Society Proceedings

COMING MEETINGS

Am. Assn. of Pathologists and Bacteriologists, New York, April 6-7.
Missouri Valley Medical Society, Keokuk, Ia., March 22-23.
Western Roentgen Society, Hotel Sherman, Chicago, Feb. 16-17.

ANNUAL CONGRESS ON MEDICAL EDUCATION, PUBLIC HEALTH AND MEDICAL LICENSURE

THIRTEENTH ANNUAL CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION

Held in Chicago, Feb. 5, 1917

DR. ARTHUR DEAN BEVAN, Chicago, in the Chair

Progress of the Year in Medical Education

DR. N. P. COLWELL, Chicago: The requirement of two years of college work for admission to medical colleges is reasonable, and the action taken by the House of Delegates last June in making that standard a requisite for the Class A rating was not drastic. This is indicated by the fact that at that time fifty-one medical colleges and sixteen licensing boards had already adopted that standard. At present sixty-five medical schools and nineteen state licensing boards have adopted two years of college work as the minimum standard of preliminary education.

A clause in the recommendation adopted by the House of Delegates stated that the colleges of arts and sciences in which the two years of college work were to be obtained should be "approved by the Council on Medical Education." This made it the duty of the Council to prepare a list of approved colleges. The Council has secured lists of those approved by various standardizing agencies, such as the Association of American Universities, and the North-Central and Southern Associations of Colleges and Secondary Schools, and by leading universities.

The House of Delegates also instructed the Council to cooperate with other educational organizations in an endeavor to save one or two years of the student's time during the present session of the medical schools from which reports have been obtained, a large majority show increases in the enrolment of students in freshmen classes. Although the total number of medical schools has been reduced by over 40 per cent. in the last twelve years, the number of colleges having improved educational standards has been increased by over 95 per cent. The numbers of medical students and medical graduates from these high standard colleges have been increased in about the same proportion.

One of the most satisfactory accomplishments of the Council has been the development of the medical students' register, which was started in 1910. In that work, from the beginning, the Council has had the cooperation of a large majority of the medical schools, which have furnished intricate and detailed reports regarding the new students enrolled each session. In addition, the colleges have sent reports from the individual students, giving their educational histories up to the time they entered medical school.

Attention was called a year ago to clauses in the medical practice acts of the Canadian provinces of Ontario and Quebec discriminating against medical schools of the United States. Correspondence with officials in Ontario has resulted favorably, and the discriminatory clause has been stricken out. With the Province of Quebec, however, the practice act still requires that before a graduate of any medical school in the United States can secure registration in that province he must follow the last year of the medical course in one of the schools of medicine of Quebec.

A year ago attention was called to the lack of safeguards in the chartering of educational institutions in the various states. Correspondence has since been carried on with super-

intendents of public instruction, presidents of state universities, secretaries of state medical licensing boards and officers of state medical societies, calling attention to that need and urging the securing of better legislation. As the correspondence progressed, it was ascertained that any legislation regulating the chartering of educational institutions should contain the following provisions: (a) restrictions in the use by any person, organization or corporation of the terms "school," "academy," "college" and "university"; (b) educational standards which should be met by institutions seeking the right to grant degrees before a charter is issued; (c) revocation of the charter of any institution which is found to lack the needed equipment or teachers; which may be found to be using fraudulent methods, or which for other reasons is not living up to the standards fixed by the state; (d) a state board, commission or other body which would have in charge the regulation of such institutions as have been chartered, and (e) ample funds for effectively carrying out the provisions of the law.

The objection to medical cults is their lack of adequate education. Any one having to do with the treatment of human diseases needs to have a sufficiently thorough training to be able to recognize the disease he is attempting to treat; otherwise his treatment is unscientific and as liable to do harm as good. A training in the fundamental sciences is needed, no matter whether drugs are employed or not, and no matter what system or method of treatment may be used.

The educational standard adopted in all leading nations as the reasonable minimum standard for practitioners of the healing art includes: (a) a secondary school course equivalent to that of the better high schools of this country, and in addition the completion of one or two years of work in a college of liberal arts, including courses in physics, chemistry and biology; (b) a thorough medical training, provided by a four year course in a well equipped medical college, including two years in the laboratories of anatomy, physiology, bacteriology, pathology, pharmacology and physiologic chemistry, and two years in clinical instruction in dispensaries and hospitals, and (c) the practical experience obtained in a fifth year spent as an intern in a good hospital.

The Problem of Higher Degrees in Medicine

DR. HORACE D. ARNOLD, Dean, Harvard Graduate School of Medicine, Boston: Opportunities for advanced study and research have long been offered by medical schools, yet the problem of higher degrees in medicine has arisen only recently. Degrees for the recognition of advanced scholarship are sanctioned by our best universities, and help to establish and maintain high standards of scholarship. Medicine is undoubtedly a proper field of learning in which to grant advanced degrees.

