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ORIGINAL ARTICLES.

THE RELATION OF THE LITERARY TO THE MEDICAL COLLEGES.

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A paper read before the Second Annual Meeting of the Ohio State Sanitary Association, held at Columbus, February 5 and 6, 1885.

MR. PRESIDENT AND GENTLEMEN OF THE ASSOCIATION :

There lies upon my study-table a report, by the Illinois State Board of Health, entitled "Medical Education in the United States and in Canada."

Though not primarily intended for non-professional readers, it is a work whose pages I have turned a great many times during the past two years.

With a peculiar pleasure have I glanced at the names of the one hundred and thirty existing medical colleges in these two English-speaking and otherwise closely-united countries.

I have examined with great care their requirements and courses of study; have noted their list of matriculates; the states from which their patronage has been most largely drawn; and have calculated the ratio of graduates to the total number enrolled.

With no less zeal have I attempted to subdivide my sympathy over the eighty-eight institutions which have been, but are not. For many of these colleges I sorrow as those who have no hope. They are dead, and that is the only thing that can be said about them.

Others never had any life, save in the mind of some Buchanan or other as notorious victimizer of his race.

Many of these institutions, however, have had a history at once honorable to all concerned. They have merely lost their personal identity through consolidation, or have yielded to the inevitable ebb and flow of society.

Very naturally, the institutions of our own commonwealth have claimed more than their full share of attention.

In the total number of medical colleges and in the number of first-class funerals, the record of this state has been surpassed only by that of New York. Twenty-four medical colleges have been born in Ohio. Ten died in unconscious infancy, while fourteen remain the objects of a layman's anxious solicitude.

I am profoundly thankful that no State Board of Health (or of Lunacy) has ever found it necessary to write up the literary institutions of Ohio. Their record would be still more fatal to state pride and state honor. In numbers we have not been willing to be second even to New York. In quality we range from that nameless university which had, according to a late report by the Commissioner of Education, two professors, three students, and a library of one hundred and twenty-seven volumes—I say we range from this nameless university all the way up to those noble institutions whose professors and alumni are represented upon this programme and in the offices of this association.

Until recently there has been but little connection of any kind between the literary and the medical colleges of Ohio. In some instances there has been a seeming antagonism; in others, a spirit of mutual indifference. In no case have the academic and the professional been regarded as concurrent factors in a single educational system. To be sure, several of our leading universities have their medical departments, but, as I rejoice to learn, the latter are almost as free and untrammelled as where no such organic union exists.

Moreover, such a union, desirable as it is in very many respects, is found to be one of convenience rather than of necessity. It undoubtedly ensures a somewhat better utilization of the teaching force, and thus is to be commended on the score of economy.

By associating the two in the minds of the students from the very commencement of their preparatory studies, there may be a somewhat increased attendance, especially at the Medical College, but it still remains that the two schools must preserve their individuality and carry on their work separately.

It is, however, not a question of *organic* union that has led me to select this topic. If I felt qualified to discuss so important a matter I certainly am not authorized to make any overtures on the part of the literary institutions. Nor is this association prepared to receive them on behalf of the medical colleges, if tendered.

The relation between the literary and the medical colleges, if you please, between the academic and the medical men of our commonwealth which I advocate, is rather one of comity, co-operation and goodwill—a pooling of mutual interests in order: 1st. That the standard of education, general as well as professional, may be elevated.

2d. That a much larger number of college graduates may be drawn into this vocation of medicine.

3d. That scientific and rational instruction in physiology and hygiene may be given to the pupils in the universities, academies and high schools of our state.

4th. That, as a result of these reforms, the principles of hygienic and sanitary science may be made known to the entire citizenship of our beautiful commonwealth.

The time, given to me by the kindness of your committee, will not permit of more than a brief unfolding of this subject, in the four subdivisions just indicated.

I. Such a union would elevate the standard of education.

Some months ago, I received a letter from a warm personal friend—himself a member of the Illinois State Board of Health—and the one to whom was committed much of the labor of compiling their report, though his name does not so appear. From him I obtained, as it were, an inside view of these matters and gleaned certain facts not discoverable in the published report, at least not without much study and very careful comparisons.

