be accidentally discovered; but a rational Physiology cannot be founded on mere reactions, and the living body cannot be viewed as a chemical laboratory only." The great processes of sanguification, respiration and nutrition, can only be explained with any semblance of probable truth, by the application to the investigation of the *quantitative* method of research, employed by the chemists of the present day. "Before the time of Lavoisier, Scheele and Priestly," says the pioneer and master spirit of the age, the illustrious Liebig, "Chemistry was not more closely related to Physics than she now is to Physiology. Equally fused at the present day are Chemistry and Physiology; and, in another half century, it will be impossible to separate them." It cannot be doubted, I think, that by continuing the

researches which have already been commenced, a new Physiology, and a rational Pathology, both of which have already received very considerable improvements, will be the result.

It is true that we have as yet but a very unsatisfactory account of the Chemistry of the healthy and morbid structures of the human body, and that our ideas are extremely vague with regard to the influence of remedies on the chemical compositions of the animal tissues, fluids and secretions. Nay more, we have but an imperfect knowledge of the changes to which remedial agents are subject during their passage through the animal economy, and respecting the means whereby therapeutic and toxic agents are expelled from the human body. But these, if sources of regret, are not motives of despair. We must labor on, and are, it is to be hoped, now on the true path for the recognition of great truths; and much even has already been done.

The chemical relations of the secretions are found to be extremely constant; the blood is found to vary in the normal proportions of its component parts in many diseases, in a manner to assist diagnosis, and suggest both principles and means of therapœia; and many of you know how much has been done by chemical analysis, in assisting in the diagnosis and treatment of that numerous class of cases which depend upon disease and derangement of the functions of the organs by which the great process of systemic depositions is effected—the kidneys.

But all these interesting subjects, and many others connected with them, are in process of investigation, and a wide field lies open, which I cannot too strongly advise you to assist in cultivating with all the ability you may possess. It is a “placer” in which you may

dig both gold and golden opinions, with far more ease, safety and satisfaction, to yourselves, than upon the borders of the San Sacramento.

I had intended, Gentlemen, to pass briefly in review the state of the other departments of Medical Science, but the steadily advancing finger of the silent monitor on the table, admonishes me to confine my remarks to that one only, of which, for now forty-five years, I have been an ardent, and I hope I may without vanity say, not an unsuccessful cultivator.

Of the present state of his art, the surgeon may, indeed, be proud, whether he looks to the conscientiousness and humanity with which it is practised—to the science to which it is reduced—to the splendid triumphs in the relief of suffering humanity which it achieves—or, to the perfection of its armamentarium, in which, thanks to the combined ingenuity of the surgeon and the cutler, the most ingenious instruments may be found, to effect and facilitate the performance of the most delicate and difficult operations in Surgery. When he reflects upon the accurate knowledge now possessed of the relative Anatomy of the body, and the consequent dexterity, firmness, safety, and success, which are imparted to the operator and the operation—upon the helps to the attainment of this indispensable knowledge which now abound, and of which it may not be amiss to mention the great works of the Coopers and of Velpeau, the drawings of Quain, of Morton, and, lately, of Maclise, which I cannot recommend to your notice in terms too flattering, as substitutes for the not always present cadaver—and, lastly, upon the men who have distinguished themselves in its cultivation, and of whom too many, alas! even in our own day, have rested from their philanthropic labors, and left but the name which we reverence, and the glory which

hallows it—the Coopers, Liston, Key, Colles, Carmichael, Berard, Deiffenbach, Blandin, and, in our own country, the immortal Physick, Post, Parish, and a host of other bright particular stars, whom it would be easy to enumerate—the heart of the surgeon swells with pride, as he contemplates the present position of his science.

But, Gentlemen, there is a higher glory even than these, which may be boasted of in connection with Surgery at the present day; and while I rejoice, with patriotic pride, that it was the production of the inventive genius of my countryman, I cannot but blush at the mercenary spirit in which it was first attempted to be confined within the restrictions of a patent, for the benefit of an individual. It is the glory of our Science to open its means of relief to suffering humanity, to all—and seek only in the proud consciousness of having served it, and merited its gratitude, for its reward.

I allude, Gentlemen, of course, to the introduction of Anæsthetic agents in the practice of Surgery; and since the discovery of the immortal Jenner, none more useful or universally beneficial has, I venture to say, rewarded the ceaseless efforts of the votary of Medical Science, towards alleviating human suffering. They have disarmed Surgery of its greatest horror. The patient, wrapped in a gentle slumber, dreams, perhaps, the while of the blisses of heaven; not a fibre starts to discompose or embarrass the operator, or to divert his knife in its cautious course between life and death. The most difficult dissection is effected in perfect tranquility; not a cry escapes to distress the sympathizing spectator; and the victim awakes, at the close, to the tardy but rapturous consciousness that his disease has been removed and his agony spared.