The existing degrees of B.A. and B.S., M.A. and M.S. and Ph.D. are comparatively satisfactory. The curriculum of a professional school is on the same relative level as the collegiate course, in that it properly leads to a baccalaureate degree, e. g., LL.B., B.D. A bachelor who completes such a curriculum should receive a second baccalaureate degree rather than a master's degree or any other higher degree. Medicine is an exception to this rule, as the regular medical course leads to the degree of Doctor of Medicine, instead of Bachelor of Medicine. This custom has become so firmly established in practice that it must be regarded as permanent, and it is not practicable to change from M.D. to M.B. The problem of higher degrees in medicine is complicated, therefore, by the fact that the doctorate degree is conferred after a course properly leading to a bachelor's degree.

In some instances the degree of Doctor of Science, Sc.D., has been utilized, but this is undesirable, since that degree is used much more commonly as an honorary and not as an earned degree. The use of the Sc.D. degree with mention of the professional field, D.S.Med., D.S.Jur., D.S.Theol., D.S.Eng., has been suggested as the best way of recognizing advanced research in the various professions.

As an advanced degree with less exacting requirements, the Master of the Science of Medicine, M.S.Med., is suggested. The Master of Science without designation of field is conferred after the attainment of B.A., B.S. or an equivalent.

lent degree, and, therefore, would not be satisfactory after the attainment of the M.D.

Professional study beyond that corresponding to a master's degree might lead to a practitioner's degree, types of which are found in the engineering profession, such as Civil Engineer and Mechanical Engineer. The call for such a degree in medicine is indicated by the recent efforts to establish suitable standards for specialists by the American College of Surgeons, the societies in ophthalmology and other societies of specialists.

DISCUSSION

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The multiplication of degrees is something that should be avoided so far as possible. There are already too many degrees. The Master's degree as a graduate degree in literary colleges is a joke. While, as a rule, it is not a disgrace, it is at least no honor to have it. With these postgraduate degrees there is always a tendency to keep the student in the school where he obtained his undergraduate work. Some years ago we tried to encourage the migration of students so that a student could spend one year in one college, another year in some other university, and so on. A man who has had four years as an undergraduate in a medical school, in getting his clinical work, should go to other medical schools, so as to come in contact with different men. Examinations are a necessary evil, and I do not see how we can get rid of them. They interfere with a man's originality and with his research work. They constantly loom up before him as a specter. The National Board of Medical Examiners has set a high standard, and the passing of its examination ought to be equivalent probably to the highest medical degree obtainable in this country. The board does not want ordinary students, but does want the six or eight best students in every class after they have had a hospital year.

*HARRY PRATT JUDSON, President, University of Chicago: The multiplying of degrees will not help us much. A man should be known by what he has accomplished rather than by the degrees he has obtained. One man may be eminent in medicine and another in research work, yet both may hold the same degree; they are known by what they do rather than by the degree they hold. A simple solution of the problem would be to give the degree of Doctor of Philosophy. It does not matter whether a man is a specialist in mathematics or specialist in pathology; it is all the same so far as the degree goes.

DR. HORACE D. ARNOLD, Boston: The Council's chief object is to establish some means of standardizing the best medical men. I know of nothing more likely to raise the public estimate of the medical profession than to have it recognized by universities as on the same high plane as the arts and some of the sciences which would be the case if its eminent specialists were granted the degree of Doctor of Philosophy.

DR. ARTHUR DEAN BEVAN, Chicago: It is the function of universities to determine this matter, and the Council may give them the point of view of the medical profession. The Chair desires to appoint the following special committee to investigate and report on this subject: Dr. Horace D. Arnold, Boston, chairman; Dr. N. P. Colwell, Chicago, secretary; Dr. L. B. Wilson, Rochester, Minn.; Dr. Isadore Dyer, New Orleans; Dr. John M. Dodson, Chicago; Dr. William Pepper, Philadelphia; Dr. Victor C. Vaughan, Ann Arbor, Mich.; Dr. J. M. T. Finney, Baltimore; Dr. Edward Jackson, Denver, and Dr. James Ewing, New York.

Economy of Time in Preliminary and Medical Education

DR. ARTHUR DEAN BEVAN, Chicago: A study of conditions in Germany and England shows that in countries abroad a student goes from the secondary school direct to the medical department of the university, in Germany at the age of 19 and in England somewhere between 17 and 20. In this country the requirements of preliminary education have been gradually raised until the accepted American standard is two years of college work including the sciences preliminary to medical education. As a result, medical graduates, after completing their hospital intern year, are 28 years of age on the average, whereas in Germany and England the average is from 25 to 26 years.

