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AN ADDRESS

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GENTLEMEN,—I am not insensible to the kindness of those who have asked me to address a word of good cheer to the young men leaving this school at the present time. They could not have expected from me any words bearing directly upon the details of the medical art, and cannot be disappointed if I confine myself to general views, and to such parts of the subject as are open to all observers.

You, gentlemen, have chosen your profession; inspire yourselves to perform with zeal and honor its duties, by taking first of all a just view of its dignity and usefulness. Your teachers, and other venerated masters in the art of healing, have given you and will yet give you practical directions and instruction in the detail of your duties; I can only hope, by the thoughts which I bring to your remembrance, to inspire in you some new sense of the value of those duties and of their dignity. No man can do well any work unless he does it from high motives and with a lofty spirit. No man can adorn a profession until he first honors it by feeling that it honors him.

Now the medical profession is honorable, and bestows dignity upon him who pursues it conscientiously. It lays under contribution all the physical sciences from the lowest to the highest, and requires no small aid from philosophy and theology also. It offers great opportunities of usefulness, and appeals to the noblest motives in the heart of its professor.

The final cause of the creation of this planet is, as far as man can see, to afford a school for man's education and a theatre for his action. To this end the lessons of creation are arrayed in progressive series, and the fundamental ideas are embodied with various degrees of fulness in various beings. The creation has thus appeared to some minds almost tentative in its form. Thus in a ge-

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nus of plants, or of animals, we have the fundamental idea of the genus repeated sometimes in a hundred or even more species, as though the Creator had endeavored to set forth the idea of the genus in one species, but had been dissatisfied with his work and therefore tried to do better again and again. The explanation of this apparently tentative process is perhaps found in the remark of a friend of mine, that the Creative mind manifested its thoughts in this method of finite minds in order to render those thoughts intelligible to finite minds. In Creation as in Revelation, the truth is given to us line upon line, precept upon precept. Any one idea expressed in the universe is expressed in its simplest forms and in its most complex, and also in all intermediate degrees, in order to lead us to its more complete comprehension. The idea of a vertebrate animal expressed in its fulness in MAN, your professors of anatomy have endeavored partly to expound to you, but in order to do it fully they compared man with the whole class of mammalia, and even that class with its co-classes of inferior grades. To adapt the Universe to be the text-book wherein our lessons might be found, it was necessary thus to simplify and explain with great variety of illustrations—radiates, mollusks, articulates, fishes, selachians, batrachians, birds, mammals, each in their thousand forms, constitute pages in the anatomical text book of Nature.

In like manner for a full development of the idea of life, and of the normal functions of the body, it was necessary to introduce disease. Everything that our human minds can know they know partly by contrasts with its opposites. Everything which is capable of excellence must be capable also of defects or of positive vice. Thus, even in geometry (and I hold that geometry, the science of space, may be legitimately used to illustrate any and every phenomenon which occupies space), the circle and the ellipse are more perfectly known by contrasting them with mere approximations to the perfect forms. The orbits of the planets are not actually ellipses, but only would be such were there no retardation by the ether, no perturbations by comets, or by fellow planets, or by satellites, or by any other cause. This approximation to the ellipse calls our attention to every point in the ideal curve, and by its very variations from the form calls our attention more emphatically to the distinguishing of the ideal perfection from the actual imperfection. Thus, also, the forms of crystals are not absolutely those of theory, but only approximations thereto. The leaves of plants, in their wonderful phyllotaxis, do not actually fulfil, but only suggest the arrangement of perfect beauty and exact equity which would give each leaf an equal access to the sky. No two leaves, even, of one plant can be readily found which will fulfil the same type in the same manner. Yet how distinct our ideal of a maple or an elm leaf, a leaf of *digitalis* or of *cassia*! The variations between individual leaves of each species, endless as they are, do not confuse us as to the specific type, but

only point out to us more emphatically what the type is, and how individual peculiarities differ from specific differences. Even a child sees the pigeon in every one of its disguises, and recognizes the unity in the most diverse breeds of dogs. A botanist, in like manner, soon acquires a marvellous detective facility with the Protean forms of certain plants, so that at last not even the vagaries of lichens and fungi can mislead him.

Nor can an invariable standard of health be found in the vegetable world. The mighty redwoods of California have sustained themselves a thousand years; but meanwhile what generations of ordinary trees, even in the wild forests, have died, smothered by more vigorous neighbors, or having exhausted the soil, or being overpowered by insects, or by parasites, or by fungi beginning in an unsound spot and spreading over all.