In the prosecution of their work they have found it necessary to adopt a schedule by which to grade the medical institutions of the country. According to that standard there are, in the United States, ten first-class medical colleges. A list of these accompanies the letter.

As I am not here this afternoon to advertise any one special institution over another, it is certainly sufficient, for the purpose now in hand, to state that not one of these colleges is located within the borders of our own commonwealth.

I am well aware that it is the prevailing fashion to decry the educational institutions of Ohio, and the universities and academies far more than the professional schools. There is a deep-seated prejudice against a system that has authorized the founding of institutions which are necessarily rivals from the start, or which have so insufficient an endorsement as to preclude the possibility of their doing true educational work. No one can be a student in a New England University, for a single week, without hearing of the "Fresh-water" colleges of Ohio, just as if an institution of learning must breathe the salt air daily in order to possess the true aroma of culture.

In a late number of the *Independent*, while admitting many of the evils spoken of, I have attempted to show that the multiplication of colleges has carried the means of obtaining, at the least, a fair education into scores of communities and into thousands of homes where otherwise ignorance and vice would have prevailed. An examination of college catalogues proves that the local attendance at any of our institutions of learning is out of all proportion to the population. At one university, eighty-four out of ninety students are recorded as coming from the county in which the institution is located. At a second, 155 out of 340; at a third, 162 out of 783. The largest number of students leaving any county in the state, to attend colleges located elsewhere, is

probably less than *fifty*. This argument is no less true for a medical college than for a literary one.

Granting that we are not half so bad as we seem to others, let us, nevertheless, examine in a candid spirit the grounds of these criticisms, and thus ascertain, if possible, why the medical colleges of Ohio, in which we justly take so much pride, are not crowned with the same honors by our friends in other states.

With the exception of a slight criticism as to the length of the college year, and a severe one as to the number of years in the medical course, the trouble lies wholly at the threshold. Not a few of the institutions in the so-called first class have so elevated the standard for admission as to make a preliminary training in some good classical and scientific school an absolute necessity.

In one instance an examination is required in the following branches of study, except in the case of those students who bring evidence of still higher attainments: The essentials of an English education, including composition and writing from dictation, algebra, arithmetic, including the metric system, and geometry as an elective. Latin, including translation of easy Latin at sight; German or French, with special credits for both; physics, chemistry and botany, at the option of the candidate.

At another college special honors are paid to the literary side of the student's preparation by waving all examination, in the case of those who have successfully passed the classical entrance into one of the great Eastern universities, Harvard, Yale, Princeton, or the University of Pennsylvania. As this classical entrance examination is almost equivalent to that demanded for the "B. A." degree in a number of institutions that I could name, some of which, unfortunately, are located in Ohio, you will observe that very advanced ground has been taken.*

It is very evident that the trend of the times is in favor of a higher and more complete preparation for the medical calling.

By how much do I anticipate this trend when I plant myself firmly upon the platform of requiring a diploma from some recognized university or scientific school as the *sine qua non* for entrance into the future medical college of Ohio and of the country? As we shall all step upon that platform in twenty years, if we live, why waste two decades in getting ready to move.

Nothing less than this is in keeping with the dignity of the profession or in harmony with the severe studies in its curriculum. Pardon a personal reference. It has fallen to my lot to pay some attention to the sub-science of physiology. I have now progressed sufficiently in my studies to recognize the entire boundlessness of this field for research. In the prosecution of my studies I recall and employ

* Several of our State Boards have insisted upon requirements no less severe.

Many of our medical colleges are advocating a standard which is quite satisfactory, as witness the following:

The general demand for a good preliminary education of those about to enter our profession, is shown by the recent utterances of the American Medical Association, and the enactments of several State Boards of Health. We desire to call especial attention to the fact that in several States the diplomas of such schools as do not require an examination preliminary to entrance, are not accepted as qualifying for practice.

a somewhat protracted training in mathematics taken in an Eastern university and then fail for lack of additional knowledge in this department. In mechanics and in physics I have already been compelled to go beyond the point my teachers left me twenty years ago. In all that pertains to the brain, including the mental and the moral elements of the mind, I have not had sufficient training to confidently take a single step alone. In short, I have early discovered that to be a teacher of physiology requires more preparation, at least in certain lines, than is given to the undergraduate in any American university. You will pardon me, I trust, for adding that a practitioner of medicine must understand physiology. In all this I have taken no note of those studies usually called disciplinary, if such there be in a college course, nor of their reflex influence in training the mind for severe and protracted investigations, but only of those sciences and subjects whose principles are directly employed in physiological research. Were my time unlimited this afternoon, the argument could be made much stronger by discussing the influence of academic training in general upon habits of thought and powers of discrimination, but I forbear.