It is not in the interests of national efficiency for us to graduate our men in medicine two years later than is done in England and Germany. Men at the younger age are more eager, more plastic, and have greater possibilities of a future than men graduating two, three or four years later. This points clearly to the desirability of reorganizing our scheme of education so as to save two or three years of the student's time.

A conclusion forced on me has been the little excuse for the four year college course that is sandwiched in between the high school and the university without definite aim or purpose. Nothing like this has developed in any other country. It has been demonstrated that two years of special technical training in sciences after leaving high school is sufficient for admission to the medical school. The investigation made shows that even with this saving of two years of time as compared with the full college course, the length of time required to complete the premedical and medical training is too great by at least two years, and that some rearrangement should be made in the primary school, in the high school or elsewhere, in order to reduce the time required.

Economy of Time in Preliminary and Medical Education

HON. P. P. CLAXTON, United States Commissioner of Education, Washington, D. C.: The high average age at which students begin their medical studies in this country is due to several causes. Many students pay their way through high school and college by going to school a year or two and then working one or more years for money with which to pay their school bills. Then after graduating from college they may teach one or more years before beginning to study medicine. The older age raises considerably the average age of all professional students and graduates.

Another important cause is the shortness of the school year. The usual length of the school year in American cities is less than 175 days after holidays are counted out, and the length of the average school day is five hours. In rural schools the average school year is from ten to seventy days shorter than in cities, the average difference being nearly forty days between city and country schools. In western European countries, in Canada, Australia, New Zealand and Japan, the school year is from 220 to 250 days. The principle of short hours for efficiency is no doubt correct in a measure, but we have carried the matter to an extreme, especially as it applies to the school year.

Another cause is irregular attendance. There are still states without compulsory school attendance laws, and in none of our states or cities are the attendance laws as rigidly enforced as in most European countries. The average daily attendance in our schools is not more than 70 per cent. of the enrolment, which means that an average of thirty out of a hundred enrolled are out of school daily. Then there is the lack of definite education and professional preparation on the part of teachers. In the rural schools a large proportion of the teachers are young and inexperienced. The average term of service does not exceed probably five years. The constant changing of teachers is another cause. Children in our schools change teachers so often that all continuity of study and teaching is lost. Then there is the lack of definite organization of courses of study, but most of the time lost in American schools is probably through the long drawn out elementary courses running through eight years and continuing two or three years after the beginning of adolescence, and the consequent postponement of the time of beginning high school subjects, by the attempt to crowd all secondary work into four years, and by a false policy in college administration which fails to make the first two years of college life as effective as they might be.

European countries gain much for the children of the upper classes and for all who are looking forward to the university and professional studies in life by making their secondary schools—the gymnasium, the realschule, the lycée, English public schools, etc.—to parallel their elementary schools in time rather than to follow them.

I should strenuously oppose any scheme for the reorganization of public education in this country based on class distinctions. I should oppose also any dual system of schools.

I believe in our democratic tandem system of elementary and secondary schools, but I believe it is possible to make a much better arrangement and use than we now do of twelve years' elementary and secondary schooling.

DISCUSSION

HARRY PRATT JUDSON, President, University of Chicago: The age at which students on the whole receive their M.D. degree is too advanced, and the causes are perfectly obvious. One is the utterly unrelated character of our American educational system. Every branch today is considered separate from everything else. Those in charge of medical education have steadily advanced the requirements for beginning medical work wisely and advisedly. Those entrusted with our colleges have and will advance their requirements for admission. In secondary schools, many subjects are taught which were not thought of a generation ago. In like manner, elementary schools have many studies which a generation ago were not heard of. Unfortunately there has been no correlative force in this country to view education as a whole or to bring it together in a systematic or coherent way. I believe the elementary school work can be covered in six, or at least in seven years, because we have tried and found that it can be done. We can save not only one year in this way, but ultimately, I believe, two years. What we need is a complete, drastic reorganization of our whole system of education involved in colleges and secondary schools preceding the professional work. It is not so much a knowledge of different things that students need, but a better training of the mind.

C. H. JUDN, Professor of Education, University of Chicago: We need the cooperation and intelligent sympathy of the community. When a school man starts to work out these reorganizations he commonly finds he is definitely opposed by the community. It is difficult to make the changes suggested when it comes to their administration. In the University of Chicago we have eliminated the eighth grade in the elementary school, but it was opposed by some of the patrons of the institution. There is a general movement at the present time in the United States toward the organization of what is known as the junior high school, but this is opposed in many quarters as an innovation inimical to the development of our American educational progress.