What wonder, therefore, since the universal plan of nature is a partial and not perfect embodiment of ideas, what wonder that the animal frame and the human frame itself was made subject to imperfections of various sorts, producing pain and disease and death—the most certain of all methods to lead the human mind to study the human frame, and make the laws of its action a matter of special research. Looking only to the intellectual needs of man, it was necessary, in order that we might be led to study the wondrous original text-book on anatomy and physiology, to call our attention to it by sharp pains and fearful diseases, and by causing even mortal woe; it was necessary, also, to give it to us not only in innumerable editions, but, as it were, containing in the various copies every conceivable misprint, and ill adjustment of parts in both printing and binding, that we might acquire the familiarity with it in all its variations of readings, not only of students, but of correctors of the press.

This work of acquisition, gentlemen, has occupied you many happy months, and I trust will yet occupy you many years. It repays the labor of the humblest intellect, it tasks the full energies of the mightiest. The human body and its functions, in health and disease, offer numerous problems easily solved by patient attention, the solution being also of the highest value. But they offer also innumerable problems of every grade of difficulty, even up to points which we concede must be insoluble to us so long as we are in the body. In the pursuit of your chosen profession, then, you have an intellectual gymnastic, possessing the peculiar advantage claimed for rowing, that you may make it just as light and just as severe as you choose; and having, also, this great advantage over many other gymnastics—that your labors thereon are productive labors, bringing forth good for yourselves and for your fellow-men perpetually. And this intellectual training, given by the study of medicine, is not only of various degrees of severity according to your choice, but it calls into action various powers of the intellect. Your work must be founded on observation, and like all careful observation of nature, it trains

the eye and the ear and the touch, and forms the power of recognizing and interpreting indications not visible, nor audible, nor tangible to other men. There is a skill in reading and interpreting nature which faithful observers obtain that cannot possibly be gained from books or from lectures; a skill partly arising from faithful observation and partly from natural aptitude for such observation; but which is one of the most valuable of all acquisitions to the botanist, to the zoölogist, and above all to the physician; by which he sees at a glance in the plant, in the animal or in the patient that which he cannot describe in words to his student, but which the student can only learn to see by looking for himself. Your work must be based on observation—patient, careful, extensive observation. Then it demands also memory, and imagination to bring vividly your observed facts together, and suggest hypotheses for their explanation; and it requires reasoning—cautious, exact, severe reasoning—to test your hypotheses, to reject the untenable, to cling to the more probable. It requires strength of will, also, to hold the judgment in suspense when no hypothesis is tenable, and nevertheless to decide promptly, when there is need of action, which way the balance of probability inclines.

In short, gentlemen, although I speak of that which I have not pursued, to those who have begun its pursuit, I cannot but regard the studies of a faithful physician, alive to the great opportunities of his profession, as one of the finest of all modes of discipline for the understanding. Happy in your choice of a profession, you will find that a strict attention to the duties of your calling, so far from cramping your powers of thought, will enlarge your range of view and discipline every power of your mind.

And yet it will not be wise, even, for a physician to confine his studies wholly to the strict line of his profession. The healthy soul is interested in the whole range of studies presented to us in the school of life, and attains higher success in the mastery of a particular subject by keeping up a system of general exercise upon all subjects. I recently heard of an American physician, of good reputation, declaring that he was wholly unmoved at hearing of the fall of Charleston, and entirely indifferent as to the result of our great national struggle—whether the nation or the conspirators were finally triumphant; and I felt that I should be very sorry to exchange for any man's stores of medical learning or acquisitions of medical skill, my own feeling of sympathy with my nation, and of grateful acquiescence in the Divine Providence which has now caused the slaveholders' conspiracy to suffer humiliation and defeat in the very seat of its origin.

The soul is kept in health by keeping up its interest in a variety of topics; and the man whose profession requires the constant exercise of his intellectual powers, will find strength and relief in having some other study to which he can turn his mind for relaxation. One

of the wisest of your profession recommends his patients overworked by professional cares, to take off their boots in the evenings and wear slippers. The advice is good, and should be heeded by the physician himself. Let him religiously consecrate a part of every week, if possible of every day, to the neglect of his professional studies and to pursuits that will arouse the mind to a pleasant interest in something else. He will resume his boots for his daily work with the more pleasure and the more strength. The author of *Florula Bostoniensis* has been all the better physician for his side interest in botany and architecture; and the Songs in many Keys, frequently patriotic and devout, which have been sung by a younger professor, have not injured him as a successful student and teacher of anatomy, the science whose earliest text-book was declared by its author to be a hymn to the Creator.