I have referred at some length to the science of physiology, not because it is the *most* important study in a course of medicine, but because it happens to be the only one with which I am at all familiar. What is true for physiology, however, must be true for "therapeutics," for "theory and practice,"—indeed for all the studies in the medical curriculum.

A single example proves the rule.

The theological seminaries of our country have already been compelled by public sentiment to meet this problem of academic *versus* professional training, and have solved it (at least, so it seems to me) in a very wise and happy manner.

Having arranged a scheme of study, extending over perhaps three years, they admit to its privileges two classes of students.

1st. Young men who have not had the advantages of a full collegiate training. They are admitted freely to the several courses of study, are examined upon the same from time to time, and, on completing the required work in all the departments, receive a certificate to that effect.

Although, in a sense, licensed to practice preaching, they are not graduates, have no voice in alumnal meetings, nor in the election of alumnal trustees. On the other hand, young men bearing a diploma and a degree from some university or college, receive, on completing the same course of study, and after passing the same examination, the degree of Bachelor in Divinity. They constitute the body of alumni and are recognized as such throughout the church.

The good results of this advanced step are seen at a glance.

The future clergymen are taught that, no matter how it may have been in the times of their fathers, the present age is demanding a cultured ministry.

The theological seminaries have received a greatly increased attendance, while at the same time scores

of young men have been sent to college who otherwise would have been satisfied with a common English education.

An important difficulty must have already suggested itself to our minds. While, legally, anybody can preach, it is not so with the practice of medicine. The only door to the profession is through the medical college—the "open sesame," a degree. The laws do not and cannot allow of distinctions in the preparation. They may specify a minimum, but are unable to rightly honor a maximum preparation. That must await the enlightened action of some medical faculty. Before many moons have come and gone some institution of medicine will plant itself upon this platform, and though at first the attendance and revenues may be somewhat diminished, it will in the end prove the most popular step ever taken in our educational history.

May God speed the day, and also grant that it fall to the lot of some Ohio college to lead the van.

We now notice that, as a result of this friendly co-operation between the academic and the professional schools, an increased and ever increasing number of college and university graduates will be drawn into the vocation of medicine.

Certainly if the medical schools should be closed to all persons except those wearing literary degrees as I have suggested, but no less certainly, if through these increased requirements all future disciples of Æsculapius have the importance of a well-rounded culture impressed upon their minds. I have taken the trouble to examine, upon this point, the records of the institution, with which I am connected.

Out of the first five hundred graduates, thirty, or exactly six per cent, entered upon the medical profession. From the ranks of the next two hundred, nine per cent became physicians. Of the next hundred, twelve per cent; while from a recent class of thirty members no less than eight selected medicine, seven of whom have already entered upon its practice. I hear a like favorable report from other universities in the state.

It would, however, not be safe to conclude that there is a sudden stampede toward the medical profession, or that anyone is attempting to "bear" this market.

The enrollment in the several medical schools of the state, save when affected by the hard times, shows a healthy growth without any spasmodic increase in numbers. For this reason the interest in medical training found in our universities is one of the cheering signs of the times, and one which, if reciprocated by our medical friends, will soon force to speedy solution the question of entrance requirements.

The almost phenomenal success of university graduates, while pursuing medical studies, is having a very marked influence, and in the right direction. The honors and prizes obtained by these graduates of our literary institutions are out of all proportion to their numbers. When, from a single class in an Ohio university, eight young men select the vocation of medicine, and in its prosecution attend five different medical colleges, in four different states; and

when at graduation six of the eight obtain positions as internes in five different hospitals, it is not necessary to advance other arguments. The case is won on its merits.

What is true for this handful would be true for the large army of medical students. A trained and cultured mind creates its own success.