Thirty per cent. of our colleges today are going out of business, and the expansion of secondary schools has been enormous. In the last twenty-five years we have twice doubled the total population in our secondary schools. In 1890 there were 300,000 students in secondary schools; this year there were 1,300,000 students. It necessitates a complete reorganization of the elementary and secondary schools and the subjects taught, and by means of the junior high school there will be a welding together of the schools, which is of great importance. We need sufficient backing to carry the work out and to articulate the junior college with the high school. With the proper reorganization we could develop a satisfactory American system of education.

KENDRIC C. BARCOCK, Dean, College of Liberal Arts and Sciences, University of Illinois: All who have watched higher education and secondary education as connected with it agree that much time is wasted and that we should proceed at once to save as much of that time as possible. Doctors and educators are not agreed as to how that saving should be made. One reason for students getting their M.D. degree at an advanced age is the tendency of youngsters to change their minds. After spending four years in a high school, many do not want to pay the price of changing their minds. Many students in the premedical course have gone over to law or to some other subject, and afterward taken up medicine.

DR. GEORGE ROYAL, Des Moines, Iowa: The new president in the University of Michigan has gathered statistics showing what effect university training has had on students. He found that the really successful or prominent men were those who graduated at 22 and 23, and that those who graduated at 25 or later were not, as a rule, so successful. Two years can be saved before students reach the medical college.

DR. H. GIDEON WELLS, Chicago: The University of Chicago has a quarterly system which permits a student to work

eleven months in the year instead of nine, which enables him to do more work, although it does not shorten the period at which he may graduate.

DR. S. B. McCORMICK, Pittsburgh: It is necessary to educate the people in regard to this plan of saving one or two years' time in preliminary studies. The time is coming when many institutions which are now colleges will become junior colleges and be incorporated under the general public system of education. If we have cooperation, we shall ultimately eliminate much of the waste of time.

MR. AUGUSTUS A. DOWNING, Albany, N. Y.: I consider it a crime against the child and against the community to turn a child loose from the elementary school and high school at the end of June and let them go anywhere and everywhere until the first of September. They would be better off if the school term were materially lengthened.

(To be continued)

NEW YORK ACADEMY OF MEDICINE

Meeting held Jan. 18, 1917

DR. EDWARD D. FISHER in the Chair

Etiology of Typhus Fever in Mexico

DRS. P. K. OLITSKY, B. S. DENZER and C. E. HUSK: This report presents the results of an expedition into Mexico during the early part of 1916 for the purpose of studying typhus fever. The work was done in Matehuala, Central Mexico, a town of 10,000, in which the estimated number of cases during the winter months was 500. The mortality was 20 per cent. Clinically, the disease corresponded to the classical type. The scientific work consisted in virus and bacteriologic studies, serologic tests, work on the pathogenicity of the organism recovered from the blood, and prophylactic inoculation with a vaccine made from the *Bacillus typhi-exanthematici*. The virus studies confirmed previous observations that the blood of typhus fever patients removed during the height of the disease and injected into guinea-pigs produces a rise in temperature of from four to eleven days' duration after the incubation period of from seven to fourteen days. The Mexican virus was transmitted in this manner through three generations of animals. Blood cultures were taken in thirty-one cases and numerous controls. The technic and mediums employed were those used in the original studies in New York in 1914, except in three cases. Of the twenty-eight cultures made on 2 per cent. glucose serum agar, only eight could be followed a sufficiently long time. These eight cultures showed an organism identical with that first isolated and described by Plotz in 1914. Agglutination tests performed on the serum of typhus fever patients with the *Bacillus typhi-exanthematici* confirmed the previous findings. The organism obtained from the blood, as well as that isolated from lice, was identified by its morphologic and cultural characteristics and serologic reactions. The organism is a slender bacillus about 1 micron in length, usually gram-positive, although many strains are gram-positive. It is an obligatory anaerobe, and grows sparsely on 0.5 per cent. serum glucose agar; it ferments glucose, maltose, inulin and galactose, and fails to ferment lactose, mannite and saccharose. Agglutination, using endemic typhus serum against Mexican strains, showed positive reactions in four out of five of those tested. In like manner, complement fixation tests against typhus immune serum showed uniformly positive results, and uniformly negative results with nontyphus serum. In a word, there is a complete correspondence culturally and serologically of the Mexican organism with the bacillus of Plotz. Experiments on guinea-pigs indicated that the organism is pathogenic for this animal in the original culture, and loses its virulence on repeated cultivation.

Isolation of the *Bacillus Typhi-Exanthematici*
from the Body Louse

DRS. P. K. OLITSKY, B. S. DENZER and C. E. HUSK: Up to the time of the Mexican expedition, all cultural work proved fruitless. One of the results of the expedition was the finding of the same organism in infected lice which Plotz reported