But there was doubtless a higher end than the cultivation of the intellect aimed at in rendering the human frame liable to accident and to disease in its various forms, admirable as the intellectual training given to our race by nosology and therapeutics and surgery undoubtedly has been and will be. The training of the affections and of the will is of more importance than the training of the mind.

Consider, then, for a moment the moral lessons taught to the human race by the weakness and defects which render your art necessary. So far as disease can be prevented by care and foresight on the part of the individual, "what a searching preacher of self-control is the varying phenomenon of health!" So far as it can be prevented by associated action in improving the sanitary condition of the community, what a stirring preacher of reform is the pestilence that walketh at noonday! When disease and suffering admits of cure, or even alleviation, through the care of physicians and nurses, what new springs of love and gratitude well up in the heart; what new bonds of affection are formed between members of the family and between different families! And even when the evil is without remedy, what comfort to the soul even in unavailing sympathy, what deep peace in resignation to the appointments of Infinite Wisdom and Infinite Love! That Wisdom and that Love appointed our entrance into life to be through these tabernacles of the flesh, and undoubtedly awaken in us far deeper and holier affections towards each other and towards His ineffable goodness, by making us, through the weakness of the body, dependent on each other, than could be awakened were we proof against accident and against disease.

The physician is, then, the minister of God in a difficult, intellectual, moral and sacred service. He requires for that work a delicate and thorough training of the powers of observation and of the judgment; stores of knowledge in regard to anatomy and physiology, relating both to healthy and normal conditions of the body, and also in morbid states and under the influence of remedial agents, implying a knowledge also of the *materia medica* and of chemistry,

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and even of mechanical physics; stores of knowledge also concerning the mental phenomena of sound health and of impaired powers in the brain and nervous system; he requires, in addition to this quick eye, this ready ear, this skilful touch, this varied learning, this sound judgment—he requires, I say, a sympathizing heart, a cheerful and loving spirit, a wise religious trust in God, and an unfailing tact in meeting the erroneous and extravagant demands of those who either distrust him, or, trusting him, expect of him more than lies in mortal power. Gentlemen, it is a high and honorable service, to which none but the highest and most honorable motives, I am happy to believe, usually impel a young man. And could I read and interpret to this assembly the ideals and aspirations of these young men to whom the University this day gives its sanction as worthy students of their sacred art, I doubt not that this utterance of *their* views and their purposes would make all that *I* say of the dignity and usefulness of their office seem cold and feeble.

May the love with which they give themselves to their chosen profession never grow cold; the estimate which they set upon its usefulness and dignity never be lessened. I dread nothing for a young man so much as the loss of youthful enthusiasm; the wisdom of maturer age is gained at too great a cost if it bring the loss of fervent devotion to principles and to truths, the loss of faith in the ultimate success of man, his triumph over nature, his triumph over death and time.

But the attainment of maturer wisdom is not necessarily accompanied by the loss of enthusiasm for truth and of faith in the sublime destiny of man. On the contrary, the very nature of the intellect, and of intellectual processes, leads in a healthy development of the mind ever to wider and deeper views. Is it not so? Consider a moment the tendencies of every attempt to understand the mysteries of the world about us.

No man is satisfied in his theories with what is partial and incomplete. We reach after perfection, we seek totality, unity, completeness, and if we succeed in grasping it, we immediately seek a larger whole, of which this first unity is but a part, and sweeping on with wider and deeper generalizations, end with aspiring after the infinite. The intellect thus seeks ever to comprise all facts in larger and larger formulæ. The equation of motion, formerly embracing only what was recognized as mechanical phenomena of change of place, now embraces, or so it is supposed, all the complicated phenomena of harmony and discord, of heat and cold, of light and shade and coloring, nay, perhaps also of magnetism and electricity and chemical action, and even of chemical differences; so that all that myriad-eyed science has discovered or can discover in this physical universe is the truth of the first record of inspiration that God moved upon chaos, introduced motion in its varied forms into matter, differencing **THUS** all elements and sending them out on their

perpetual round of varied service. And when all the phenomena of this universe are shown to be merely modes of motion, then will the insatiable imagination press reason into the service of potential physics to show in how many other modes universes might have been or may have been, or may hereafter be constructed.

