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MODERN MEDICAL EDUCATION.

ADDRESS OF THE PRESIDENT.

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Fellows of the Academy: I thank you for the honor you conferred upon me at your meeting in Atlanta in choosing me to preside over your deliberations in Philadelphia at this, your twenty-second session. To be elected President of the American Academy of Medicine is, under all circumstances, a most distinguished appointment, but coming as it did to me, unsought and unthought of, at a time when the wide usefulness of our most unselfish organization has become apparent to the whole profession of the land, at an epoch in its history when many who have held aloof from its struggles during its years of growth, are entering its ranks in the day of power, is a compliment of which I may, without unbecoming elation, be justly proud.

Your brief annual meeting affords me the pleasure of a direct personal relationship with you of only short duration, but the duties of the office have occupied my attention during the year, and have impressed upon me with increasing force the great usefulness of the work already accomplished, and the far greater importance of that which remains for you to do. Nor do I discern any end to the field which the founders have laid out for us to do till, seeing that new problems in medical education, medical ethics, and medical sociology will continue to arise, and that growing success will bring to us widening opportunities, new difficulties and responsibilities at once more arduous and more important.

Since the first meeting of the Academy in this city, September 6th, 1876, remarkable changes have come to pass. The scope of medicine itself, the character of medical teaching, the requirements for graduation have, in the short period of the minority of a native-born citizen as fixed by law, undergone an evolution little anticipated by the handful of earnest men who, under the leadership of Traill Green, of Easton, then banded themselves together to organize an association whose objects are:

1. "To bring those who are alumni of classical, scientific, and medical schools into closer relations with each other.
2. "To encourage young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of medicine.
3. "To extend the bounds of medical science, to elevate the profession, to relieve human suffering, and to prevent disease."

In the interval since the date of that remarkable meeting, the science of bacteriology, then viewed askance by the leading teachers and practitioners as something new and strange, has become a dominant influence in medicine. It has revolutionized pathology, it has recreated the art of healing in every department, and has given us a new surgery, in whose footsteps, with urgent stride, follows a new medicine of not less brilliant promise. It has enabled the gynecologist to realize and surpass the brightest hopes of McDowell, Marion Sims, and the Atlees. It has rescued hygiene from empiricism and placed it upon a sure basis of scientific facts. It has elevated the specialities above the narrowness of circumscribed work, and shown the specialists that for the practice of their art much more is needed than an easily acquired operative technique and a little manual and intellectual dexterity. It has demonstrated the absurdity of much of our traditional drugging and given us new systems of healing, fruitful with present achievement, and pregnant with promise of greater things, while it has indirectly revived and defined the scope of measures of treatment, such as diet, baths, and climate, for which we do not send to the apothecary. It has warned the investigator in the laboratory that the study of the causes of diseases which are ever ready, sure, swift, and certain of effect, is to-day a much more promising field of research than the too curious analysis of the special qualities of uncertain and variable drugs. In point of fact, bacteriology, the youngest of the medical sciences, scarcely known as a science to those who organized this body, has swiftly pressed to the front and now controls almost every department of the complex organization of the medical sciences.

While these changes have been going on, other developments of great importance have been taking place. Histology has assumed a definite place in the curriculum, and anatomy can no longer be studied without the microscope. The teachings of physiology, yearly more definite and precise, bear with every advance a closer relation to the requirements of practice, so that no alert practitioner feels secure unless he can read his latest treatise upon physiology carefully through at least once a year. Physiologic chemistry has made corresponding advances. Embryology must be taught as indicating the structural bases of forms and the primary relations of tissues, while comparative anatomy is essential to a complete knowledge of the anatomy of the human subject. Some knowledge of medical jurisprudence was at one time thought necessary for the expert, but to-day every practising physician must be informed of the mode of procedure in judicial inquiries, since he may at any moment be called upon to act for others and himself in a case involving questions of mental alienation, testamentary capacity, the responsibility for injuries by accident, or homicide.

These changes in the scope of medicine have not taken place without corresponding and far-reaching changes in the organization of the medical profession, and in its relations to the public at large. Very often these changes have been like the growth of the knowledge to which they owe their origin, gradual and almost imperceptible, but very often they have been abrupt and violent. Progress means readjustment and this cannot take place without occasional perturbation and commotion—a fortunate circumstance since it enables the too conservative to become aware of the fact that something is going on. I may remark in passing that constant readjustment and occasional violent reaction are inherent to intellectual advance and when they cease to disturb our quietude, stagnation ensues.

In the medical life of the last quarter of a century, especially in this country, the perturbations and violent readjustments of advance have been principally and most keenly felt in the teaching institutions from some of which the advances have originally in every instance directly or indirectly proceeded.