Humanity has no greater triumph than at the moment when the patient discovers that all he has dreaded for months—all that has made his days wretched, and his nights sleepless—has been achieved without his consciousness, and without a pang; no greater reward than his tearful smile of gratitude and pleasure, at his escape from pain and misery. Then—then, indeed, is the Surgeon's proud, and the patient grateful.

We cannot, Gentlemen, look unmoved upon this crowning glory and mercy of our art—upon the attainment of this, its long cherished desideratum. I have performed upon the persons of the tender young, operations of magnitude, which, without the aid of Anæsthesia, I dared not to have attempted; and when I reflect upon the blood which I have shed, and upon the suffering I have inflicted, I feel, in witnessing the pain-destroying influence of chloroform, that I have lived long enough, and could almost exclaim with the prophet—"Lord, now lettest thou thy servant depart in peace, for mine eyes have seen thy salvation."

I could say more, Gentlemen, but I could not have said less upon this subject, which so absorbs my thoughts and excites my grateful admiration. Nor have I witnessed, in my many applications of Anæsthesia, the first cause for dread of its consequences. And in the consciousness of its happy influences may we not at length exclaim: Oh! Surgery! where is thy sting? oh! Pain! where is thy victory?

Permit me to revert, Gentlemen, only for a moment, to two or three features in our present plan of Medical Education, to which, in sketching its advantages, I only passingly alluded.

Not the least striking feature in it is the establishment in the various Medical Schools, of the so called Clinic.

Commencing in this city a few years ago, it is now in successful operation in both the Colleges, and in both has attained to a degree of consequence, as a school of practical Medicine and Surgery, worthy of your serious attention. It is a novel and most important feature in Medical Education, and has been generally adopted throughout the Medical Schools of the Union.*

One clinical lecture, with the patient before you, is worth a score of lectures in course, and an atlas of delineations. It is the book of Nature, whose pages you can peruse for yourselves. Your Professor interrogates the patient before you—points out to you the significance of his replies—investigates his disease, and details the results of his investigation—deduces his own conclusions as to its nature and treatment, and communicates to you the grounds of his deductions—describes and explains the symptoms, and points out to you the errors into which you may fall, in their estimation, and in their comparison with congenerous cases. The minor operations of Surgery, too, are performed in presence of the class. Of the inestimable advantages of such a system of truly bedside and practical instruction, your own common sense must easily persuade you. I hope to find you always attentive to this department of your studies, which, as it devolves upon me in the organization of this Institution to attend to, I shall spare no pains to make interesting and instructive to you.

Permit me to recommend to you, also, in the strongest manner, a punctual attendance upon our excellent City Hospital, the Bellevue Hospital, and the Eye In-

* Professor Pattison informs me that he established a Clinic a number of years since, when connected with the University of Maryland.

firmary. In the former, with all the advantages of a College Clinic, except, perhaps, the copiousness of instruction, which neither time nor circumstances will permit, you have opportunities of beholding more serious cases of disease, which cannot be brought before you here—of following, and familiarizing yourselves with the actual business of the sick room—of watching from day to day, the operation of disease and medicine—of comparing cases of the same disease—of witnessing the more serious operations of Surgery, and the subsequent treatment of the wounded.

And the *methodus medendi* you will find to be conducted there in all the perfection of modern science, by able and skillful men in both its departments, whose active exertions in the cause of clinical teaching merit your gratitude and respect; and who will be ever ready to contribute their uttermost to your instruction and advancement. In the Eye Infirmary, you will, to peculiar advantage, see every variety of disease to which that beautiful and delicate—that useful, but alas! susceptible organ, is liable; and the remarks which I have just made, relative to the teachers of the Hospitals, apply with equal justice to the two able and amiable men and skillful surgeons who attend to its duties.

One subject yet remains, in relation to which it is my duty to offer you, in passing, my most solemn advice. I refer to the duties of Necroscopy. He who would attain to eminence in his profession, as a diagnostician and practitioner in disease—he, especially, who would venture with safety to his own reputation, and to the lives of his patients, to encounter living parts with the scalpel, and boldly and safely penetrate into recesses where the error of a hair's breadth would let out life and fame together, on the instant, cannot, dare not, neglect this indispensable study. No plates,

however accurate and truthful, are substitutes for the actual cadaver.

And now is the time for study—*materiel* is ample, and demonstrators able. Hereafter, both time and opportunity will fail you, and upon the foundation which you carry hence you must hereafter depend. Look not to the drudgery—the loathsomeness—the danger of the pursuit; but engage in it with the resolute eagerness of a Bichat, a Béclard, or a Godman; and avail yourselves of every opportunity, during your sojourn here, to perfect yourselves in its minutest details. This you will never regret—but bitterly, most bitterly you may deplore the loss of time idled, and opportunity allowed to pass by unimproved.

