See page — for admission of colleges to membership

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

MINUTES OF THE FOURTEENTH ANNUAL MEETING, HELD AT ATLANTIC CITY, N. J., JUNE 6, 1904.

CHICAGO:
PRESS OF AMERICAN MEDICAL ASSOCIATION
ONE HUNDRED AND THREE DEARBORN AVENUE
1904.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Fourteenth Annual Meeting, held at Atlantic City, N. J., June 6, 1904.

Morning Session.

The Association convened in the Hotel Islesworth, and was called to order at 10:45 a. m. by the president, Dr. J. R. Guthrie, Dubuque, Iowa.

On motion, the roll call of members was postponed until the afternoon session, and the first portion of the program was proceeded with, as announced.

Dr. J. A. Bodine was called to the chair, while the president, Dr. Guthrie, delivered the presidential address.

President's Address.

Gentlemen of the Association:—I desire to thank you most heartily for the honor you have conferred on the college which I represent in selecting me to preside over the deliberations of this meeting, and to earnestly solicit your co-operation to the end that the objects of this Association may be splendidly subserved.

Born of courage and conviction, this Association has a record of which to be justly proud. The past is secure, the present ours and the future largely in our hands. Yea, with us, and our fidelity and loyalty to the fundamental objects of this Association, rests the advancement of medical education in this country. The association was born in 1890, and the part it has taken in the United States is highly commendable.

From this congratulatory retrospect, let us be stimulated and encouraged to win still more substantial victories in the cause of medical education in the near future. Let us not tickle ourselves overmuch over these successes, but confront rather plain facts.

Comparison of Domestic and Foreign Standards.

A brief comparison of our standards with those of other countries will convince us that they are yet far too low, and for the accomplishment of the greatest good must be advanced. Our standards are lower than those in Great Britain, and on the continent, and the contest must go on until all this is changed.

Commercialism stifles the professional spirit and is one of the greatest evils of our time.

One of the most powerful causes of this defect is the overcrowding of the profession. The percentage of physicians in this country is higher than many other places on the globe, one to every 500 persons; twice as many as in Great Britain. The number of students graduated this year will be twice that needed to keep up this congestion. Where is the remedy? What is the antidote? In what way may the colleges lessen this evil? Manifestly we need not more students, but a better grade and quality.

We are to be congratulated on the forward step taken at the last meeting, in elevating the standard of admission into the colleges of this association. That was truly commendable, and further progress is in sight.

But far more important and praiseworthy is the firm, consistent adherence to the entrance requirements already fixed. The present needs are not so much for higher standards of admission, as for firmer, more conscientious enforcements of the rules.

ENTRANCE REQUIREMENTS.

The entrance examinations should be conducted by some one not connected with the teaching force of our schools and entirely free from any bias.

The Association took a most commendable stand on this point at its New Orleans meeting. Our requirements are now too low and must be increased gradually; perhaps not for some time to demand a baccalaureate degree as an entrance qualification, for that hardly seems practical in a country so broad and diversified as ours. Yet the time is not far distant when in addition to a four years' high school course, two years training in scientific study will be demanded. This training would fit students for leaders, not camp followers, in the onward march of scientific, rational medicine.

COMBINED COURSES.

The evolution of the combined course is along parallel lines and is, perhaps, growing in the minds of the best educators.

Without attempting a discussion of the arrangement of the course in any detail, it should be insisted on that four full years is spent in purely medical study. Four years is none too long to spend in the purely technical study of the science of medicine. Any shading of the combined course should be in academic rather than medical studies. Why is a demand made for a shorter course? Does such a demand grow out of present economic conditions? Certainly not, with one physician to each five hundred persons in this country. Does the cause of education or do the best interests of humanity demand this change? Certainly not! Commercialism alone demands a contraction of the course of study.

UNIFORM LENGTH OF COURSE.

Uniformity in many things is quite impossible, but this is not so in reference to the college year. It should be made nine full months, and to apply to every medical school throughout the country.

The answer is made that a seven months term gives time for the student to earn money for the next year, while nine months offers no such advantage. Here the objection is purely mercenary and not at all from the best interest of education nor humanity.

FINAL EXAMINATIONS.

Again, a better standard of final examinations should be established and fully lived up to by every college in this association. The present method of final examination is notoriously deficient. Any student can, after a four-year course, with the aid of quiz compends, pass this test, and yet he may be unfit for the duties and responsibilities of the profession. He passes a purely didactic examination. Insisting, as we do, on laboratory methods of instruction, we should also demand an examination in laboratory work. This would test the student's actual knowledge and his ability to apply that knowledge in solving problems.

ADVANCED CREDIT.

Inseparably connected with the foregoing, is the question of advanced credit, and like it, born of commercialism, a desire to obtain a shorter route into the medical profession. With this parentage it must certainly be viewed with suspicion.

In what interest is the demand for advanced credit made? Is it in the interest of a better quality of medical training? We fear it is not. Is it in the interest of the healing art or our common humanity? Emphatically, no!

Baccalaureate degrees are frequently of such uncertain value, and many times of no value, that the question is both difficult and important. All are, I think, agreed to this proposiition that for a student to receive advanced standing for a baccalaureate degree, this degree must have been earned along scientific laboratory courses. The scientific education of today should be secured in a college with large endowment so that the various laboratories may be provided with the best modern equipment and enough competent instructors, so that the section method in laboratory teaching may be properly carried out.

Dr. W. W. Keen, four years ago, at the meeting of the American Medical Association in Atlantic City, argued in favor of a large endowment for the medical college, an end which, if once attained, will solve this entire question. No advanced standing should be allowed for any degree unless for those who pursued the scientific course with a view to acquiring a medical education.

I am convinced that the granting of credit for any degrees whatsoever should be abolished in the interest of humanity, our profession and the cause of higher education.

That there is great need of active systematic work in the improvement of our standards, no one for a moment doubts.

There are over fifty regular medical schools in the United States outside of this Association. An organized effort should be made to bring in the best of these, not to strengthen the

association, but by co-operation elevate the general status of the profession.

Work can be accomplished by co-operation on the part of this association with the "National Association of Licensiing Boards." A uniform statutory requirement is at present impractical owing to the variable condition of population and education. Yet it must be conceded that state licensing boards will insist on such qualifications as the majority of recognized medical colleges demand.

Early in the past year an intimation was heard that the American Medical Association might and would make some requirement for admission of its members which would elevate or help to elevate the educational standard in America. This statement was definitely made, through THE JOURNAL of the American Medical Association, the mouth-piece of this Association, and it was heard again in the majority report on entrance examinations at our meeting at New Orleans. If this idea was ever seriously considered, the actual workings of the reorganization scheme of the Association, doing away with all requirements and practically admitting every one regardless of qualifications, must effectually disabuse us of any such notion. The reorganization accomplished the desired result of the Association's growth numerically, but not its growth or improvement in educational attainment.

INSPECTION COMMITTEE.

President Rodman, in his address, recommended a committee for inspection of all schools, members of this association and those applying for membership. The secretary, in his report, made the same suggestion, asking for an appropriation of $400 for defraying such expenses. The minutes of the last session show this suggestion was referred to the committee on by-laws. But no record of any action is found in the minutes of any meeting.

I believe the suggestion is worthy of consideration, and hope the Association will take affirmative action at once.

CONCLUSIONS.

In conclusion, I believe the time has come when this Association should decide in favor of:

1. Uniformity of length of term, and make the minimum nine months.
2. That we should seek to establish practical uniformity of curricula.
3. That this association should require a definite number of hours as a minimum in any one subject.
4. That our methods of final examination should be so changed as to include a test of a student's knowledge of laboratory methods and of his ability to apply his knowledge in solving problems at the bedside.
5. That the standard of requirements of admission should be raised as rapidly as practical to junior standing.

Our medical schools must be liberally endowed, thus liberating faculties from the need of student tuition, and forever re-

lieving medical education of the baneful influence of commercialism.

Our colleges of medicine must no longer be places for imparting a certain amount of knowledge, but outposts on the field of discovery in rational medicine, devoted to original research work.

The Association is to be congratulated on the advancement made in the past, urged to look seriously at the present, and hopefully to the future.

On motion of Dr. Wm. H. Wathen, a committee of three was appointed to consider the suggestions contained in this address, and to report at the afternoon session. The chair appointed on this committee Drs. Wm. H. Wathen, Seneca Egbert and S. C. James.

PAPERS READ.

Dr. Wm. H. Wathen of Louisville, Ky., followed with a paper entitled "The True Purpose of Education."

On motion the discussion on this paper was deferred until after the reading of the papers by Drs. Taylor and Kober, the three to be discussed together, inasmuch as they dealt with related subjects.

Prof. Henry L. Taylor of Albany, N. Y., read a paper on "What Credit, If Any, Should Be Given Medical Colleges to Holders of Baccalaureate Degrees?"

Dr. Geo. M. Kober of Washington, D. C., contributed a paper entitled "A Plea for Uniform Curricula in Medical Colleges."

Committee on National Uniformity of Curricula.

Dr. Kober, in his paper, offered the following resolution:

Resolved, That a Committee on National Uniformity of Curricula be appointed, to co-operate with a similar committee appointed by the National Confederation of State Examining and Licensing Boards, for the purpose of presenting a minimum standard of Medical Education, together with such recommendations as the committee may deem proper as to the division of the subjects in a four years' graded course. Said report to be presented at the next annual meeting, and to be printed and distributed at least one month before said meeting.

On motion, duly seconded, the resolution was adopted unanimously. The chair appointed as this committee, Geo. M. Kober, 1600 T Street, Washington, D. C., Wm. J. Means, and Parks Ritchie.

The discussion on the papers of Wathen, Taylor and Kober was participated in by Drs. Seneca Egbert, Clara Marshall, D. A. K. Steele, Wm. H. Wathen, Henry L. Taylor and Geo. M. Kober.

Dr. Seneca Egbert of Philadelphia, contributed a paper entitled "Teaching Methods."

Dr. Geo. M. Kober offered the following resolution:

Resolved, That the Association of American Medical Colleges approves of the so-called combined system of literary and medical education, and of giving time credits of not exceeding one year to the holder of the degree of A.B. or B.S., or other equivalent,

from a reputable college or university; *Provided*, that such student has had at least 900 hours in physics, chemistry, osteology, histology, embryology, anatomy and physiology; and *Provided*, that the applicant for such time credits satisfies the professors of the chairs mentioned in the medical school as to his proficiency in these first year medical studies.

The resolution was duly seconded and adopted.

On motion, the association adjourned until 2 p. m.

Afternoon Session.

The association reassembled at 2 p. m., and was called to order by the president.

The chair appointed the following nominating committee: Drs. Winslow, Ingals and Ward.

The roll call was taken, and the following colleges (44) were represented by delegates:

Arkansas University Medical Department: J. A. Dibrell.
Denver and Gross College of Medicine: T. H. Hawkins.
Yale University Medical Department: H. E. Swain.
Georgetown University Medical Department: G. M. Kober.
Columbian University Medical Department: W. R. Phillips.
Howard University Medical Department: D. S. Lamb.
American Medical Missionary College: J. H. Kellogg.
College of Physicians and Surgeons, Chicago: D. A. K. Steele.
Illinois Medical College: H. H. Brown.
Rush Medical College: E. F. Ingals.
Central College of Physicians and Surgeons: J. F. Barnhill.
Medical College of Indiana: H. Jameson.
Drake University College of Medicine: D. S. Fairchild.
College of Medicine University of Iowa: J. R. Guthrie.
Keokuk Medical College, College of Physicians and Surgeons: G. R. Jenkins.
School of Medicine University of Kansas: G. H. Hoxie.
Kansas Medical College: H. L. Alkire.
Hospital College of Medicine: P. R. Taylor.
Kentucky School of Medicine: W. H. Wathen.
University of Louisville Medical Department: J. M. Bodine.
Kentucky University Medical Department: T. C. Evans.
Flint Medical College: H. J. Clements.
Baltimore Medical College: D. Streett.
Baltimore University School of Medicine: H. H. Biedler.
College of Physicians and Surgeons: Chas. F. Bevan.
University of Maryland School of Medicine: R. D. Coale.
College of Physicians and Surgeons, Boston: C. M. Cobb.
College of Medicine and Surgery University of Minnesota: A. J. Stone.
University of Missouri Medical Department: W. Moss.
Kansas City Medical College: F. J. Hall.
University Medical College of Kansas City: S. C. James.
J. A. Creighton Medical College: F. E. Coulter.
University of Nebraska College of Medicine: H. B. Ward.
University of Buffalo Medical Department: E. H. Long.
University of North Carolina Medical Department: R. H. Whitehead.
Wake Forest College Medical Department: F. K. Cooke.