The shock has usually been violent and the adjustment tardy, a fact for which we find an adequate explanation, first in the conservatism of scholastic institutions, secondly, in the tenacity with which men cling to customs which they have come to look upon as vested rights.

Tardy as they have been, however, the successive adjustments of the colleges to the advances of knowledge have been complete, each in its turn, and as new adjustments take place they will be as nearly as possible adequate to the essential requirements of particular times and circumstances. This prediction rests not only upon the experience of the past, but upon the



fact that while the knowledge upon which medicine rests is scientific, the application of that knowledge is an art, and subject to the conditions by which art in all its manifestations is influenced, not the least of which is competition.

Here we observe a fine example of action and reaction—increasing knowledge calling for better teaching, and better teaching in its turn tending to the advance of knowledge.

The character of the teaching has, in fact, during the period referred to, undergone changes scarcely less radical than the subject-matter to be taught.

It has become less didactic, and more demonstrative; less rhetorical, and more explicit; less showy, but more convincing. The seven learned professors and single demonstrator that constituted the faculty of a well-equipped school in that day, presently found the growing task too much for them. They had not time to do the work and worse still, they realized ere long that their combined knowledge was unequal to the undertaking. They did not know enough. So it came to pass that with each annual announcement new subjects were placed in the curriculum and bright young fellows, or a trained specialist or two were taken on as teachers. And this went on, until to-day the teaching force of a modern medical college of the first rank, including professors, assistants, lecturers, demonstrators, and the members of the staff of the attached hospital and dispensary service is to be counted by the score. Indeed, malice has observed of more than one such institution that the occupants of the chairs outnumbered the occupants of the benches.

As the old faculties had not time to do the increased teaching, so the student found his time too short and the time-element became a factor in the process of evolution. First, the term was lengthened a little, then more. This proving insufficient, a year was added to the course, and later another year. Now, instead of two annual sessions of scarcely five months each, the student of medicine must attend four annual sessions of seven months or more. The number of sessions is now determined in several of the states by law, but the public opinion that has made itself manifest by legal enactment in some places, is growing in power all over the land and the time is not far distant when the two and three years' schools will cease to exist because men will be ashamed of their diplomas. Such schools, it is true, have thrived for a season, but their prosperity has been short-lived, first, because it arose from a shifty expediency, and secondly, because the sober after-thought of the American people is right. The progressive schools have sometimes had poor classes during the periods of transition, but the change has, in almost every instance, been followed by a notable increase in the number of students.

The requirements for graduation have undergone progressive changes not less important. The examinations have long since ceased to be perfunctory. They are now tests and, in most instances, severe tests of the knowledge of the applicant for the degree in the fundamental branches of medical science, and not rarely in the application of his knowledge at the bedside in the diagnosis of an actual case and in formulating a scheme of treatment. They are sometimes oral only, frequently written, and occasionally both written and oral. In the written examinations the use of improper aids is frequently, but not always prevented by obvious and unfortunately necessary measures. In the clinical branches, the possibility of extraneous help or collusion is reduced to a minimum by the character of the questions. Twenty years ago the hope that the honor system would ever obtain in examinations for the doctorate in medicine would have seemed chimerical; to-day there are sane teachers who confidently expect its arrival. Surely the standard of honor ought to be as high in medical as in military life. In many schools the final averages in particular branches are made up of the results of several examinations conducted by different teachers—the professor, a demonstrator, and the lecturer in the special department, each counting a prearranged percentage of the whole. The examinations no longer being a mere form and their subject-matter being purely technical, no student however clever, who has neglected his work or spent his time in riotous living expects to pass by chance—to “skin through” in the words of an earlier time. Indeed, it not infrequently happens that students who have among their classmates the reputation of being fairly well prepared, absent themselves from the examination in one or two branches at the last moment, and defer graduation for another year rather than take the risk of being actually plucked.

The development of medical education in the twenty-one years which measure the life of this Academy, in the scope of the knowledge to be acquired, in the character of the instruction, and in the requirements for graduation, constitutes a remarkable epoch in the history of medicine. Disregarding the post-graduate schools, the aim and scope of which are not immediately considered in this argument, the changes have been so great as to have brought into full bloom a flower conspicuous in the brilliant intellectual development of the end of our century—the higher medical education. It is not assuming too much, Fellows of the Academy, to assert that this body has played an important, though inconspicuous part in bringing about these changes, fraught with so much importance to the well-being of the profession and to society at large. It would be strange, indeed, were this not the case. The very purpose of our organization was to promote such interests. The papers that have been read, the discussions that have followed, the enthusiasm that has been aroused, the force of association, the weight of opinion, developed and fostered by the contact of men interested in the promotion of the highest professional aims have, during these years, exerted a combined influence upon the profession which has been potent for good. I congratulate you that during the existence of this body many of its highest aims have been achieved.