The remaining topics are so closely related that they may be considered together.

I have been paying my attention very freely to the medical colleges of the state, and should be greatly pleased if some one of my professional friends would now retaliate, for the literary institutions of Ohio must be even more vulnerable from a physician's standpoint.

There are universities within the circuit of Ohio where the principles of anatomy, physiology and hygiene form no part of the course of study; others, where the instruction in these branches is of the most elementary character, restricted to a single semester, and to two, or, at the most, three exercises a week. There are other institutions where the instruction, if more satisfactory, is limited to the few students taking special courses. I know of no instance in the state where advanced work in these three branches, or indeed in any one of them, is required of all the students in all the departments.

It is, perhaps, ungracious to criticize the public-school system. Instruction in the sciences of the human body being here voluntary, or, at the most, of very recent introduction, we should be thankful that it is as good as it is. So far as my observation goes, this instruction is chiefly limited to a little memoriter work in osteology. The ability to name and correctly locate the bones of the body is regarded with very great favor, while little or no attention is paid to physiology, and still less, if possible, to hygiene. Important as a knowledge of osteology is in its place, this kind of work bears about the same relation to true instruction that the ability to count up to ten thousand does to an equation of the second degree.

The time has certainly arrived when the principles of personal hygiene and the laws of sanitary science, so far as they have been formulated, should be required factors in our entire educational system. There are to-day probably not less than six thousand young persons in the colleges of the state. Four thousand more are enrolled in the academies, private schools and public institutions. An additional thousand are found in the female colleges and boarding schools. Thus fully eleven thousand of our citizens, mostly between the ages of 15 and 22, are enjoying the advantages of higher education.

There is not a city nor a village, probably not a township, in the state without representatives in this educational army. To-day they are pupils—tomorrow they take their places in society, and wield an influence proportionate to their fitness for the duties of life. There never was, in the entire history of the state, an association of men with a more profound duty resting upon them than devolves upon this association to-day—to so awaken public attention and public thought as to secure wholesome instruction in personal and community hygiene at these hundreds

of institutions of learning. Nor does our responsibility end here. There are this very day over five hundred thousand children in the public schools of the state; another quarter of a million have at least a quasi-connection with the system. One-seventh, or, if you count the irregular attendance, one-fifth, of the population of the state is obtaining instruction at public expense.

We (the people) have a right to demand that this instruction shall take such channels and embrace such subjects as shall best subserve public interests. We make no unwarranted claim when we assert that if proper instruction in physiology and in the laws of their own being could be given to the young people of this state, there would be, on the one hand, fewer crimes against sex; on the other, purer homes and nobler lives. If the laws of heredity were as clearly understood in the school and in the family as on the farm, our asylums would have fewer inmates, and insanity would not be increasing as to day. "We live in an age," says a recent writer, "when sanitary science is doing much to effect the preservation of the human race;" but how much more, if its formulated principles could be scattered like autumn leaves upon every man's door-sill.

All this and more, I take it, is the work before this association—all this and more, the work before every educated man and lover of his race. It is a work in which all good citizens of our commonwealth can join hands. There is room then for that spirit of union and co-operation for which I have been pleading. Let us elevate and ennoble education, both general and professional. Let us secure the highest talent and highest preparation for the future devotees of medicine. Let us see to it that our universities, academies and public schools graduate into society young men and young women fitted for the duties which God and the commonwealth impose upon them. Let us spread the laws of sound health and honest living into the most degraded homes of the state, and there will come to this association a charter stronger than if granted by kings, or presidents, or governors—the charter of an approving conscience.

THE LEGAL CONTROL OF MEDICAL PRACTICE BY A STATE EXAMINATION.

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Read at the Fourth Stated Meeting of the Medical Jurisprudence Society, October 13, 1884.

It is my intention this evening to briefly review the advantages that would accrue to the public and the medical profession by the enactment of a law placing the control of medical practice in the hands of a state board of examiners. As is known to many of you, a person who desires to practice medicine in Germany must pass a governmental examination. The students study in universities, and take degrees, but such degrees do not confer the right to enter upon practice. The health and lives of the citizens of the empire are believed too valuable to be imper-