If by chance, anything in the surgical career of him who now addresses you—a career now drawing to its close—has ever excited your approbation, or stimulated your ambition, remember that he tells you, that it was by this untiring devotion to practical Anatomy that his present position has been attained. As a legacy, he leaves to you the advice, “go and do likewise.”

YOUNG GENTLEMEN, STUDENTS OF MEDICINE—

You are here assembled to pursue your professional studies. Many have left happy homes at great distances hence; have left the tender care and watchful guardianship of affectionate parents and friends, and are now in the very midst of the pleasures and temptations of the gayest, the greatest—need I add, the wickedest city of the Union. Pleasure will spread her every toil—vice offer every allurements to beguile you from the paths of virtue and the pursuit of study. See, I entreat you, that you be not deceived. Lis-

ten not to the voice of the tempter, and beware her snares.

Many of you come hither amply—perhaps too amply provided with means of embracing her offers. See that you do not become her victims. Others again, have trenched largely upon the scanty hoard which has been piously husbanded to enable you to pursue your studies to a successful issue. Remember, each of you, that it was not to lavish it upon vicious indulgences or idle enjoyments, that you were thus liberally endowed. It is not, Gentlemen, in the theatre, or the billiard room—it is not in vain parading along our principal thoroughfares when you should be imbibing from the lips of your teachers the knowledge which is to make you useful and honorable in after years—it is not in riotous conviviality with the dissipated and the frivolous—far, far less, is it in the pursuit of falsely called pleasures, of even a more degrading, dangerous, and inexcusable licentiousness, that science is to be acquired and her trophies obtained.

The time which is now wasted will never be regained. Habits of indifference to study, and of sensual indulgence, now acquired, will never be eradicated; and upon the right direction of your habits now, depends your future happiness, eminence, and success. “Just as the twig is bent the tree’s inclined.” It depends upon yourselves whether you leave these halls diligent students, and accomplished gentlemen, or idle, ignorant, and dissipated profligates, discredits alike to yourselves, your friends, and your profession;—whether you will comfort and rejoice, or break the anxious hearts of those who have sent you with so many regrets, disquietudes, fears, and forebodings, to a distance from home, upon the uncertain voyage of life. If, like Ulysses, you stop your ears to the music of the Syrens, and glide steadily along, fixing your

eyes only upon the polar star of duty as you steer your course, you cannot but arrive safely at the haven of domestic joy—of personal happiness and professional success.

Pause but to listen to their tempting strains, abandon the helm but for a moment in the delicious ecstasy which they excite in your unwary souls, and you are lost! Your bark is instantly whirled upon the breakers, and yourselves cast captive on their shores, whence escape is difficult or impossible.

Suffer, then, I entreat you, no such influences to allure you from the steady pursuit of that knowledge which it is the object of your coming here to obtain. The innocent enjoyments of social intercourse even, during the session, must be sparingly indulged, and only as far as health and relaxation require. The mental ingesta of the day, must be assimilated in the evening, interrupted only by the period of sleep, which is necessary for the recruiting of the vital and intellectual forces. It has been beautifully and truly said by one who is himself indeed a *savant* and a student, Professor Agassiz, that science and society are not compatible, and he who would embrace the one must abandon the other. If you would behold the results of such constancy, permit me to offer *him* to you as a model.

The first approaches to knowledge are rough and toilsome; but soon the path is smoothed, new objects of interest on every side invest it—to advance becomes imperative—to retreat impossible; and the distant world fades rapidly before the glorious vista which opens to the contemplation of the enraptured philosopher. Press on, then, Gentlemen, eagerly; do not look back, or your Eurydice escapes; and rest assured, that the gilded saloon, filled with the frivolous and the vain, has no charms to compare with the quiet

sanctum of the philosopher, who sits, "the world forgetting—by the world forgot," wrapt in the investigation of some great mystery of creation.

The idle pleasures of the world are fleeting and satiate. The pleasures of the man of science steadily increase. The appetite grows with what it feeds on, and its enjoyments are inexhaustible. There is no aching of the head and heart upon the morrow; no corruption of the mind, no deterioration of the body. I speak now of study, prudently and rationally pursued. It is my duty to caution you against that too ardent and intense pursuit of study, honorable indeed, but dangerous; which robs the night of the hours which should be given to repose, fevers the cheek and emaciates the frame. And yet, how venerable the early grave of the scholar—how glorious his epitaph! How vile the fate of the sluggard, the libertine, or the sot!