But it is not the intellect only that thus seeks the infinite. Our hearts yearn for it, our deepest affections are wholly inexpressible in mortal words, and wholly unsatisfied with the approval of finite beings—the tides within us are too deep to be sounded, and rise so high that their waters mingle with the skies.

This aspiration of the intellect after the infinite is satisfied only by Theism, this yearning of the heart for it is satisfied only by Christianity; the eye is not satisfied without the sky and the horizon, which in intellectual vision are found only in God; the heart is miserable unless there be a love which answers to our deepest and most intense affections, and that love is the love of God, as manifested in the redemption of the world.

In the vision of God is alone to be found unity and so rest. The theological point of view, so far from being childish and outgrown by the maturer intellect, is the only point from which complete and correct views can be obtained. No work of human art or skill, whether to serve material uses or æsthetic ends, is properly understood unless it is looked at from the author's point of view. Nor can the grand books of creation and history be interpreted by any other canon. All the universe is the projection into external manifestation of one thought of the Deity, ever acting, according to the sublime theological conception of Maupertius, by the simplest and most economical methods to the establishment of one grand result. The necessity of taking this theological stand-point in order to attain the best results, is illustrated in the most forcible manner by this very principle of the least action. Originally conceived and propounded as a corollary from the purely Theistic conception of Infinite Wisdom and Divine Economy, it has been the fruitful source of innumerable discoveries in physics, and more recently in the hands of one of our own countrymen has remodelled social science, and converted the dismal code of despair into the oracles of hope. The simple law of attraction, exemplified in gravitation and statical electricity, must, from Maupertius's grand theological dogma, hold in every part of the universe in which it can be used. Instead, therefore, of the conflict of interests represented by the British economists as ruling in human society, we may look to find love or attraction as the ruling principle of man's nature; and men drawn together for their mutual benefit, and working, even though unconsciously, together for a common end. Under this higher aspect of social science we shall find all history illumined with a marvellous light, and all examples pointing, by sober scientific induction from innumerable facts, to a confirmation of the prophecy that mankind is ever moving forward (de-

spite the hindrances of error and of sin in people and in their rulers) to a time when poverty shall be unknown, and all men live happy in the pursuit of their own chosen and well-rewarded labor.

I was saying that the universe is doubtless the projection into external manifestation of one single thought of the Deity, ever acting by the simplest and most efficacious means to the production of one grand result. What that result may be, the successive eternities will gradually unfold, and unfold to us. For once perceive that this universe is a book, a speech, embodying the Divine thought; once admit this high Theistic statement of St. Paul that the eternal power and divine attributes of God are made intelligible to men through the medium of the outward creation, and your heart will admit the argument of the Lord, and melt under his appeal—God is not a god of the dead but of the living;—if He thus talks with us, if He thus permits us to read a part of his thoughts, it is a pledge that He will permit us to complete the investigation, it is a pledge that He has admitted us to his eternal companionship. No natural argument for the immortality of the soul can give us greater assurance than this, drawn from the fact that in the outward creation the Eternal God is talking to us and admitting us to read a part of his thoughts.

And yet it must be confessed that while the native tendencies of the soul are thus leading us ever to loftier aspirations and a more generous faith, the difficulties which surround us are apt to dampen our ardor and repress our enthusiasm. The young physician, for example, finds with lengthening experience that the laws of morbid physiology are complicated, and the idiosyncrasies of patients numerous and varied, and the effects of treatment uncertain—the result being modified by many known causes of unknown and variable efficiency, and by many unknown causes. He is tempted, therefore, to grow gradually sceptical in regard to all remedial agencies, and to fall back simply upon the well-established general laws of health, and upon the general principles of treatment laid down by the earliest Greek physicians—despairing of any new discoveries, and of the possibility of attaining any specific remedies, whether in the *materia medica* or in modes of treatment. And, so far as this tone of thought tends to a sound conservatism in judgment, it is well. I have sometimes feared, however, while looking on as a spectator, that physicians were inclined to err in the opposite direction, and failed in readiness to examine new views fairly. In all departments of science (I scarce need except even the mathematics) the student finds these two opposite dangers beset him—the lacking of a conservative spirit, and of having it in excess. On the one hand, jealous of his freedom from the authority of opinions, he may confound change with progress, novelty with importance, plausibility with truth, and thus range himself in theology with the latest heresies, in politics with revolutionists, in science with charlatans, in medicine with quacks. This seems to me now the greatest danger to our American mind. Never-

theless I have thought that among physicians there was equal danger of the opposite error; the error into which he runs who clings to established theories so firmly as to be unwilling to hear of any modification or improvement in them; who apparently thinks that all change is for the worse; all novelties, errors; all arguments brought against his opinions, sophistry; all facts which his theory does not explain, trivial; and who therefore drifts with dead wood back into past ages.