Western Reserve University Medical College: J. H. Lowman.
Ohio Medical University: W. J. Means.
Medico-Chirurgical College of Philadelphia: S. Egbert.
Woman's Medical College of Philadelphia: C. Marshall.
Meharry Medical College: G. W. Hubbard.
University College of Medicine: J. A. Hodges. [Probably Pritchard]
Milwaukee Medical College: W. H. Earles.
Wisconsin College of Physicians and Surgeons: A. H. Levings.

The minutes of the New Orleans meeting, as printed in the proceedings, were accepted, with the following corrections: (1) That the name of Dr. Chas. F. Bevan be inserted as representing the College of Physicians and Surgeons of Baltimore, in place of C. F. Brown. (2) That the following words, omitted from Section 5, on page 18, be inserted: "annual course to have been of not less than seven months' duration."

Report of the Special Committee on By-Laws.

The report or this committee being called for, Dr. Wm. H. Wathen, in the absence of the chairman, Dr. Ritchie, offered the following report:

Your special committee on the revision of the constitution begs to offer the following report:

1. We were instructed to formulate and present a plan for the "Unification of Medical Teaching." To say nothing of the magnitude of the undertaking, and the difficulty of enforcing its provisions, the uncertain and diverse attitudes of the various state examining boards, in the opinion of your committee, make it unwise and impolitic to attempt anything at this time.

2. Article III of the constitution, as revised and adopted at New Orleans, to take effect July 1, 1905, provides (Sec. 4.) that seven months shall be the minimum length of an annual session. By a clerical or typographical error, that part of the sentence relating to the length of the term was omitted from the printed report. As in a number of the states the examining boards do not recognize a six months' term, we urge this association to make the minimum seven months' term operative July 1, 1904.

3. It is manifest to every member of this association that the loose methods of earlier administrations in the admission to membership, permitted the entrance of schools badly equipped for teaching medicine, and some of them wholly disqualified. At the New Orleans meeting the report and recommendations of the secretary-treasurer was "accepted as read." He recommended that $400 annually be set apart to pay the expenses of the new secretary in visiting the schools, in person or by proxy, and that he be instructed to "make a detailed study and report" to this association as to their equipment and fitness to teach. With the approval of the chairman of the judicial council, the secretary visited and inspected several schools before it was discovered that the appropriation had not been specifically made, and the work was discontinued.

Your committee urge the importance of this work, and recommend the creation of a "committee on visitation," to be composed of the president, secretary and chairman of the judicial council, whose duty it shall be to see that all schools which are members of this association be visited and investigated by a member of this committee, or by some individual designated by this committee.

If any school or schools shall, in the judgment of this committee, be found not to possess the qualification necessary to membership in this association, they shall present a detailed report on the same.

It is recommended that an appropriation be made for the expense of this committee, of a sum not to exceed $400 annually.

To avoid future embarrassment, it is advised that the same committee be directed to visit and investigate, at the expense of the applicant, any school which may propose to become a member of this body, and report results to the judicial council.

If a plan of visitation shall be undertaken by the American Medical Association, or the National Confederation of Examining Boards, or both, the above committee is authorized to confer with the representatives of these organizations in order to devise a suitable scheme of college visitation which shall be satisfactory to all three associations.

4. The section of the president's address in relation to the "transfer of students," is so clear and comprehensive that we quote it in its entirety: "While the constitution is clear enough as to the privileges of members to deal with students of other schools at the beginning of a session, it has nothing to say on the important question of transferring students in the midst of a term. Undoubtedly this is a subject demanding attention. It is a practice to be discouraged in the main, for nearly always the student wishes to change schools during a term, for reasons selfish and discreditable to himself. Occasionally the right is on his side, and if his record has been good, if all reasonable requirements have been met, and the dean will so certify, there is no just ground for refusing him admission to the same class in another school. It should be made impossible,, however, for any work of importance, didactic, clinical or laboratory to be evaded."

Your committee urge the adoption of a rule that no member of this association shall admit a student from another school into advanced standing unless he presents a letter of honorable withdrawal or dismissal from that institution signed by the dean or secretary.

(Signed.) PARKS RITCHIE.
JOHN M. DODSON,
WM. H. WATHEN (per Ritchie),
(except last paragraph).

I suggest the following as a substitute for the closing paragraph of above report: "That no member of this association small admit a student to advanced standing except on the presentation of examination credits officially signed by the school in which such student attended lectures, and that no time credit shall be allowed for any credential that does not em-

brace the work of an entire year—freshman, sophomore, junior and senior—in continuous months."

(Signed.) WILLIAM H. WATHEN.

Dr. Wathen then offered the following supplemental minority report as an amendment of Article 3, Section 4:

They shall admit no student to advanced standing except on the presentation of examination credits officially signed by the school in which the student attended lectures, and no time credit shall be allowed for any credential that does not embrace the work of an entire year—freshman, sophomore, junior or senior in seven continuous months.

On motion, both these reports were considered *ad seriatum*.

The first section of the report was then read.

Inasmuch as this portion of the report was disposed of by the resolution contained in Dr. Kober's paper, and adopted by the association, no further action was taken.

The second section was then read.

Dr. Kober moved its adoption. The motion was lost.

The third section was then read.

Dr. Seneca Egbert moved the adoption of this section, and that an appropriation of $400 be made to defray the expenses of the visitation committee for the coming year. Seconded and carried.

The final section of the report was then read.

Dr. Wathen submitted, as a substitute for the above, a minority report, as follows:

They shall admit no student to advanced standing except on the presentation of examination credits officially signed by the school in which the student attended lectures, and no time credit shall be allowed for any credential that does not embrace the work of an entire year—freshman, sophomore, junior or senior in seven continuous months.

Dr. Wm. J. Means moved the adoption of the majority report. Seconded.

Dr. David Streett moved, as a substitute, that the minority report be adopted. Seconded.

Dr. Seneca Egbert offered the following substitute: "That after September, 1904, no member of this association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receiving from the dean of said college a direct written communication certifying to the applicant's professional and moral qualifications, and to the exact work he has done in said college."

Seconded and carried.

The following amendment to Article 3, Section 6, offered by Dr. Wm. Wathen, was then read:

They shall give no advanced standing or time credit for a bachelor's degree, or a degree in pharmacy, dentistry or veterinary surgery, but may give credit for work successfully completed in any subject included in the freshman year, the

student then being permitted to study in addition to the required branches, such elective branches as the college may allow.

Dr. E. F. Ingals moved that the amendment be laid on the table. Seconded and carried.

Dr. Wathen then offered the following amendment to Article 3, Section 8:

Colleges of the Association of American Medical Colleges shall have but one annual session, at the beginning of which all students shall be matriculated, and at the close of which students may be examined for advancement to a higher grade, or, in the senior year for the degree of doctor of medicine.

Dr. T. C. Evans moved that this amendment be laid on the table. Second and carried.

Report of Secretary-Treasurer.

The report of the Secretary-Treasurer was called for and read, as follows:

To the President and Delegates:—When I was honored with this position, I realized and appreciated fully all that the Association expected of its Secretary, and, therefore, I entered on the duties of this office fully cognizant of what lay before me, and determined to do all I could to further the interests of this Association in its effort to elevate medical education.

On taking up the work I found that the records were scanty and incomplete, so that it was impossible to glean from them anything that would have aided me in my work. My first effort was to make the Secretary's office a bureau of information for the members of the Association. With this end in view I set about collecting the proceedings of all the meetings held since the organization of the Association in 1891. I succeeded in procuring all of the transactions, with the exception of those of the meetings held in 1893, 1894 and 1895. I was unable to obtain these records from anyone, and, thus far, I do not know who were the officers of the Association during those years, nor what work was done. I shall be glad to receive this information from such members as are in a position to supply it.

ASSOCIATE AND HONORARY MEMBERS.

Permit me in this connection to call your attention to Article iv, Section 1, which empowers the Association to elect associate and honorary members. Associate members shall consist of former representatives and representatives of postgraduate medical schools, and members of state boards of medical examiners. Distinguished teachers of medicine and surgery may be elected to honorary membership. The following were elected to honorary membership in the Association in 1895, at Baltimore: H. P. Bowditch, George M. Sternberg, J. M. DaCosta, Levi Cooper Lane, Hunter McGuire, T. Gaillard Thomas.

It appears that the Secretary's office, apparently, has not had the broad scope it should have, nor have the members made use of it during the intervals between the meetings. In order to remedy this defect, I have endeavored to keep in touch

with all the colleges during the past year, and also, but to a less extent, with colleges who are not members, in order that I would be in a position to furnish any information that might be desired. It has been a very difficult and arduous task, largely by reason of the fact that it was a new department. I found, much to my surprise, that few of the members were aware of the existence of this office, judging from the little use there was made of it, but every assistance was given me in my work, many courtesies were shown me by the colleges, and for this I wish to express my gratitude and appreciation.

Necessarily, the correspondence has been unusually heavy during the year, but I believe that it has been productive of much good. Many letters have been received from prospective medical students inquiring as to the names of the colleges in certain cities that are members of the Association, for the reason that they wished to attend a college that was a member in preference to attending one that was not. Many inquiries were also received from colleges, both members and non-members, with reference to the laws of the Association and the work done by it. All this, I take it, is an indication that this Association is recognized as a potent factor in medical education, and that its labors are appreciated by all.

COMMITTEE ON MEDICAL EDUCATION.

In this connection, permit me to suggest the appointment of a committee of one to confer with similar committees from the American Medical Association, the National Confederation of State Licensing and Examining boards, the Southern Medical College Association and the national associations of the several medical sects. The purpose of these committees is to further medical education by establishing a uniform standard of requirements for entrance to and graduation from medical schools. The appointment of such a committee will do much to harmonize the work done by these various associations.

As soon as the copies of the proceedings of the New Orleans meeting were delivered to me by THE JOURNAL of the American Medical Association, I forwarded one copy to each college in the United States, members and non-members, and an additional copy to each delegate present at that meeting. Colleges members of the Association also received a copy of the Constitution and By-Laws, which I compiled from previous proceedings and had printed, believing that it would assist the members in their work. This pamphlet also contained a list of the members of the Association, the rules of the Judicial Council and the recommendations submitted to the Association by the Committee on Uniformity of Records at the Saratoga meeting.

CORRECTION IN PROCEEDINGS OF LAST YEAR.

My attention has been called to an omission in the published transactions in the new Article iii, Section 5. The following line was dropped accidentally: "Annual course to have been of not less than seven months' duration." By referring to the copy of the former Secretary, I find that this line was omitted, although it appears in its proper place on page 17 of the transactions, and also in the Constitution.

CHANGES IN MEMBERSHIP.