Gentlemen—Separated as you are from your natural guardians and advisers, your professors stand to you in *loco parentum*; and it is in their names, as the representative of the interest they have in your welfare, not less than from my own most ardent desire for your escape from temptation, and from a misuse of your precious time and opportunity, that we offer you our counsel, and entreat for it your respectful consideration. Reverence virtue, and pursue her paths of pleasantness and peace; eschew vice and idleness, surrounded as you are on every side by their seductions; cultivate study with assiduity, and your reward is certain. Success, fame, competence, the respect and confidence of your fellows, domestic happiness, and the esteem of posterity, await you. These are the rich rewards of your exertions—these the fruits of your constancy and self-denial.

Let me commend to you a punctual attendance on the lectures of your professors. Never be absent from

them except from illness or some inevitable necessity ; a careless habit of neglect once engendered, will render them useless. Be silent and attentive. Nothing is more discouraging and disrespectful to a teacher, than to find his instruction unheeded by a noisy, giggling, and abstracted class. Be courteous to the Faculty, and to one another, and suffer no personal disputes to mar the concord of our social and professional intercourse. Among a band of brethren, associated in the pursuit of a common object, there should be no want of harmony. Reflect at night upon what you have heard during the day ; revolve it in your memories, and fix it there by a reference to your notes and text-books.

Cultivate the society only of those whose habits of study and reflection are congenial with your own, and whose morals are unimpeachable. In the privacy of your own apartments, avoid frivolous and licentious conversation, and let your talk be upon the subject of your studies. Upon these you can examine one another, and hold amicable and profitable discussions, which will tend much to your advancement, and to fix in your minds the principles and details of the Science. Or you may find it even more to your advantage to connect yourselves with the office of some respectable preceptor, or with some of the several institutions which, during the winter, zealously and ably devote themselves to the instruction of students. Procure the best text-books on each subject, and a few good monographs of recent date. These, with a good series of anatomical plates, will suffice for your library in the commencement of your studies ; and if you read, mark, learn and inwardly digest these, your mental diet will be sufficiently full.

I was about to say that these were the *only* books that you should read. But I had forgotten. There is

one which I hope you will read a portion of frequently, and which will make you "wise unto salvation."

Do not study on the Sabbath—six days are enough for mental as well as bodily labor. Devote the seventh to serious reading and devotional duties, and rest assured that a *sincerely* pious spirit is the very best and fittest that you can carry either into the preparation for, or the prosecution of your sacred and solemn duty—I am no advocate for the mingling of religion with the duties of the doctor, except under proper restrictions. There is much hypocrisy abroad on this subject; but the truly Christian physician will never succeed the worse, for silently invoking a blessing on the means he employs, and will find many an occasion for saying a word in season, to the consolation and edification of his patient, and the credit of his profession. Medical studies have been thought to lead to infidelity. But this, I assure you, is not necessary—nay, the very reverse is true, and there have been very many truly religious and orthodox physicians, who have ably maintained the truths of Christianity, and illustrated their happy influence in their own persons. Of these, the eminently learned Dr. J. Mason Good was one, and our own Godman another.

In your conversation, habits, pursuits, and manners, never forget that you ought to be gentlemen, and men of intellect; preparing seriously to exercise creditably, a momentous, and most respectable calling. Avoid, therefore, all degrading amusements, and in every place and action, behave with decency. Avoid, also, all peculiarities of appearance, especially those external embellishments, as they are most falsely considered, which savor of foppery, and indicate a little mind, more apt to be flattered by the notice of the foolish many, than gratified by the approbation of the judicious few. Be scrupulously neat and clean, and in your outward

attire ape neither the extreme of fashion, nor oppose it to singularity. The *juste milieu* in the cut, and a sober gravity in the color of a garment, best become the sensible and ingenuous youth, who is about to explore the mysteries of Nature's greatest handiwork, the living organism, and fit himself for the responsible duties of the healing art. Be courteous to all, without servility—docile to instruction, and even to merited reproof, when kindly intended—respectful to those who are placed in temporary authority over you, and whose hands and discipline you must strengthen by your good conduct and example, if you would desire to see the duties of your Alma Mater creditably and profitably performed.

And now, my young friends, after thanking you for the patience with which you have listened to my well meant, but perhaps somewhat tedious admonitions, permit me to offer you, in my own name, and that of the Faculty whom I represent, our congratulations at your safe arrival, and to express the pleasure we feel in seeing you again with us. Rest assured that we shall spare no pains for your advancement in your studies, and that in sickness and adversity, if it should overtake you, you will find us faithful friends, nurses and physicians. Let us assemble on the appointed day—we to teach and you to learn—all resolutely determined to do our duty to the utmost; and may the Great Disposer of events bless our enterprise, give us strength and health for the performance of our several duties, keep you pure and holy in the midst of temptation, and incline your minds to a right disposal of your means and time. May He prosper your undertakings, and in good time secure for you the fulfillment of all your hopes and anticipations of success in your professional career.