But if this is in any degree the temper of the medical profession at the present day, it is not a necessary effect of medical studies, since they furnish in themselves admirable training for the intellect and for the heart. To those forewarned of a danger so easily avoided as this, the danger scarcely exists. I will have faith, therefore, that those who have pursued their preparatory studies in these halls will ever keep an open mind; not open for the entertaining of every stray fancy and whim, either of their own or of other men's devising, which may chance to have some fascination about it; but open for the fair trial of every hypothesis which can bring unquestionable facts to sustain its probability and to promise the feasibility of proving or disproving it. I have faith that they have here learned at least one lesson; that the only true text-book is the creation itself, written for our instruction by the All-wise Teacher, and certain to reward the man who diligently studies any one of its pages. I have faith that they have formed here at least one right method—that of listening devoutly for the word of truth spoken in nature itself; and that they have caught, also, something of the generous spirit of sympathy with suffering, something of the glorious spirit of self-sacrifice for others. When I say self-sacrifice, I of course do not mean to applaud the man who destroys his own health needlessly, or who cuts short his power of fifty years usefulness by the vain attempt to do the fifty years' work in five. The physician must heed the proverb and take care for his own health. But he that desires the office of a physician desires no post of ease and idleness. Labors and dangers, anxieties and cares are his, such as few other men can justly appreciate. It is true that to one who is rightly qualified for the work there are compensations also in the gratitude and affection of those whom he serves, and in the consciousness of right intent and useful action; but these compensations make it none the less true that the privations, difficulties, exposures, fatigue and anxieties are great; and it is difficult to conceive a man of sense choosing this profession unless he has also a large and noble heart.

The great civil war which has been raging in our country for the past four years, has put the medical profession to the proof, and both older and younger members have stood the test. The opportunities of practice in the military hospital and in the field, given to young American surgeons and physicians by this war, inaugurated by the insane followers of Calhoun, although numerous are not of the most

instructive character; and in the readiness with which young surgeons enter upon this service there is evidence only of their humanity and patriotism; humanity which leads them to devote themselves to alleviating the sufferings of those who fall in the field, or are stricken in the camp; patriotism which makes them count it a glory and a joy to undergo any fatigues and dangers if they can only comfort and aid those who are defending our republican and democratic institutions against the assaults of the infatuated aristocracy of the South. Happy in their choice of a profession, they can volunteer in this sacred struggle for freedom without being withdrawn even a single month from their chosen pursuit in life.

Yet let not those who remain at home be rashly charged with lack of patriotic zeal. The strange and awful duties of war thrust upon us in these days do not relieve us from the duties of peace. The contribution of taxes, of gifts, of sympathies from those who remain at home are as essential to the successful prosecution of the war, as the raising of volunteers or of conscripts can be. The less interruption to the usual routine of peaceful labor and regular mutual exchange of services in our country, the stronger we remain and more readily we shall recover our prosperity and usefulness in the future.

Go forth, therefore, gentlemen of the graduating class, each to your chosen field of labor, assured that wherever that field may be, you have a high and noble and beneficent work to perform, as students and interpreters of one of the most important chapters of the volume of nature, as helpers and comforters of your suffering fellow-men, and as servants of the Most High in fulfilling the evident purport and intent of His Providential leading. And may His blessing be upon your labors.

REPORT OF OPERATIONS IN THE OPHTHALMIC DEPARTMENT OF THE CITY HOSPITAL OF BOSTON,

UNDER THE CARE OF DR. WILLIAMS, FOR THE THREE MONTHS ENDING APRIL 1ST,
1865. BY JOHN W. DOOLEY, ASSISTANT.

[Communicated for the Boston Medical and Surgical Journal.]

EXTRACTION OF CATARACT, five cases. In two the upward and in three the downward section of the cornea was made. Ether was given in four cases. One of the cases belonged to the category of black cataracts, the lens being of a very dark mahogany color and extremely hard. Four of the cases were successful, and one will require a slight supplementary operation for the removal of the opaque capsule blocking up the field of the pupil.

Extraction of Cataract by scooping, seven cases. Ether was given in all, and, after upward iridectomy to facilitate access to the lens, Critchett's scoop was employed for removing the crystalline. Five cases afforded good results. One failure occurred in an eye already