TYSON. (JAS)

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HIGHER MEDICAL EDUCATION.*

IN a copy of the *Pennsylvania Gazette* published in Philadelphia on June 30th, 1768, will be found an account of the first annual commencement at which medical degrees were conferred in America. The occasion was that of the commencement of the College of Philadelphia, of which the University of Pennsylvania is the direct lineal descendant and successor. At this commencement, held June 21st, 1768, the degree of bachelor of medicine was conferred upon ten candidates. The charge, as it was then called, was delivered jointly by the Provost, Rev. Dr. William Smith, and Dr. Shippen, the Professor of Anatomy and Surgery. From that day until this, except in 1772, and for five years more, during which the operations of the College were interrupted by our national struggle for independence, the annual roll-call, as heard to-day, has been repeated, until the number of its medical graduates exceeds ten thousand. One hundred and seven times has this roll been called; one hundred and seven times has the parting charge been made; and well may he, to whose lot it has fallen to make the one hundred and eighth, look about him and ask what is there left for him to say. Sound advice, cheering words and wholesome warning have been spoken again and again by men whose impressiveness I cannot hope to equal. These, therefore, I will not attempt to-day. There is, however, one subject which I deem quite worthy of the present occasion, and I shall be glad if I can excite in you even a small portion of the interest I feel in it myself. That subject is higher medical education and the position your *Alma Mater* has taken in relation to it.

It is well known to you that, five years ago, the feeling of dissatisfaction with the then prevailing system of medical education, which had for some time existed in the minds of the trustees of this university, culminated in a determination to make an immediate change. According to the old system, a student could, if he desired, earn the degree of doctor of medicine in two courses of medical lectures of

* A valedictory address delivered at the Commencement exercises closing the one hundred and sixteenth annual session of the Medical Department and the fifth of the Dental Department of the University of Pennsylvania, March, 15th, 1882.

but five months' duration, while each one of these courses was an exact repetition of the other. All other trades and occupations required three and even more years, not of verbal instruction, but of actual hand labor, before the learner was considered fit to carry on his business independently of his master or teacher. This was the case with the carpenter, the stone-cutter and the machinist; but the physician, who dealt with human life and its tenement, exceeding in delicacy and intricacy the most subtle of machines, was often qualified by eighteen months' instruction, and even less. And yet the profession of medicine has always been accorded a place among the liberal professions, which are so called because of the amount and variety of acquirement and the intellectual training which are prerequisites to those entering them. These conditions are, and always have been, observed in European countries, and that they were also observed in the early history of this may be learned from an examination of the history of the medical department of this university, where it will be found that, at its origin, each student, before being eligible to the degree of bachelor of physic, was required either to have taken a degree in college, or to satisfy the trustees and professors of the school concerning his knowledge of the Latin tongue and such branches of mathematics and experimental philosophy as were judged requisite to a medical education. Finally, the degree, not of doctor, but of bachelor of physic, was conferred upon those who had complied with these requirements, had served a sufficient apprenticeship to some reputable practitioner, attended at least one course of lectures, extending over six months, on anatomy, materia medica, chemistry, the theory and practice of physic, one course of clinical lectures, and the practice of the Pennsylvania Hospital for one year; also, passed a private and public examination before the medical trustees and professors, and publicly defended a thesis in the English or Latin tongue. The degree of doctor of medicine was conferred only after three years more had intervened, the candidate had attained the age of twenty-four years, and had written and publicly defended a thesis in the college, unless he was beyond seas or so remote on the continent of America as not to be able to attend without manifest inconvenience; in which case, on sending a written thesis, such as should be approved by the College, the candidate might receive the doctor's degree, but his thesis was to be printed and ublished at his own expense.

It will be seen from the above that one hundred and fifteen years ago it was not easy to obtain the doctor's degree in America, and that he who had complied with its requirements had well earned the right to be regarded as one of a liberal profession. This is not the time or place to follow the steps of the change; but suffice it to say that in time these conditions were so far removed that large numbers, not only of the uncultured, but even the unscrupulous, flocked into the ranks of the so-called profession, and made the protection of its standard, the credulity of the people, and the mystery of their trade, stepping-stones to success; while the real professional training of the educated physician, obtained under difficulties and at great cost, and for the most part in foreign countries, received but partial recognition. Such a system of medical education also, failing to furnish the training which qualified for original investigation and such thorough study of disease as would lead to improvement in methods of treatment and modes of cure, failed to develop the science of medicine proportionately with other knowledge. This fact could not escape the attention of a people whose growing intelligence was a part of the development of a great nation, and they could not fail to see the defects in a science so pretentious and yet so feeble. Hence, their confidence gradually weakened, and they became ready to grasp at anything which promised, even if it did not insure, more satisfactory results at less inconvenience.