During the year the following changes have taken place that concern the Association directly: The Jefferson Medical College of Philadelphia withdrew from membership in January of this year. The Barnes Medical College of St. Louis, Mo., was dropped from the membership roll because of non-payment of dues for the year 1903. Several notices were sent this college, as well as a personal letter to the secretary of the college, but all failed to elicit a reply. The Laura Memorial College of Cincinnati, O., was absorbed by the Miami Medical College of the same city. The National University Medical Department of Washington, D. C., was merged into the Columbian University Medical Department. The Omaha Medical College became the Medical Department of the University of Nebraska. The Medical Department of the University of Missouri established a full four years' course of nine months each. Their application for recognition is in the hands of the Judicial Council.

NEW COLLEGES.

The following colleges have been founded during the year: College of Physicians and Surgeons, Los Angeles, Cal.; Medical Department University of Indiana (first two years), Bloomington, Ind.; Fordham College, Medical Department, New York; Medical Department, Lombard College, Galesburg, Ill.; Bell's Medical College, Dallas, Texas; University of West Virginia Medical Department, Morgantown, W. Va.

APPLICATIONS FOR MEMBERSHIP.

Applications for membership were received from the College of Physicians and Surgeons of San Francisco, Cal.; the Medico-Chirurgical College of Kansas City, Mo.; the Medical Department of the Universtiy of West Virginia, of Morgantown, W. Va., and the Medical Department of the University of Mississippi, of Oxford, Miss. All these applications were referred to the Judicial Council for further action.

VISITATION AND INSPECTION.

In accordance with the suggestions contained in the report of the previous Secretary, which was approved by the Association, and acting on the instructions of the chairman of the Judicial Council, your Secretary undertook the work of visiting the colleges members of the Association, and continued this work until it was discovered that no specific appropriation for this work had been made, although Dr. Hall's report stated that $400.00 be appropriated annually to defray the expenses of such visitations. In the meantime, the following colleges were visited: The College of Medicine and Surgery of the University of Minnesota, the College of Medicine of Hamline University, the Milwaukee Medical College, the Wisconsin College of Physicians and Surgeons, the Medical Department of the Georgetown University, Medical Department Columbian University, Medico-Chirurgical College of Philadelphia, Jefferson Medical College and Woman's Medical College of Philadelphia. I have not made out a detailed report of the result of these visitations, waiting until the Association had decided definitely as to the

nature of the report to be submitted. The data are in hand and a report can be filed at any time hereafter.

After having made these few visitations, and on attempting to make a detailed report, it became evident to me that it would be desirable to have an inspection sheet or report, to be filled out at the time of such visitations, and to be signed by an official of the college visited, thus procuring full and exact information as to the facilities for teaching possessed by the college. This blank also would be of service in reporting on colleges making application for membership in the Association. With this end in view, your Secretary, with the co-operation of the chairman of the Judicial Council, Dr. Means, prepared a blank which is submitted herewith for your consideration. This blank, it will be seen, contains a vast fund of information that will be of value not only to the Association, but also to educators of all classes. The Judicial Council has made use of this blank in a number of instances, and has found it of great assistance in the work of passing on the eligibility of applicants for membership.

[The blank asks for the following facts:]

1. Name of school. 2. Address. 3. When founded. 4. Dean. Secretary. 5. Population of city in which you are located. 6. Number and name of medical colleges in your city. 7. Number and name of hospitals in your city open to you for clinical work. Charity beds in each. Private beds in each. Maternity beds in each that can be used for clinical purposes.

8. Describe in detail your college building or buildings. 9. Estimated value. (a) Of buildings. (b) Of equipment. 10. What endowment, if any. 11. Are you connected in any way with a university? If yes, what is the connection? 12. Are the buildings owned by the college corporation? 13. Have you any funds other than the income from students?

14. How many lecture or recitation rooms in the college buildings? Size of each as to seating capacity. 15. Give equipment of laboratory for histology, embryology, biology, pathology, bacteriology, physiology, chemistry, other laboratory departments. 16. How many microscopes? Old. Modern. 17. Are any of your teachers salaried? If yes, which ones and how? 18. What facilities have you for getting dissecting material?

19. Corps of instructors: Number of professors, associate professors, assistant professors, lecturers, demonstrators, assistants, etc.

20. Students: Number of matriculants. Number of students in attendance. Freshmen. Sophomores. Juniors, Seniors. Special. Co-educational. Do you draw color line? Number graduated at the close of last session. 21. Do you adhere strictly to a four years' graded course? 22. How do you determine the standing of the students? (a) by term examinations? (b) by recitation grades? (c) Or both?

23. Length of course: (a) How many years of attendance are required for graduation? (b) How many actual teaching weeks in each session (including examinations)? (c) On what date does regular session begin? (d) On what date does it close? (e) If a continuous course, how many semesters? (f) How many semesters are required to complete an annual session? (g) How many hours are devoted to college work by student during first year? Second year? Third year? Fourth year? (h) How many hours during the four years are devoted to: D.—Didactic work (including lectures, quizzes, class demonstration)? L.—Laboratory teaching? A. C.—Amphitheater clinics? D. C.—Dispensary clinics? 24. Name subjects taught during first year, second year, third year, fourth year. State whether taught by D., L., A.C., D.C. 25. Have you any electives? If so, state which subjects and how many of each. 26. Are amphitheater clinics held in college building or in an affiliated hospital? If hospital, which one? 27. Is attendance on all clinics obligatory? 28. Have you a library? If yes, give details as to size, scope, management and how sup-

ported. 29. Have you a museum? If yes, give details as to size, scope and whether it is used in connection with the teaching. 30. What teaching facilities have you in the line of charts, models, stereopticons, photographic equipment, static machine, *x*-ray apparatus, etc.?

31. Do you grant scholarships? If yes, how is such grant determined? 32. Do you make any reduction in fees? If yes, to whom? 33. Fees: (a) Annual charge for tuition. (b) Graduation or examination fees. (c) Caution fee (breakage). (d) Dissection or other laboratory fee. (e) Amount of total fee for the entire annual course, including all charges.

34. On what minimum requirements, other than examination, do you admit students? 35. By whom are students who do not have proper credentials examined relative to their primary education? 36. What is the percentage of rejections of those who are examined? 37. Do you condition students? State conditions. 38. Do you grant any time credits for degrees or work done elsewhere? If yes, explain fully. 39. Do you grant work credits? If yes, explain fully. 40. Are you willing to bear the expense necessary for a personal examination of your institution by one or two members of the judicial council or by the secretary and the chairman of the judicial council?

STATISTICAL STUDY OF MEDICAL COLLEGES.

Another duty devolving on your Secretary was entailed by the suggestion and recommendation contained in the report of the previous Secretary, to the effect that the Secretary make a detailed study of all the medical colleges of this country, the report to embody the requirements for admission and the various conditions of admission set forth in the curricula of such colleges, and the facilities offered for giving the courses, and such other details as may be advisable. It is, of course, impossible to prepare such a report as was contemplated by the previous Secretary, within a year, although its desirability is evident. Comparatively few of the colleges responded to the request for a catalogue, and in many instances the catalogues do not contain all the information necessary for the preparation of such a detailed and lengthy report. As soon as the work of visitation and inspection is resumed, the preparation of the report can be proceeded with as was contemplated in the recommendation, because the information can be obtained directly from the college much more correctly and expeditiously than it is possible to obtain it from a catalogue.

I have, however, begun this work and am prepared to give you the results of the little I have been able to do under the circumstances.

On taking up this work I was struck by the heterogeneity and variableness of the information to be obtained from a catalogue. Contradictory statements were made as often as three times in one catalogue. After I had figured out the amount of time devoted to various studies in about fifty catalogues, I was forced to abandon the work because the information obtained in that way could not be utilized for any purpose. Each college has its own ideas as to what should be taught and how much time should be devoted to it. Some colleges devote considerable time to studies not considered worthy of a place in the curriculum by others. Again, some studies are merged and are taught from one chair, so that no estimate can be made as to the time devoted to each of the studies so merged. A personal communication with the teacher would be the only proper way for obtaining such information, and that

requires considerable time and correspondence, as well as an outlay of much money. Therefore, I have laid this portion of the work aside until some future time when conditions are more favorable for taking up a study of the curricula of medical colleges. It can not be denied, however, that such a report would be of assistance to all colleges in preparing their courses of study, and in establishing a uniformity of curricula.

LENGTH OF TERM.

Next I took up the length of the courses, and here, too, I found considerable variation. Six months may mean 24 weeks or 26 weeks. Seven months usually means a 28 weeks' course, but in some instances it is only a 27 weeks' course. Eight months means 30, 31 or 32 weeks. Nine months means anywhere from 33 to 36 weeks. I made my calculation according to the calendar, including examination weeks and omitting the vacation periods. A calculation based on the number of days of actual attendance would, perhaps, have been more interesting, and it certainly would have been more exact, and I shall make future calculations on this basis. Then, too, the length of the senior course always is shorter than the courses of the first three years, so that the fourth year of an eight months' school would not exceed 28 weeks in length.

ENTRANCE REQUIREMENTS.

Considerable variation also shows itself in the matter of entrance requirements. Admission by examination is possible in nearly all colleges. Some colleges admit only on presentation of a high school diploma, and some specify what such a diploma should represent in work done. In some instances it is rather difficult to determine just what credentials for entrance are required. Some colleges give time credits for nearly all kinds of work done. Others give only work credits, even to holders of baccalaureate degrees. A few colleges that are parts of a university prefer to admit only such students who have completed a prescribed course in such university. I have prepared a preliminary report on this, and expect to be able to present a complete report, giving the name of each college and its entrance requirements in detail. It is impossible to do this in a summarized report.

A number of colleges will not admit students on conditions, and that, in a large measure, may be responsible for the falling off in numbers of the medical students during the past year. Of course, the raising of the entrance requirements quite generally has had much to do with this falling off.

It is almost impossible to obtain a correct list of the medical colleges in this country. I believe that at present I have a list that is more nearly correct than any other. My information has been obtained from any and varied sources, but because of the constant formation of new colleges it is quite a task to keep the list correct.

I have studied all the colleges in this country—those that are members of this Association and those that are not. As a result of this study, I present the following summarized report:

There are at present in the United States, including the Philippine Islands, 128 regular schools, 19 homeopathic, 10

eclectic, 3 physiomedical, and 1 nondescript, a total of 161. Of this number, 66 of the regular schools belong to the Association and 65 are non-members. (Of this number, four have been received into membership since the writing of this report, and applications have been filed by two more.)

MEMBERS.

Of the colleges belonging to the Association, 2 are exclusively for women, 2 for negroes, 1 has both day and evening courses, 3 have a continuous course extending over twelve months and divided into four semesters of three months each; 1 college is a member of this Association and also of the Southern Medical College Association; 7 schools confer two degrees, the baccalaureate and the medical degree, at the end of six and seven years; 37 colleges have a university connection, either actual or in affiliation.

AS TO THE LENGTH OF THE TERM.

Four years of six months each, 6 colleges; four years of seven months each, 19 colleges; four years of seven and a half months each, 2 colleges; four years of eight months each, 23 colleges; four years of eight and a half months each, 1 college; four years of nine months each, 15 colleges, a total of 66.

ENTRANCE REQUIREMENTS.

Rules of this Association, 41; rules of state boards of medical registration, 9; high school diploma, 8; either a baccalaureate degree or a high school diploma, plus 15 units, 1; high school diploma, plus two years of college work, 2; high school diploma, plus one and one-third years of college work, 1; high school diploma, plus one year of college work, 1; baccalaureate degree, plus credits in physics, chemistry, biology, Latin and a reading knowledge of French and German, 1; high school diploma, plus three years of college course, 1.

This information was taken from the catalogues of the colleges, and is the minimum requirement, in lieu of which an examination may be taken.

Some colleges give no advanced standing whatever for any degree; some give a time credit of one year to dentists only; others, to dentists and veterinary surgeons; a very few give credit to graduates in pharmacy; some colleges give work credits but no time credit.

FEES.