A word in passing in regard to examining boards and the license to practise. It is a happy commentary upon the purity of professional aims that the most advanced medical educational institutions have been the most prompt to make sacrifices to the common good. One after another, in state after state, the colleges have relinquished a fundamental and most important charter right; namely, that the diploma should confer upon its recipient the right to practise medicine. The movement for separate legal requirements, first registration, then state examination, had its origin in those interested in the higher medical education, in many instances in the faculties themselves of the most advanced and well-equipped schools. This movement, it is true, was aimed primarily against quacks of the itinerant kind and the diploma mills, but in its more recent development it has dealt serious blows at the inadequately equipped and officered second and third rate legally chartered colleges. It is certainly a remarkable fact that educational institutions should, in the best interests of a common profession, voluntarily relinquish the most important franchise conferred upon them by charter. What the effect of the present tendency toward reciprocity among the states in the granting of licenses and the system of interstate indorsement may have upon certain of the schools remains to be seen. Greater uniformity of facilities for instruction will become necessary. Geographical situation and local conditions in some instances seriously hamper, in others render absolutely useless efforts to supply adequate clinical instruction.

There are schools in which the elementary teaching is of the best character, that cannot secure the facilities for clinical work. The lengthening of the term from three to four years cannot, under these circumstances, meet the requirements of the case, but if a general comity in regard to the license to practise is to be established by the boards of different states, the law must regulate the length of the time of instruction and all boards must equally require that applicants for the license should have attended a four years' course. In that case students will naturally repair to those schools in which the fourth year is occupied in clinical work. This would constitute in many instances a serious misfortune, first, because of the unwieldiness of enormous classes, and secondly, because the non-clinical instruction in small college towns may be, and often is, of the highest character. I would suggest that some of the difficulties may be overcome if students presenting certificates of having successfully passed their third year examinations should be admitted to the schools having large clinical facilities without examination for the fourth year, and be permitted to return to the college from which they came for graduation. This would, it is true, be a make-shift, but it would tend to equalize the opportunities of the students in different sections of the country and thus render feasible an interstate reciprocity among the licensing boards.

Equally important is the movement toward uniformity of requirement for admission to the medical schools. It is at this point that the barrier must be set up by which men unfitted for professional life, either by lack of capacity or inadequate early education, are to be saved the waste of time and disappointment attending failure to successfully pass the examinations either in course or final. So important has this matter appeared to those interested in medical education that the degree of Bachelor of Arts or its equivalent has already been made a preliminary requirement in one medical school and is announced to go into effect in two others. The importance of this measure being granted, serious discussion has arisen as to how the prolonged course of four years in a collegiate department and four years in the medical school can be avoided. The President of one of our great universities has gone so far as to advocate the shortening of the collegiate course to three years. By another plan the student in the academic department is permitted to present himself for the final examination at the end of the third or junior year. If successful, he then receives a certificate to that effect. This certificate entitles him to begin the course in medicine, the degree of Bachelor of Arts in the academic department being conferred upon him with his class at the end of the ensuing year. Should such a degree as a preliminary requirement be generally adopted by the medical schools, some expedient by which the academic course can be shortened a year will be a necessity, since the technical medical course cannot be shortened even in the case of students who do biological work as electives, without detriment to their medical education. Eight years of study prior to obtaining the doctorate in medicine and the license to practise, constitutes a longer period of time and involves a greater expense than the majority of aspirants for honors in the medical profession can afford. This fact has added force when we consider the time spent by many graduates in serving as hospital internes, and in other work for which they receive no pecuniary recompense.

We, as a working society, have seen not only the wonderful advance in medical education of which I have spoken, but we have also seen the organization of the College Association, one of the objects of which is to make that advance uniform and permanent. We have witnessed not only the enactment of laws by which in many states the license to practise can only be obtained by successful examination under rigorously defined regulations, but also the Confederation of the State Boards of Examiners for the purpose of securing the highest degree of efficiency. In short, in medical education our eyes have looked upon a burst of light like a new dawn, and it has been ours to have had some part in preparing for the day. But there is more to be done, and we may count ourselves happy that we are to do much of it. For what we do as an organization we feel sure will be done well. The educational problems are far from being yet solved; the relations of the profession to the state are not yet well-defined; questions as to expert testimony are still vexed; the status of medical men in armies and navies is not satisfactory; hospital and dispensary abuse is a crying evil; the growth of the commercial spirit is a dry rot within our ranks. Here are problems for us to work out—problems of great moment to us as members of the noblest of professions. Individuals may toil at them and do good, but if we as an association make them the objects of our united labors, we will make ourselves felt as no single man or many single men working apart can ever, no matter how great their individual gifts and energy, succeed in doing.