Such were the results of medical teaching in this country for some years previous to 1870. In that year, Harvard University adopted for its medical school a compulsory three years' course, graded, and with an academic year of nine months' length. In 1877, in accordance with the action already referred to, this university adopted a compulsory three years' course, also graded, in which attendance was required during an annual winter session of five months, while instruction was provided for the entire academic year. The step taken by Harvard was a comparatively easy one; for the medical department of that university, although among the oldest in the country, had never been a large school, and the compensation of the professors was proportionately small. The latter, therefore, made no great pecuniary sacrifice in making the change, while the change itself advanced the school from a second-rate position to one of the highest class. With the University of

Pennsylvania, however, it was different. The reputation of the school already exceeded that of any other in the country, and its classes, since the removal to the improved new quarters in West Philadelphia, were growing rapidly. Grave questions of guarantee and compensation had to be settled, while a temporary reduction of income to the professors had to be anticipated. All this, however, was adjusted, and the change made with the consent of all interested. The event is too recent to demand further details now. But, instead of the class falling off, as was anticipated, the number of actual students was not diminished. The second year of the "new plan," as it is now commonly called, began with a larger freshmen class than the first, and the third with a still larger class.

But the medical faculty were not satisfied with what had been accomplished. One of the most gratifying and immediate results was a marked improvement in the previous education and gentlemanly bearing of the student of medicine, and a much larger proportion of those who came to the University possessed degrees in arts or science. But it was found at the term examinations that some were still defective in this very important condition of a liberal profession,—a previous education,—and that, according as this deficiency existed, their qualifications in the professional branches were also defective, and they were, in consequence, unprepared to go on with their classes. This being the case, the question arose: "Why should such begin the study of medicine at all? Is it not better that disappointment should be met at the threshold than at a later stage, when both time and money have been expended?" The answer was so evident that the faculty decided that a preliminary examination should be instituted, which should be passed by all who did not possess a collegiate degree or could not present satisfactory evidence of at least a fair English education. Instantly, for the session of 1880–1, the first-year class fell from one hundred and thirty-five to one hundred and ten, a reduction of nearly twenty per centum; for the session of 1881–2, a still further, but not greatly increased, reduction in the freshman class occurred. But mark the effect on the character of the class! Of the regular full-course students admitted the year previous to the institution of the preliminary examination, twenty-five per cent. possessed degrees in arts or science; while, of those admitted for the session following, thirty-three per cent. were college graduates, and the propor-

tion of failures at the first professional examination was decidedly less. Moreover, of the entire number of full-course students attending during the past session, twenty-eight per cent. are college graduates, while the percentage in 1879 was but twenty-two per cent.

Further, I ask attention to the following fact as one of no small importance. Notwithstanding the usual loss from withdrawals, in consequence of failure at examinations, and other causes, the class which entered for the session 1880–1, the first after the inauguration of the admission examination, began its second year with its numbers increased ten per cent. over those of its first year. This is something quite unprecedented in the history of colleges with graded curricula, each class being, as a rule, largest as a freshman class, losing as it ascends in grade, until, as a senior class, it has been decidedly cut down. The exception in this case is chiefly due to admissions to advanced standing from other colleges, but in part, also, to fewer failures in the first professional examinations. Finally, the effect of the action of this university on other medical schools has also to be alluded to. Slowly they are following in its wake and making changes, more or less considerable, all tending in the same direction,—towards prolongation of the period of study,—showing that the principle of our method is acknowledged and the leaven of reform is working as it should.

The faculty, therefore, have every reason to be confident of the result hoped for, and believe that the temporary falling off is but the forerunner of large accessions, as the advantages of a prolonged and graded curriculum become known. Indeed, they are already committed to further steps in the same direction. At their request, the trustees have decided that the length of the compulsory winter term of instruction, instead of being five months, shall hereafter be extended to six. Nor will they rest satisfied until an academic year is obtained of the same length as that of the collegiate department, —that is, nine months,—and the finished physician shall not only be thoroughly trained in all that pertains to his profession, but he shall also possess a university education or its equivalent. Of great importance in the accomplishment of the former, are deemed the establishment of a course preparatory to medicine in the Towne Scientific School of the University and the more recent organization of a fourth year or post-graduate course. These two courses,

in addition to the three years of the regular curriculum, really furnish the opportunity, to those who desire it, of a five years' course, in which it is believed will be found all the requirements of a thorough and complete medical education.