I have included the matter of fees in my study. The fees vary from $35.00 a term to $200.00. The medical departments of universities have low fees for residents, but the same fee does not apply to non-residents. A very few colleges give a discount to the sons of physicians and clergymen. One college offers the tuition of the third and fourth years to students who matriculate for the freshman work in October, 1903 and 1904.

NON-MEMBERS.

Of the colleges who are not members of this Association, 1 is exclusively for women; 1 teaches all of the "pathies" and "sects" of medicine, including osteopathy, the student choosing his work; 5 are for negroes (4 are night schools); 4 teach the first two years only of the medical course, and 1, I understand, is a diploma-mill; 34 have a university connection of some kind.

AS TO THE LENGTH OF THE COURSE.

Fours years of six months each, 19; four years of seven months each, 18; four years of seven and a half months each, 2; four years of eight months each, 11; four years of nine months each, 4; four years of ten months each, 3 (night schools); five years of nine months each, 1 (night school); two years of nine months each, 4; no information, 2—a total of 65.

ENTRANCE REQUIREMENTS.

Twelve of these schools are members of the Southern Medical College Association, and exact the entrance requirements laid down by this Association. Seven other schools abide by the rules of the Association of American Medical Colleges; 5 abide by the rules of the Southern Medical College Association; 19 require a high school diploma or its equivalent; 1, a baccalaureate degree, plus a chemistry credit; 2, a high school diploma, plus one year of college work; 1 requires "satisfactory evidence of educational qualifications necessary for the successful prosecution of medical studies"; 1, "a diploma, certificate, or examination showing proficiency"; 1, "a certificate showing proficiency"; 1, "certificate showing possession of sufficient knowledge"; 1, "preliminary examination for applicants not possessing requisite diploma or certificate."

FEES.

The fees range from $30.00 to $250.00. The colored schools ask the lowest fees, and nearly all of them ask less than $50.00 per term.

This work is merely a preliminary study, and the forthcoming catalogues for the session of 1904 and 1905 will vary considerably from those of the last session, so that this work will have to be revised from year to year. One fact is very evident, and that is, a total lack of uniformity in the rules and regulations of all the medical colleges in this country, and the desirability of having uniformity, in some things at least.

Respectfully submitted,

FRED. C. ZAPFFE, Secretary.

As to the publication of the transactions of this meeting, THE JOURNAL of the American Medical Association has agreed to publish the proceedings on the same basis as last year.

FINANCIAL STATEMENT.

Association of American Medical Colleges, in account with Fred. C. Zapffe, Secy.-Treasurer:

Received from 67 colleges		$670.00
Received from Dr. W. S. Hall		237.75
		$907.75
Disbursements—		
Printing—stationery, proceedings New Orleans meeting, constitution and by-laws, circulars, program	$63.75	
Office expenses, including typewriter repairs and supplies	55.75	
Typewriter (old one in exchange)	70.00	
Exchange on checks	4.15	
Expressage	4.85	
Postage	36.50	
Stenographic report of New Orleans meeting	35.00	
Traveling expenses incident to inspection of colleges in Milwaukee, Minneapolis, Philadelphia and Washington	115.00	
Expenses of Judicial Council	25.00	
Total disbursements	$410.00	410.00
Cash balance on hand		$497.75

The financial report was referred to the following Auditing Committee: Drs. Egbert, Kober and Steele.

Committee on Medical Education.

The balance of the report was accepted, and, in accordance with the suggestion contained therein with reference to the appointment of a Committee on Medical Education, the Chair later appointed as such committee the Secretary, Fred. C. Zapffe.

Report of Judicial Council.

Dr. William J. Means, chairman of the council, reported as follows:

The Judicial Council held one regular meeting during the year, at the Wiltshire Hotel, Atlantic City, N. J., June 6. There were present Drs. W. J. Means, chairman; E. F. Ingals of Chicago, T. H. Hawkins of Denver, Randolph Winslow of Baltimore and H. B. Ward of Nebraska. The meeting was called to order by the chairman. H. B. Ward was elected secretary.

The first business was a consideration of the applications for membership made in 1903, on which action was deferred pending further investigation of the standing of the colleges.

Dallas (Texas) Medical College, withdrew its application.

The application of the University of Tennessee, located at Jackson, Tenn., referred to Dr. Means for investigation, was taken up, and, because of insufficient facilities and lack of teaching force, was not considered eligible for membership. Rejection of the application is, therefore, recommended.

The application of the University of West Virginia, located at Morgantown, W. Va., for membership, covering the first and second years only of a four years' medical course, is, on a report from Dr. Dodson, who investigated the college, recommended.

The application of the Medical Department of Wake Forest

College, at Wake Forest, N. C., for membership, covering the first and second years only of a four years' medical course, is, on a favorable report from Dr. Winslow, recommended.

The application of the Medical Department of the University of Mississippi, located at Jackson, Miss., for membership, was considered, and it was decided to recommend membership covering the first and second years of a medical course.

The Medical Department of the University of Missouri made application to complete its membership for a full four years' course. A thorough investigation was made of the clinical facilities of the college, and the members of the council believe they are sufficient to meet the requirements for a thorough medical course. The council, therefore, recommends a full membership.

The Medico-Chirurgical College of Kansas City, Mo., made application for membership. After due consideration the council recommends that the matter be laid over one year pending further investigation.

COMMUNICATIONS AND ANSWERS.

During the year many inquiries were received asking for a construction of rules governing admission of students, credits, etc. Among the most important, we submit the following:

CHARGES AGAINST BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.

The following charges were preferred by the Baltimore Medical College against the Baltimore University School of Medicine:

BALTIMORE, May 18, 1904.

William J. Means, A.M., M.D., Chairman Judicial Council of the Association of American Medical Colleges, 715 North High St., Columbus Ohio:

Dear Doctor:—The Board of Directors of the Baltimore Medical College has directed me to lay before your Council the following complaint against the Baltimore University School of Medicine: That the said Baltimore University School of Medicine received students, then in attendance at the Baltimore Medical College, on or about the following dates, the same being other than is permitted by the rules of the Association of American Medical Colleges:

Charles H. Glover left the Baltimore Medical College on or about Feb. 17, 1904, entered the Baltimore University School of Medicine and graduated therefrom on April 19, 1904.

Wm. E. Giesregen left the Baltimore Medical College on or about March 1, 1904, and graduated from the Baltimore University School of Medicine April 19, 1904.

Frederick S. Bootay left the Baltimore Medical College on or about Feb. 20, 1904, and graduated from the Baltimore University School of Medicine April 19, 1904.

H. Forsythe Stapp left the Baltimore Medical College on or about March 26, 1904, and graduated from the Baltimore University School of Medicine April 19, 1904.

Harper A. Wright left the Baltimore Medical College on or about Dec. 24, 1903, and graduated from the Baltimore University School of Medicine April 19, 1904.

Harry E. Duffy left the Baltimore Medical College on or about Feb. 2, 1904, and graduated from the Baltimore University School of Medicine on April 19, 1904.

Should other proof than this statement be required we will be pleased to place before your council on request documents proving the correctness of the charges herein made.

We regret to have to make this complaint against a school in our own city, a member of the Association of American Medical Colleges, but believing the charges to be true and in contravention of the rules of the Association of American Medical Colleges, as

well as inimical to the general welfare of medical education, we feel it our duty to do so.

Kindly acknowledge receipt hereof, at the same time advising us what further action, if any, may be necessary on our part.

Assuring you of our cordial personal esteem, we have the honor to remain, Yours very truly,

DAVID STREETT, M.D., Dean.

P. S.—On April 20 our Dr. Samuel T. Earle informed Dr. R. Winslow, the resident member of your council, of this matter, and I presume that he has already notified you of it. D. S.

A copy was furnished the Baltimore University School of Medicine May 21. The following answer was received May 30:

BALTIMORE, May 30, 1904.

Dr. W. J. Means, Chm. Jud. Coun., Association American Medical Colleges, No. 715 N. High St., Columbus, Ohio:

My Dear Doctor Means:—I am in receipt of your favor of the 21st, and in reply our faculty is more than surprised to hear that the directors of the Baltimore Medical College should have preferred any charges against the Baltimore University School of Medicine, and the faculty at a meeting held Friday evening, May 27, 1904, has instructed me to say that each and every one of the students mentioned in your letter, that is Messrs. Charles H. Glover, William E. Geisregen, Frederick S. Bootay, H. F. Stapp, H. A. Wright and Harry E. Duffy, matriculated in the Baltimore University School of Medicine in October, and were students at our College during the session, and if they were in attendance at another college at the same time our faculty was not aware of it.

We have no desire to do anything that would conflict with the constitution or by-laws of the Association of American Medical Colleges in any way, shape or form whatever, and we do all we can to uphold and support the Association. We have done nothing to conflict with "Section 4, Article 3, of the Constitution," we only honor official credentials of recognized medical colleges, and under no circumstances do we allow *any member of the senior class to graduate at our institution* unless he takes all of the branches embraced in our senior year.

It is our custom when a student applies to us for matriculation and shows us his credentials for his past years, we never think of such a thing as asking him whether he is in attendance at any other medical college at that time.

Trusting this will be satisfactory, and assuring you of our earnest desire not to do anything that will conflict with your body, I beg to remain, Very respectfully yours,

H. H. BIEDLER, Dean,
Baltimore University School of Medicine.

Due notice was given both colleges to prepare their evidence for presentation to the council June 6, at Atlantic City.

Dr. Streett, Dean of the Baltimore Medical College, submitted evidence, properly attested, from the records of the college and teachers in support of the charges.

Dr. Biedler, Dean of the Baltimore University School of Medicine, denied the charges in a general way, but furnished no documentary evidence to support his statement.

After due consideration of the testimony the council adopted the following:

RESOLVED, The testimony presented by the officers of the Baltimore Medical College clearly established the fact that Chas. H. Glover, Wm. E. Giesregen, Frederick S. Bootay, H. Forsythe Stapp, Harper A. Wright and Harry E. Duffy were regularly matriculated students in said college, and continued in attendance during the time stated in specifications; and, the statement of the dean of the Baltimore University School of Medicine that said students were matriculated in his college in the month of October, and were in attendance during the session, unsupported by attested evidence from records of the college and teachers, is not a sufficient refutation.

Therefore, inasmuch as the charges are clearly in contravention to the rule of the association, and the requirements for graduation set forth in the college announcement, the council recommends that the Baltimore University School of Medicine be suspended from membership until satisfactory evidence is furnished from the class records and teachers of the college, properly attested, sustaining the contention that said students were in attendance during their senior year.

The members of the council wish to express to the officers of the association and the members thereof, their appreciation of the many kindly courtesies shown them. Respectfully,

W. J. MEANS, E. F. INGALS, T. H. HAWKINS, RANDOLPH WINSLOW, H. B. WARD.

On motion the report was accepted.

Dr. P. Richard Taylor moved that the new constitution adopted at New Orleans become operative on July 1, 1907, instead of July 1, 1905. Seconded.

Dr. Means moved that the motion be laid on the table. Carried.

Committee on President's Address.

Dr. Egbert, on behalf of the committee on president's address, reported as follows:

Your committee recommends that the thanks of the association be tendered to President Guthrie for his most able and the various suggestions contained therein be referred to the each member of the association. It recommends further, that excellent address, and that it be printed and a copy sent to committee on by-laws, with the request that they give the same due consideration, and report to the association at an early date. (Signed.) WM. H. WATHEN,
SAMUEL C. JAMES.
SENECA EGBERT.

Dr. Means moved that the secretary be authorized to send to each member of the association a copy of the application blank presented as a part of the secretary's report, and that the proper officer shall fill in the necessary data and return the blank to the secretary on or before November 1, 1904.

Seconded and carried.

Dr. H. B. Ward asked for a ruling by the chair with reference to that portion of the report of the special committee on by-laws recommending the expenditure of $400 annually for the visitation of colleges. Whether the adoption of the report was to be considered authority for the expenditure of the money.

The chair ruled that that was the sense of the association, that an appropriation for that amount is to be made.

Report of Auditing Committee.

The auditing committee, through Dr. Egbert, reported as follows:

Your committee, appointed to examine the report of the

secretary-treasurer, beg leave to report that they have audited the financial statement, and find it correct. They also wish to compliment the secretary-treasurer on the fullness of his report, and the important work done by him during the year, and that the association tender him a vote of thanks for his efficient services.

The report was accepted.

Dr. J. A. Dibrell moved that the secretary be authorized to accept resignations from membership. Seconded and carried.

Dr. S. C. James asked what recourse, if any, outside of the law, colleges have to obtain the admission of their graduates to certain territories of the United States from which they are excluded absolutely at the present time. New Mexico bars the graduates of every college in the association, except three. They will not permit the graduates from any institution that gives students conditions to enter their territory to practice medicine.

No information on this point could be given, and the matter was passed.

Officers Elected.

The nominating committee then reported as follows: President, Samuel C. James, Kansas City, Mo.; first vice-president, R. Dorsey Coale, Washington, D. C.; second vice-president, R. H. Whitehead, Chapel Hill, N. C.; secretary-treasurer, Fred C. Zapffe, 1764 Lexington Street, Chicago; judicial council, Wm. J. Means, 715 North High Street, Columbus, Ohio, chairman, term expires 1907; Parks Ritchie, St. Paul, Minn., term expires 1907; Geo. M. Kober, Washington, D. C., term expires 1906; Thos. H. Hawkins, Denver, Colo., term expires 1905.

Dr. Guthrie introduced the president-elect, Dr. James, who addressed the association in a few well-chosen words, and announced that the next annual meeting would be held Monday, June 5, 1905, at the place of meeting of the American Medical Association.

The association then adjourned.

J. R. GUTHRIE, President.
FRED. C. ZAPFFE, Secretary.

List of Members.

CALIFORNIA.

College of Medicine University of Southern California, Los Angeles.
University of California Medical Department, San Francisco,

COLORADO.

Colorado School of Medicine University of Colorado, Boulder.
Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver.

CONNECTICUT.

Yale University Department of Medicine (Yale Medical School), New Haven.

DISTRICT OF COLUMBIA.

Columbian University Department of Medicine, Washington.
Georgetown University School of Medicine, Washington.
Howard University Medical Department, Washington.

ILLINOIS.

American Medical Missionary College, Battle Creek, Mich., and Chicago.
College of Physicians and Surgeons, College of Medicine of the University of Illinois, Chicago.
Illinois Medical College, Chicago.
Northwestern University Medical School, Chicago.
Rush Medical College (in affiliation with University of Chicago), Chicago.

INDIANA.

Fort Wayne College of Medicine, Ft. Wayne.
Central College of Physicians and Surgeons, Indianapolis.
Medical College of Indiana, University of Indianapolis.

IOWA.

Drake University College of Medicine, Des Moines.
College of Medicine University of Iowa, Iowa City.
Keokuk Medical College, College of Physicians and Surgeons, Keokuk.
Sioux City College of Medicine, Sioux City.

KANSAS.

Kansas Medical College, Medical Department of Washburne College, Topeka.
School of Medicine University of Kansas, Lawrence. 2 years

KENTUCKY.

Hospital College of Medicine, Louisville.
Kentucky School of Medicine, Louisville.
Kentucky University Medical Department, Louisville.

LOUISIANA.

Flint Medical College, Medical Department New Orleans University, New Orleans.

MARYLAND.

Baltimore Medical College, Baltimore.
College of Physicians and Surgeons, Baltimore.
Johns Hopkins University Medical Department, Baltimore.
University of Maryland School of Medicine, Baltimore.
Woman's Medical College, Baltimore.

MASSACHUSETTS.

College of Physicians and Surgeons, Boston.

MICHIGAN.

C Detroit College of Medicine, Detroit.
C Michigan College of Medicine and Surgery, Detroit.
C University of Michigan Department of Medicine and Surgery, Ann Arbor.

MINNESOTA.

C Hamline University College of Medicine, Minneapolis.
C College of Medicine and Surgery of the University of Minnesota, Minneapolis.

MISSISSIPPI.

C4 Medical Department University of Mississippi, Oxford. (2 years)

MISSOURI.

03 University of Missouri Department of Medicine, Columbia.
99 Kansas City Medical College, Kansas City.
06 University Medical College, Kansas City.
C Marion-Sims-Beaumont College of Medicine, Medical Department St. Louis University, St. Louis.
C St. Louis College of Physicians and Surgeons, St. Louis.

NEBRASKA.

'95 John A. Creighton Medical College, Medical Department of Creighton University, Omaha.
07 University of Nebraska College of Medicine, Lincoln and Omaha.

NEW YORK.

'99 University of Buffalo Medical Department, Buffalo.
C Syracuse University College of Medicine, Syracuse.

NORTH CAROLINA.

99 University of North Carolina Medical Department, Raleigh and Chapel Hill.
C4 Wake Forest College School of Medicine, Wake Forest. (2 years)

OHIO.

C Medical College of Ohio, Medical Department University of Cincinnati, Cincinnati.
C Miami Medical College, Cincinnati.
96 Cleveland College of Physicians and Surgeons, Medical Department Ohio, Wesleyan University, Cleveland.
C Western Reserve University Medical College, Cleveland.
'95 Ohio Medical University, Columbus.
C Starling Medical College, Columbus.
Toledo Medical College, Toledo.

OREGON.

'96 University of Oregon Medical Department, Portland.
'95 Willamette University Medical Department, Salem.

PENNSYLVANIA.

C Medico-Chirurgical College of Philadelphia, Philadelphia.
C Woman's Medical College of Pennsylvania, Philadelphia.

C Western Pennsylvania Medical College, Medical Department Western University of Pennsylvania.

TENNESSEE.

99 Meharry Medical College, Medical Department Walden University, Nashville.

VIRGINIA.

02 University College of Medicine, Richmond, Va.

WEST VIRGINIA.

04 University of West Virginia Medical Department, Morgantown. (2 years.)

WISCONSIN.

'98 Milwaukee Medical College, Milwaukee, Wis.
'95 Wisconsin College of Physicians and Surgeons, Milwaukee.

PAPERS READ AT THE ATLANTIC CITY MEETING.

WHAT CREDIT, IF ANY, SHALL BE GIVEN THE HOLDERS OF BACCALAUREATE DEGREES FOR ADMISSION TO ADVANCED STANDING IN MEDICAL SCHOOLS?

HENRY L. TAYLOR, Ph.D.
University of the State of New York.
ALBANY, N. Y.

PRINCIPAL CAUSES FOR THE DISCUSSION.

When beginning preparation on this paper I was surprised to find how closely the closing paragraph of my remarks before this Association last year applied to the theme of this year's discussion. The substance of this paragraph may properly begin the discussion of my topic:

The allowance to be made graduates of colleges of liberal arts and science must receive careful attention. The independent colleges and medical schools suffer by the drifting of their students to the universities that can afford both lines of work and a combined course, saving one or two years of time. The presidents of independent colleges plead for subjects that they regard as essential to liberal culture—for example, psychology—while the deans of the independent medical schools plead for their share of the stronger students with the college training. All seem agreed, however, that the matriculate possessing the baccalaureate degree, other things being equal, is better fitted for entrance on medical study than the graduate of the high school.

NEW YORK ESSENTIAL STATUTORY REQUIREMENTS.

The New York medical statute requires for admission to the licensing examination three essentials:

Educational.—1. Evidence of a general education preliminary to receiving the degree of bachelor or doctor of medicine in this state; the medical student certificate.

2. Evidence of the study of medicine for not less than four full school years of at least nine months each, including four satisfactory courses of at least six months each, in four different calendar years, in a medical school registered as maintaining at the time a satisfactory standard.

3. The degree of bachelor or doctor of medicine from some registered medical school.

The Principles of Registration.—The statute also requires that New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the state whose minimum graduation standard is less than that fixed by statute for New York medical schools.

All matriculates prior to Jan. 1, 1898, who graduated prior to Jan. 1, 1902, had to present evidence of three years' study of medicine in a registered medical school; subsequent to those dates, four years. And the earning of the medical student certificate two years prior to the date of graduation on a three years' course, when the majority of the strong schools were affording four-year medical courses, permitted the registration of most of the stronger medical schools of the United States.

For registration subsequent to Jan, 1, 1898, it soon became evident that but few medical schools of the United States could meet the New York statute if both preliminary and professional requirements were to be exacted of the school applying for registration. Under a ruling of the Attorney General, the registration by the regents of the general preliminary requirement, independent of the professional, seemed permissive. This permitted the registration of many of the stronger medical schools of the United States that formally agreed to meet the professional statutory requirements.

A widespread endeavor, however, to recognize the baccalaureate degree, as well as the degrees from schools of dentistry, veterinary medicine, pharmacy, osteopathy and the like, precluded the registration of a number of the stronger schools.

The Amendment of 1902.—After a careful discussion of the question by representatives of both the medical schools and of the medical profession of the state, an amendment to the medical act was passed in 1902, providing that:

"The regents may in their discretion accept, as the equivalent of the first medical year, evidence of graduation from a registered college course, provided that such college course included not less than the minimum requirements prescribed by the regents for such admission to advanced standing."

Meanwhile, as the amendment was passing through the legislature, it became apparent that the profession did not favor the extension of time to graduates of schools of dentistry, veterinary medicine, pharmacy, osteopathy, and the like.

THE DISCUSSION AT CONVOCATION, 1902.

A careful discussion of this question in all its bearings occurred at convocation, 1902.

This discussion was participated in by representatives of both the medical and the liberal arts faculties of representative New York institutions. In continuation of the study, a suggested outline was prepared and sent to many leading educators.

Results of Discussion.—For convenience, the theme was called the "Combined Baccalaureate and Medical Course," and it seemed uniformly agreed:

1. That the baccalaureate degree should meet the university ordinances now in force, i. e., be granted on four full years of collegiate work, subsequent to at least three years' high school preparation or the equivalent.

2. That the combined baccalaureate and medical course should consist of seven full years of baccalaureate and medical work.

3. That subjects the full equivalent of the present first medical year should be found in the college and high school course.

Discussion by Correspondence.—The first question on conclusion 3 was: Is there a practical unit of measure for the first medical year, or can one be determined? And the second: Can the medical schools readjust their curricula so as to admit to the second medical year graduates of registered colleges that present the full requirements of the first medical year, tested by that unit?

In order to determine whether the medical schools and colleges of New York state could agree on such a unit of measure, an outlined first medical year's requirements in anatomy, biologic sciences, chemistry, physics and physiology was carefully prepared by representatives of the medical profession and schools and sent

to representatives of the independent medical schools, to the universities maintaining both departments, and to independent colleges.

From the replies received, I quote the following representative of each:

PRESIDENT STRYKER of Hamilton College, representing the independent colleges, writes: "As to our courses in the subjects named, you will nowhere find more thorough college courses in the physical sciences. And our teachers are strongly-equipped men, doing stiff work. . . . A student can have 353 hours in biology, exclusive of sophomore year; 235 hours in chemistry, and 198 hours in physics. We can give a man all that is called for. . . . Surely, we meet all you ask."

PRESIDENT WILSON, Princeton, writes: "We do not here in Princeton believe in the principle of combining the baccalaureate and medical courses. We have not, therefore, studied out the proper details for such a combination."

DR. RAYMOND of the Long Island College Hospital, representing the independent medical school, through members of his faculty, writes: "I can see no reason why the courses in physiology, as now given in the L. I. C. H. can not be rearranged so as to harmonize with the plans suggested. I approve of the course in anatomy as outlined. I heartily approve of the plan outlined as a proper course in chemistry and physics."