It has recently been said that "a university education and training make men too dilettante, and seem rather to unfit them for that struggle to make and maintain a position which must ever be the lot of the medical practitioner." Such a statement I can only regard as an apology for an existing low grade of medical education. To say that a university education is in any way a disadvantage to a physician, seems to me to be almost equivalent to decrying all culture. Are the problems of the physician of such an elementary character that he does not need the intellectual training and varied acquirements acknowledged to be essential in the other liberal professions? Are the refining and purifying tendencies of culture less important to him, whose association with men and women is only during the hours when their sensibilities and sensitiveness are heightened by disease, than to the lawyer, whose contact is only with the healthy and strong,—than to the clergyman, whose relation to the sick is certainly more limited? That good and reliable physicians have resulted from the old methods, none will deny. But the advocates of the new contend that it is in spite of the defects of the old; while all must admit, that, among physicians produced by the former, the best have been those previously well educated. On the other hand, it must also be acknowledged that the profession is overrun and degraded by hundreds of the incompetent and unprincipled, who are effectually excluded by the new conditions. With such admissions as these, can there be anyone who would not prefer the risk of dilettanteism on the one hand to that of ignorance and incapacity on the other?

To become the champions of such a standard as that which is the aim of your *Alma Mater*, I invoke you, members of the class of 1882. Be not satisfied with being yourselves one of the first fruits of her efforts in this direction, but become active in its support and securing its success. Talk of it, write of it, insist upon it in the instances of those whose course you may control. The time has come when a line must be drawn between those who graduate upon the old and upon the new systems. The public have a right to know, and you have a right to indicate, that you are graduates under

the latter. To this end you are justified, and it seems to me you are required to follow the usual initial letters of your professional degree by the words, "University of Pennsylvania," "Harvard," or whatever the degree may be; and I am gratified to see that this example is set by graduates of many years' standing.

To you, graduates of the dental department, I need scarcely say I make no distinction between you and your brothers of the medical. What has been addressed to one has been addressed to the other. You, also, have an important duty. You rightly aspire to be members of a liberal profession, and I, for one, am glad to welcome you. But for you I would make the same conditions as for the medical student,—a thorough preliminary training and a thorough grounding in all the branches of a medical education. These accomplished, you can select the specialty of your choice without fear or favor. Indeed, it is evident that the specialist should possess, if anything, a broader culture than the general physician or surgeon. For it cannot be denied that the tendencies of the practice of a specialty are to narrow the sphere of thought, while it also increases one's knowledge and usefulness in that department. It is necessary, therefore, that such tendency should be counterbalanced by a breadth of preliminary culture and general professional training greater than that of one whose range of thought and action is less restricted in practical life.

With this hour, friends and fellow-alumni, our official relation terminates, and your independent professional career begins. It is your commencement. From it you go forth to carve your respective niches on the temple of the world's usefulness; we go back to the work of conducting others to the goal which you have reached. Both have a responsible duty, and each needs the sustaining support and encouragement of the other. I have told you what I would have you do for us; but I have purposely refrained from giving you lengthy advice as to how you might best attain what is commonly called success. Success has received various interpretations at the hands of men. I will not pause to analyze them, but will simply say that in my own judgment there are three words which comprehend all the conditions of a true success. They are thoroughness, truthfulness, and energy. There can be no success without thoroughness. Thoroughness, not only in the work and duties of your own profession, but in all the responsibilities of life,

be they great or small. Whatever is worth doing it all, is worth doing well. A very simple motto, recalled from the associations of my own college life, conveys more than pages could otherwise express, and you will do well to remember it and live by it. It is, "*Minimum minimum est; sed fidelis esse in minimo magnum est,*"—a very little thing is a very little thing; but to be faithful in a little is great. Again, to be truthful and sincere in all your relations —with those who employ you, your professional friends, and, above all, to yourselves,—secures a degree of confidence without which no success can be permanent. Finally, each of these may be elements of a man's character, and, if not united with an energy of purpose and conduct, he will fail of success. Energy alone often leads to chaotic results; but, when tempered by thoroughness and a strict regard for the truth, the outcome is a dignity and "repose in energy" which is acknowledged to be fruitful in most lasting if not most rapid results.

With a banner illumined by these words for its device, I do not fear to launch you on the swift current of the struggle for success, satisfied, that, whatever may be the hidden dangers of your course, you will in the end moor safely in the desired haven. It may be, scarred and weatherbeaten; it may be, no longer young and joyous; but none the less masters of the coveted goal and worthy sons of an *Alma Mater*, who, chastened and dignified by well-nigh six score years of honorable motherhood, gives you now her parting blessing and bids you "God speed!" in a useful, happy and prosperous career.

JAMES TYSON.