DR. ALBERT VANDER VEER of the Albany Medical College writes in answer to the question: "Is the work too severe for the majority of the medical schools?" "No." "Is the time devoted to instruction in laboratory work properly proportioned?" "It is all right." "Can your medical school adjust its curriculum?" "It is going to be very difficult for us to arrange the subjects of anatomy and physiology, but these are conditions that will arrange themselves in due time. There must be a concession on the part of colleges as well as medical schools, and this question will have to be studied with a great deal of care. I admire the caution, but firmness, with which you are handling it."

PRESIDENT J. G. SCHURMAN of Cornell University, representing an institution that maintains both faculties, writes: "It seems to me that there is more need of the extension of the course from four years to five than of the substitution of the work proposed."

DEAN POLK of the medical faculty writes: "You see that I would make the reason for shortening the course, not the possession of an A.B. degree, which might mean anything, or, so far as medical study is concerned, nothing, but the previous mastery of the sciences embraced in the medical curriculum of the state of New York."

DEAN DIDAMA of Syracuse University writes: "The full equivalent of the present first medical year can not be found in the college and high school course. This university provides a joint baccalaureate and medical course of seven years. If either course is to be shortened for the benefit of the other, it should be the baccalaureate and not the medical."

DEAN RICHARDSON of Harvard University says: "Students who can finish, or practically finish, the requirements for a degree in three years, which usually takes four, but prefer waiting until a later period for graduation . . . may be admitted to this school with the understanding that their degrees will be received the following year."

DEAN SMITH of Yale says: "The year's work is not too severe for any medical school to which college graduates would be likely to go. The proportion of laboratory work is less than we devote to analogous subjects. It does not seem practicable to change our curriculum."

DEAN CHARLES H. FRAZIER of the University of Pennsylvania writes: "First-class medical schools, willing to admit students to their second year, should not regard the specified requirements as too severe. The required hours of laboratory work are inadequate. Three years ago this school recast its curriculum, adopting the 'semiconcentration' system."

DEAN VAUGHAN of the University of Michigan says: "The year's work is not too severe for medical schools. I do not think that the proportion between hours devoted to instruction and laboratory work is good. I do not think it would be possible for a student having taken the course as outlined in some literary school to finish his medical work with us in three years."

DEAN DODSON of Rush Medical College writes: "From the point of view of this institution, it seems to me that your board has undertaken a difficult, if not impossible, task."

DEAN RITCHIE of University of Minnesota writes: "The work is not too severe for our school. As laid

down, it is not equivalent to the work done in our laboratories. If we were inclined to admit the A.B.'s to our second year, our state board of examiners would not permit it."

DR. CHARLES MCINTYRE of American Academy of Medicine says: "I see no reason why it should be too severe for the majority of medical schools. If the hours of lectures are supposed to be text-book work, with recitations, the ratio between the lecture and the laboratory work is a fair one. It will require some readjustment of the medical curriculum."

These replies are samples that can be increased both in number and length.

PROPOSITIONS.

1. If credit is to be given to institutions without the state of New York, more accurate registration, both of the college course and the medical course, is essential. To illustrate this proposition from the state board standpoint, let me quote from a recent letter and its reply:

LETTER.—Will you have the kindness to advise me by return mail as to your knowledge of the University of Sciences Francis Joseph at Kalozvar, Hungary, concerning the degree of Universal Medical Science?

REPLY.—It gives me pleasure to inform you that the Royal Hungarian University Francis Joseph is located at Klausenburg, Hungary, has a medical faculty of 12 full professors, an attendance of 106 medical students in 1901-02. The program of actual studies for the doctorate calls for ten semesters. On completing the studies, candidates enter on three examinations for the doctorate, in the presence of a commisison composed of specialized professors, under the presidency of the dean of the faculty. A candidate satisfactorily passing this examination receives the degree of Doctor Medicinæ Universæ. Admission to the practice of medicine in Hungary is obtained at the end of the examinations for the doctorate, as in France, and differs from Germany, where the state examination, independent of the university examination, is obligatory.

Let another testify concerning college degrees. U. S. Consul James H. Worman, Munich, Bavaria, writes regarding American academic honors:

On the assumption of consular duties in Munich, in 1899, I found that American academic honors were a subject of general discussion in Germany. So many German possessors of the American doctor title were illiterate persons that university men from our best institutions were looked at askance. A

careful inquiry into the whole matter soon disclosed a lamentable state of affairs in some states at home. . . . In the criminal history of the United States these cases will some day figure as evidences of official corruption of the most daring character. . . . Has not the time come for an earnest and united effort of the American colleges, the educational associations, state and national, and all other bodies interested in the good repute of American scholastic and professional institutions, to harmonious action in the states of our Union for such legislation that will bring the degree-conferring power under strict state supervision? . . . A council of educators should be entrusted with powers similar to those vested in the regents of the University of the state of New York, this council to be composed of the most eminent men in the state without any reference to political considerations. Further, that no degree-conferring institution should be incorporated without the approval of this council of education. In the self-same spirit the legal section of the American Bar Association resolved, in 1897, that the degree-conferring power should be subject to a strict state supervision to be exercised in a manner somewhat similar to that which is exercised by the regents of the University of the State of New York.

The provision under the laws of New York to which these various propositions refer absolutely prevents any abuse by the academic or professional institutions of the state of their power to confer degrees.

2. Accurate registration is dependent both on examinations and inspection.

Pio A. Da—— submitted a certificate from the University of Montevideo, Uruguay, to the University of ———, United States, and was admitted to the class of 1904. The certificate showed entrance examinations for admission to secondary studies and secondary subjects as follows:

Algebra	3
First and second year French	6
Physics, parts one and two	4
Chemistry, part one	2
First and second year philosophy	3
Total, a year and a half in high school work	18

Consul Worman says, regarding the kind of legislation state boards should effect:

The authority vested in the inspector of education has in many states not been exercised on behalf of the professional schools and colleges. Its exercise should be exacted of him by the profession in each state where such an official exists for

the supervision of educational and professional institutions. Where legislation is necessary to make the authority sufficiently abundant to suppress illegal acts by incorporated institutions, it should be urged by the profession without delay and with persistency. Europeans, and especially the Germans, look on our whole educational fabric with distrust because of the swindling institutions that have been possible in certain states. The courts, weary of distinguishing between the true and the false, have ruled out all of them as private enterprises.

To illustrate another phase of the necessity of accurate registration, dependent both on examination and inspection, I quote from another recent letter from a state of Australia:

The information furnished by you will be most useful to this board, and I am directed to convey the thanks of the members for your courtesy in the matter.

In future no application for registration from Americans who do not possess the certificate granted by your university will be entertained by this board. . . . Any British qualification is registerable in this state, but the board reserve to themselves the right of refusing to register any foreign qualification.

The rules regarding registration in the other states are practically the same, with the exception that no American qualifications are registerable in Queensland, and no foreign qualifications whatever in Western Australia. . . .

I shall be glad if you will furnish me annually with a list of registered and accredited colleges of America for the guidance of this board.

3. Reciprocity between states must be based on actual requirements met by licensees, and a uniform minimum statutory requirement for all states of the Union is at present impracticable.

To illustrate: A practicing physician of the state of New York, having met requirements plainly above those of a neighboring state, was compelled by declining health to remove to that neighboring state to save her life. She was dependent on her practice for her livelihood and could enter on a profitable practice if she could secure the requisite license. The reciprocity clause of the statute in force in the state to which she would remove provided for reciprocity between states that conferred the same privileges on its licensees. There was no question regarding her professional attainment. She was denied the right to practice in the new state because the state from which she planned to move could

not reciprocate the favor conferred on her by registration in the state to which she would have moved for the purpose of saving her life.

4. State control should concern itself with the minimum statutory requirement for admission to practice, i. e., the licentiate credential, and leave to the schools the determination of the maximum scholastic, i. e., the degree.

A PLEA FOR A STANDARD MEDICAL CURRICULUM.

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WASHINGTON, D. C.

My experience as dean during the last few years impels me to make a strong plea for the unification of curricula in medical schools. You, with other representatives of medical colleges, will recall the fact that the state medical examining and licensing boards differ widely in the minimum standard requirements for license to practice medicine, and no sooner have we adapted our curricula to the requirements of one state when we are confronted with another adjustment of studies to meet the demands of another state, and failure to do so means refusal of recognition of the school, and the holder of our diploma is not even permitted to appear for examination. I venture to say that nearly every school had to make changes last year in order to comply with the requirements of the state of Michigan.

We all admit that the problem of the medical university is to supply the community with competent medical men, and that it is the duty of the state examining boards to see that none but qualified men are licensed to practice one of the most difficult and responsible of all professions; hence the necessity of a reasonable standard of medical qualifications.

Fortunately, we have adopted a minimum standard of preliminary education required for the study of medicine, and we should formulate a similar standard of medical education, based on uniform curricula.

With a fixed minimum standard for admission, and a definite course of medical studies, with the prescribed

number of hours of didactic and practical work in each branch, we may hope for a more uniform product, and if this product should reach the requirements of some of our best state examining boards, the way to reciprocity between the boards will be open, and much time and annoyance will be saved in the transfer of students from one school to another.

A review of the examinations for medical licensure presented in a very able report by Dr. Charles McIntire to the American Academy of Medicine, May 11, 1903, shows that during the year 1902 4,510 applicants were examined; of these 3,781 passed and 729, or about 16 per cent., failed. The failures are not confined to graduates from indifferent schools, but include men from nearly every reputable school in this country, such as Harvard (1—117), Johns Hopkins (1—45), Columbia (9—173), Cornell (6—53), University of Pennsylvania (8—178), University of Michigan (9—77), University of Minnesota (2—86), University of Virginia (2—28), and Rush Medical College (6—232).

The conclusions to be drawn from such a result are: 1, That our products are not up to the standard adopted by some of the state licensing boards; 2, that the applicants have deteriorated since graduation; 3, that in some instances the candidates have passed the college examinations by dishonest methods.

A study of Dr. McIntire's paper on "The Personal Equation in Examinations for Licensure," read before the American Academy of Medicine in 1902, demonstrates that the charge frequently made against state examining boards that they are too severe in their exactions is not true, for the returns of papers marked by college professors and members of such boards show a remarkable uniformity in this, that with hardly an exception the men who failed would not have been licensed by any of the boards or faculties making returns, and as a matter of fact the colleges were more severe in their markings than the boards. But whatever the cause, these painful facts confront us, and the sooner the subject is thoroughly investigated the better it will be for medical education and the ultimate welfare of our graduates. I represent a small school, but should hail with delight any schedule of studies which would result in a well-rounded medical education, and I am sure every

college represented in this association will cheerfully join in an effort to secure the desired end.

It is not a simple problem, when we consider the widely divergent views entertained as to the best methods of teaching and the time allotted the study of various subjects, but it seems to me that we may profit by the experience of the older schools, and, without wishing to make any invidious comparison, I may say that, in the judgment of Major Borden, a very competent and discriminating observer, the most harmoniously educated candidates for admission into the Army medical corps were graduates from the University of Pennsylvania. His judgment may be considered absolutely impartial, for he is not an alumnus of that school, and was then as now a teacher in the school with which I am connected.

How can we expect a harmonious product, when the very exhaustive report by Dr. George W. Webster, chairman of the Committee on Curriculum of the National Confederation of State Medical Examining and Licensing Boards, published in THE JOURNAL of the American Medical Association, Aug. 15, 1903, shows that the total hours vary from 5,000 in some to a little over 2,000 in other schools. The time devoted to clinical instruction varies from 2,000 to a little over 200 hours; over 500 hours are devoted to the subject of chemistry in some schools, and less than half as many in others; anatomy varies from over 1,200 as a maximum to 200 as a minimum. One school devotes over 400 hours to the study of physiology, while another has less than 100; medicine has over 1,200 hours in one, and less than 200 in another. In other schools such important subjects as physical diagnosis, pharmacology, etiology and hygiene are not taught at all.

Impressed with Dr. Borden's observations, and determined to profit by the experience of other schools, a close examination of their method and the arrangement of studies was made, and we have adjusted our curriculum accordingly.

The demands of modern medicine are so exacting that the curricula in vogue fifteen, twenty or thirty years ago in some of our best colleges, no longer suffice to turn out a scientific physician, and I mean by that, a man who, because of his knowledge of the sciences on which medicine is founded, has such a firm grasp and a clear

comprehension of his subject matter as will enable him to become not only a successful practitioner, but also an intelligent student of progressive medicine.

The foundation sciences of medicine are physics, chemistry, biology, anatomy, bacteriology, physiology and pathology.

A knowledge of physics as applied to medicine is essential, as has been well said by Professor Vaughan, in the application of all mechanical means for the correction of deformities, for the treatment of fractures and dislocations, for the study of errors of refraction, and in the use of the microscope, ophthalmoscope, laryngoscope, *x*-ray apparatus, etc., and its general importance is appreciated by the leading medical universities of Europe. It should be taught in the first year of the medical course. We devote 40 hours to this subject. We give 144 hours of chemistry in the first year, half of which are devoted to practical laboratory work. The time devoted to embryology, histology, osteology, general anatomy and physiology is shown by the table. Materia medica very properly should be studied in connection with the biologic sciences during the first year.

In the second year anatomy, physiology and chemistry, including physiologic, medical, toxicologic and sanitary chemistry, are completed, and bacteriology, pathology and pharmacology are begun; 24 hours are devoted to minor surgery.

The student having acquired a fair knowledge of his foundation studies during the first two years, after additional instruction in pathology and physical diagnosis, is now prepared to enter on the study of medicine, surgery, obstetrics, gynecology, neurology and therapeutics, while a study of hygiene, which is the application of the laws of physiology, chemistry, physics, meteorology, pathology, epidemiology and bacteriology to the maintenance of the health and life of individuals and communities, is not only necessary for the prevention, but also the cure, of diseases and serves the additional purpose of reviewing and applying the knowledge of the sciences just mentioned.

All of the practical subjects, such as medicine, pediatrics, surgery, operative surgery, obstetrics, gynecology, neurology and mental diseases, extend over a period of two years and are taught simultaneously to third and

fourth year students, both didactically and at the bedside.

In the fourth year, in addition to the practical branches, we give our students special instructions in dermatology and syphilis, genito-urinary diseases, laryngology, rhinology, ophthalmology and otology, military surgery, state medicine, morbid anatomy and medical zoology. The course in medical zoology has special reference to the animal parasites in the human subject, supplemented by practical laboratory exercises in the microscopic examination of meat for trichinæ spiralis, and of feces for determining the presence of parasites, and we have found this course very helpful to our students and of extreme practical importance. As a matter of fact, one of our graduates, Dr. Ashford, was the first to demonstrate that the grave forms of anemias found in Porto Rico are due to uncinaria Americana; the hook-worm disease has been found by Dr. Stiles to be quite frequent in our southern states, and we all know how frequently trichiniasis is mistaken for typhoid fever.

Our association was established for the purpose of promoting medical education, and yet, instead of leading others into the right path, we have been driven by the state medical examining boards and a strong public opinion, as manifested by the American Medical Association, to raise our standard of minimum requirements for admission into medical colleges. New Hampshire, New York, Pennsylvania, Ohio, Indiana, Illinois, New Mexico and Colorado practically demanded a higher standard long before we raised it, and, as a result, the diplomas of some schools are not recognized, and graduates from such schools can not appear for examination.

More recently, Illinois and Michigan have taken the initiative in establishing a minimum standard of medical education, and the example of these states is very certain to be followed by others in the near future. If we wish to retain the confidence and respect of the American medical profession, it is our duty to equip our graduates in such a manner that their diplomas will not be discredited by any state in the Union, because, in the opinion of the board, the school granting it does not fulfill the established minimum standard of medical education. Apart from the moral and ethical aspects of the question, however, I believe it will be in the highest

degree good business policy to appoint a committee, which should co-operate with a similar committee appointed from the National Confederation of State Medical Examining and Licensing Boards, for the purpose of establishing such a standard.

There are now 154 colleges in the United States. Of these, 121 are regular and only 66 are members of the Association of American Medical Colleges. The number of students vary from 6 to 1,047 in the different schools. It seems to me that if the methods of teaching were more uniform the students would be more evenly distributed, which would be an advantage to students and schools alike. There is much to be said in favor of small schools, where the number of students does not exceed 250, or from 60 to 70 in a class, as it enables each student to come into more intimate relation with the teachers in laboratory and hospital work, and in connection with the system of recitations and conferences, which should be a part of the curriculum, makes instruction more personal and adapted to the special needs of the individual. The time must come—indeed, it is close at hand—when the advantage of smaller classes will be appreciated, provided we are prepared to do honest and thorough work.

It must be obvious that the reason some schools have too many students and others so few is due to the respective estimate of the relative merit in which they are held by the members of the medical profession, who are usually appealed to as referees by prospective medical students. I can not agree with those who believe that there should be a different standard in different schools and who consider it a Utopian idea to expect that all the medical schools in the country should be based on a uniform curriculum, any more than the various colleges or academies. It seems to me that the standards of state boards are no higher for the graduates of these schools than for those of the smaller schools; all must possess the same qualification. The subject of graduate work is another question. There is, of course, no reason why schools engaged in turning out specialists and teachers should not vary their curricula with the special needs of the student.

I realize that the weakness of our smaller schools lies not so much in the lack of funds or endowments as in the lack of methods. It does not require expensive

and pretentious buildings to do the work, but it does require competent men and proper laboratory equipment and clinical facilities.

Fortunately, men always will be found in the profession willing to work in the interest of higher medical education, regardless of pecuniary reward. My own school has no endowment whatever, it being the only school in Washington which abolished night sessions ten years ago, resulting, as was anticipated, in financial losses; but we have the satisfaction of knowing that our product has improved. We have only 140 students, but in spite of this we have equipped our laboratories and established a university hospital.

The present cost of microscopes, chemical, bacteriologic and physiologic apparatus puts them within the reach of every school. A complete set of physiologic apparatus, sufficient for ten to fifteen students, can be purchased for $75.00 from the Harvard University; four sets would be quite ample in a class of 40 to 60 students. One microscope for every two students will answer very well until the funds will permit an instrument for every student, which, of course, is more desirable. It goes without saying that no school should be permitted to enter our ranks unless it is properly equipped, and no school should give courses in junior and senior studies unless it has also suitable facilities for clinical teaching. When this is done, will anyone deny that the school with 250 students will not turn out as good, if not a better, product than the large schools? How many times in our large schools is the average student called to the operating table to witness a cataract operation or abdominal section at close quarters, or to examine the patient before an operation and give to the professor and the class his opinion as to the pathology, diagnosis and methods of treatment? What is true of the surgical is equally true of the medical cases.

The time will come when all schools will be great, not in numbers, but in the quality of the product, and when this is accomplished I predict there will also be a leveling in the number of students. The average American is too practical to travel thousands of miles when he can secure equal, or possibly superior, advantages nearer home. Another advantage from a purely business point of view will be the disintegration and abandonment of projected schools unwilling to bring their institutions

up to a reasonable standard. Who will patronize a school whose diploma is discredited by the majority of state examining boards, and who will dare to establish a new school unless fully equal to meet the requirements? If they should be established, the state boards will take such action as will prevent their doing any mischief.

We do not need more schools, but we need better schools. Every advantage is to be gained by the smaller

COMPARATIVE STANDARDS OF MEDICAL EDUCATION.

Subjects.	Proposed Standard.			Average 43 Colleges.	Michigan.	Georgetown. Present Standard.	State Medical Exam. Standard.
	Lecture.	Laboratory.	Total.				
Physics	20	20	40	.....	.....	.....	.....
Chemistry and Toxicology	144	168	312	375	350	352	340
Anatomy	250	250	500	549	400	558	500
Histology and Embryology	59	150	209	219	200	209	200
Physiology	195	80	275	276	260	275	250
Materia Medica, Pharmacology and Therapeutics	169	27	196	118	234	196	110
Bacteriology	50	100	150	131	230	150	115
Pathology	100	182	282	295	220	256	260
Morbid Anatomy and Medical Zoology	.....	.....	.....	.....	.....	90	.....
Physical Diagnosis	36	36	72	61	120	72	55
Medicine	180	360	540	544	540	540	500
Surgery and Orthop. Surgery	276	286	562	596	510	562	540
Obstetrics	100	60	160	177	100	160	150
Gynecology	48	110	158	145	220	168	130
Pediatrics	30	60	90	72	140	90	60
Dermatology and Syphilis	15	25	40	64	60	36	50
Genito-Urinary Diseases	15	15	30	.....	90	36	.....
Laryngology and Rhinology	24	48	72	67	} 260	} 72	55
Ophthalmology and Otology	30	60	90	106	}	} 90	95
Neurology	36	36	72	82	} 120	} 72	75
Mental Diseases	30	30	60	27	}	} 60	25
Electro Therapeutics	12	12	24	.....	30	24	.....
State Medicine	30	.....	30	.....	30	30	.....
Hygiene and Dietetics	36	.....	36	33	54	40	30
Clinical Microscopy	.....	.....	.....	.....	72	62	.....
	1885	2115	4000	3937	4240	4200	3540

schools from a uniform standard of curricula, and there is no good reason why we should not all survive in the face of an ever-growing and powerful nation, especially when there will be a more equal distribution of students with improved methods of instruction. All had a humble beginning, but by perseverance and honest work we may hope to reach the same high plane of efficiency which some have attained. Progress has crowned our

past. Let our conduct raise no blush on the cheek of posterity.

Compulsory action is always to be deprecated, and yet this stares us in the face; on the other hand, much good can be accomplished by a joint deliberation between the colleges and the state boards of medical examiners, and the formation of a standard of medical education arranged in a logical order, specifying the minimum number of hours required in each study, and which will meet the views of the educator as well as the licensing boards.

In order to comply with the requirements of the Michigan State Board of Examiners, we have arranged a schedule for the Medical School of Georgetown University, which is at least suggestive.

It will be seen that the requirements do not differ materially from the average obtained in 43 medical colleges in the United States, and is really in excess of the standard curriculum recommended by a special committee of the National Confederation of State Examining and Licensing Boards, which places the minimum requirement at 3,600 hours.

The requirements of the Michigan State Board of 4,240 hours may be considered excessive, and might with advantage be reduced to 4,000 hours, devoting about 950 hours to each of the first two years' work and 1,150 hours each to third and fourth year work.

I have purposely devoted less time to freshman and sophomore studies, as the acquisition of the sciences taught during the first two years really involves more of a mental strain than the work of the third and fourth year.

CURRICULUM AT THE SCHOOL OF MEDICINE, GEORGETOWN UNIVERSITY

Based on the 4,200-hour standard prescribed by the Medical Examining Board of the State of Michigan, in force during the session of 1903-1904:

First Year—	Lecture	Laboratory work.	Total.
Physics	20	20	40
Chemistry	72	72	144
Osteology	24	..	24
Anatomy	150	180	330
Histology	24	100	124
Embryology	35	50	85
Physiology	75	40	115
Materia Medica	34	12	46
	434	474	908

Second Year—			
Anatomy	100	104	204
Physiology	120	40	160
Chemistry	72	96	168
Bacteriology	50	100	150
Pathology	60	120	180
Pharmacology	45	15	60
Minor surgery	12	12	24
	459	487	946
Third Year—			
Pathology	38	38	76
Clinical microscopy	..	62	62
Physical diagnosis	36	36	72
Medicine	90	180	270
Surgery	120	125	245
Orth. surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Therapeutics	90	..	90
Hygiene and dietetics	40	..	40
	548	606	1154
Fourth Year—			
Morbid anatomy and medical zoology	45	45	90
Medicine	90	180	270
Surgery	120	125	245
Orthop. surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Electro-therapeutics	12	12	24
Laryng. and rhinology	24	48	72
Opthalm. and otology	30	60	90
Dermatology and syphilis	12	24	36
Genito-urinary diseases	18	18	36
State medicine	30	..	30
	515	677	1192

First year	908
Second year	946
Third year	1154
Fourth year	1192
	4200

Physics		40
Chemistry		312
Anatomy		558
Histology and embryology		209
Physiology		275
Materia medica, pharmacology and therapeutics		196
Bacteriology		150
Pathology		256
Clinical microscopy		62
Morbid anatomy and medical zoology		90
Physical diagnosis		72
Medicine		540
Surgery	514	
Orthop. surgery	48	
		562

Obstetrics	160
Gynecology	168
Pediatrics	90
Dermatology and syphilis	36
Genito-urinary diseases	36
Laryng. and rhinology	72
Opthalmology and otology	90
Neurology	72
Mental diseases	60
Electro-therapeutics	24
Hygiene and dietetics	40
State medicine	30
	4200

PROPOSED STANDARD OF A 4,000 HOURS' MEDICAL COURSE.

	Lectures and Recitations.	Laboratory Work.	Total.
First Year—			
Physics	20	20	40
Chemistry	72	72	144
Osteology	24	..	24
Anatomy	120	172	292
Histology	24	100	124
Embryology	35	50	85
Physiology	105	40	145
Materia medica	34	12	46
	434	466	900
Second Year—			
Anatomy	106	78	184
Physiology	90	40	130
Chemistry	72	96	168
Bacteriology	50	100	150
Pathology	62	140	202
Pharmacology	45	15	60
Minor surgery	12	12	24
	437	481	918

	Lectures and Recitations.	Laboratory or Clinical Work.	Total.
Third Year—			
Pathology (morbid anatomy and medical zoology)	38	42	80
Physical diagnosis	36	36	72
Medicine	90	180	270
Surgery	120	125	245
Orthopedic surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Therapeutics	90	..	90
Hygiene and dietetics	36	..	36
	544	448	1,092
Fourth Year—			
Medicine	90	180	270
Surgery	120	125	245
Orthopedic surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	50	74
Neurology	18	18	36
Mental Diseases	15	15	30
Electro-therapeutics	12	12	24
Laryngology and rhinology	24	48	72
Ophthalmology and Otology	30	60	90
Dermatology and Syphilis	15	25	40
Genito-urinary diseases	15	15	30
State medicine	30	..	30
	470	620	1,090

First year	900
Second year	918
Third year	1,092
Fourth year	1,090
	4,000

CONCLUSION.

In conclusion let me reiterate that I represent a small, struggling medical school, and if I differ from the views expressed by others, I do so with great hesitation. Apart from the ethical aspect and the imperative demands for reform throughout the medical profession, I consider it in the highest degree good business policy to advocate a plan which will improve the quality of the product and equalize the number of students, a result which can not fail to be acceptable to the larger schools and extremely profitable to the smaller schools, and I therefore beg to offer the following resolution:

Resolved, That a Committee on National Uniformity of Curricula be appointed, to co-operate with a similar committee appointed by the National Confederation of State Medical Examining and Licensing Boards, for the purpose of presenting a minimum standard of medical education, together with such recommendations as the committee may deem proper as to the division of the subjects in a four-year graded course. Said report to be presented at the next annual meeting, and to be printed and distributed at least one month before said meeting.

TEACHING METHODS IN MEDICAL EDUCATION.

SENECA EGBERT, A.M., M.D.
Dean of the Medico-Chirurgical College of Philadelphia.

One value of membership in our Association, and of such meetings as this, is the opportunity of discussing and conferring mutually on the various phases and problems of current medical education, and it was doubtless this thought that led our affable and energetic secretary to suggest that I should present this paper to you to-day.

There probably never was a time when methods of teaching were so important as now. In arts and sciences other than medicine they are undergoing most careful scrutiny, development and reconstruction. They are being considered from psychologic, pedagogic and practical aspects. Every effort is being made to determine how to conserve energy and to secure the best

results with the means at hand and for the purpose in view. We may congratulate ourselves that that part of the medical profession which we represent—its teachers—have not been laggards in this quest after new light.

In discussing any scheme of medical training at the present time, it is necessary to keep clearly in mind at least the following propositions:

First.—That medicine itself is now in an evolutionary stage of great importance and influence, and that, therefore, the teaching of it is undergoing transition. We may feel that we have learned a great deal in the last twenty years, especially how not to do things, but are we sure that we know it all now and that we can formulate a correct and positive scheme of medical teaching for even the next twenty years. You have just heard a paper from my good friend, Dr. Kober, on the desirability of "Uniform Curricula in Medical Colleges," and the fact that such a paper is presented to you is good evidence that such uniformity of curricula does not exist.

Each of you, no doubt, has his own opinion as to the excellence of the methods and plan of instruction in his own institution, but I believe that no one of you would contend that the absolutely ideal plan and course of medical teaching has as yet been devised and is in actual use in any school, either in this country or abroad. Moreover, you will surely differ among yourselves as to just what such a scheme should be or what it should include. As I have said, our opportunity to-day is to recognize this transitional condition, to learn one another's views and opinions, and to endeavor to harmonize them into the most satisfactory, most practical and, withal, most elastic scheme of teaching for the immediate future.

Second.—We must recognize that our schools of medicine, if they are really fulfilling their proper functions, are vitally organic in nature, and that each organism must consequently have its own individual characteristics and even its own idiosyncrasies. In a progressive school the board of trustees or directors, the faculty and teaching staff, the alumni and the undergraduates are the several necessary organs of one body, each with its own particular functions which must be properly performed, if the full life and growth of the

composite body is to be manifested and maintained. What do we mean by the "spirit" of a college, if we do not recognize its actual life and vital power? And, just because highly organized living things must have individuality, it seems to me that it can not, under the present conditions, be practically possible or even advisable to have anything like absolute uniformity in medical colleges.

Third.—We must take cognizance of the degree and kind of preliminary training and preparation of our prospective pupils as we select and develop our respective methods of teaching. My own experience is that many entering students, who present unimpeachable credentials from first-class high schools or others of equivalent grade, have not been trained as they should in respect to the faculties of observation, analysis and synthetic reasoning. Even a college degree does not always insure this, nor will any entrance examination that we may substitute in place of the acceptance of any credentials, limited as it must necessarily be in extent, time and thoroughness.

Again, we must remember that many students do not come directly from the preparatory to the medical school, but have been apart from text-books and scholastic training, sometimes for many years. These men have a right to study medicine, provided they can qualify. I am not ashamed to say that a considerable proportion of our students is of this class, especially as some of our best men are always in it. We must, therefore, adapt our teaching methods to the needs of such students, especially in the early years of the course. In other words, leaving entirely out of the discussion the question whether any school is bound to commit financial suicide or not, it is only the part of wisdom and common sense to consider carefully the local and particular conditions that must exist in every school, and to plan, develop and extend the system and methods of teaching accordingly.

With these prefatory remarks, I trust that I may not seem to extol unduly the institution which I represent if, by way of giving you concrete examples rather than abstract theories, I describe some of the methods that we have found to be efficient and of value to us in our educational work. I assure you that we do not feel that we have attained perfection and that nothing more

is to be discovered. What we have learned is that some of the new methods are greatly superior to those of the past and that continuing progress necessitates the investigation and adoption of many of the suggestions of modern pedagogy.

Medical teaching may be divided into that which pertains to the early and fundamental studies of the course, as anatomy, physiology, chemistry, etc., and that which is apparently more closely related to the practical work of the physician's after-life, as practice, surgery and obstetrics. But marked success in either phase of it will be largely dependent on several things. Without sacrificing his true dignity, the teacher should be in harmony and close relationship with his pupils. We believe that when a student has once entered our school he has a right to any help that we can give him in his work, and to ask that help of us whenever it may be mutually convenient. We therefore endeavor to develop a close intimacy and feeling of scholastic fellowship between all connected with the institution in either a teaching or student capacity. This reflexly helps to develop the "spirit" of the school.

Since the scope of the present medical course is so great and so much must be crowded into the four years, a student can no longer afford to procrastinate and to accomplish his purpose by a few weeks of hasty "cramming" at the end of the term. Each day's work should be done in that day, and the week's work in the week. But many do not appreciate this or are unwilling to discipline themselves. Consequently, the system of free quizzing, which our school has had from its beginning, not only places the student of limited means and his wealthier classmate more nearly on the same plane of advantage, but also very materially helps all students to keep up with their work and at the same time informs the teachers of the habits and quality of those receiving instruction, so that the latter not only do better in the final tests at the end of the term, but receive a more just and satisfactory grading at that time.

Again, the object of the instruction must be kept steadfastly in mind. Ninety-five per cent. or more of the students in a medical school are there because they expect to practice medicine in the future and to gain their livelihood by means of it. Comparatively few anticipate being teachers only or devoting themselves

to laboratory and research work. Many instructors in our schools seem to forget this, and, neglecting what will be practical in after-life, devote too much time to laboratory or theoretical details that must soon be forgotten for lack of continued use. Do not forget that we are training men to be doctors—most of them to be just plain, country doctors, the kind that has added so much glory to our profession.

Now, as to some of our methods. I shall use the word "conference" frequently, and may here explain that it is neither a quiz nor a didactic lecture, but somewhat a combination of and, I believe, a marked improvement on both. In it the aim is for the instructor and pupils to discuss the subject before them freely and thoroughly, each man with a right to his own opinion, and with every encouragement for the asking of any questions or the expression of any idea that will serve to make everything clear to all concerned. As you will learn, we have tried this plan in many of our chairs, modifying it to suit circumstances where necessary, and it has proved very satisfactory in all.

Taking up some of our departments individually, we have made gains in the teaching of Anatomy by instituting a modified conference for some of the didactic lectures. Each day a new group of students is called to the front row of seats, and as the lecture and demonstration progresses they are asked in turn about the part or organ under consideration, and at the same time are encouraged to make inquiry about what is not clear. This practically compels every student to keep up with his lectures on Anatomy.

Another improvement has been in making the work in the dissecting room exactly like that in any other laboratory; that is, each day's work is specified, the periods are definite, and a demonstrator and his assistants are always present during each period. Moreover, a demonstration is given by the demonstrator during the period on the "part" and special work of the day, the small amphitheater in the dissecting room preventing any loss of time. Detail work in Osteology, Myology and Syndesmology is carried on in conjunction with the lectures and conferences, and the general quizzes, free to every student, help to keep the instruction in Anatomy—as in other subjects—progressive and up-to-date, rather than spasmodic and inefficient.

In Histology and Embryology, the great difficulty arises from the necessity of training the students in observation and to know what they see. Consequently, in addition to the constant use of the microscope, much time is given to demonstrations, with the aid of blackboard drawings, charts and the projection apparatus, the students being quizzed and drilled on the details of their own sections which they have stained and mounted and which have been projected on the screen.

In Physiology, the laboratory course has been especially designed to give each student an early acquaintance with the fundamental physiologic phenomena and to have him acquire this by his own deductive and inductive processes under proper guidance. He is furnished with a syllabus and, in conjunction with a classmate, with a complete set of physiologic apparatus; is told what to do and how to do it, and what to observe, but must himself do the work and make his own tracings, records and reports. This course includes observation of electrical phenomena and electrical measurements, studies of the blood, circulation, respiration, digestion, secretion, excretion of wastes and drugs, animal heat, muscles, nerves, etc.

Chemistry is a source of great trouble to the students in most medical schools. That this is not so with us is due, I believe, to the fact that Professor Meeker has developed a system of teaching the subject that is unique in many respects, and that certainly secures good results even with large classes. Believing that any teaching should be based on correct fundamental principles, and that the details should be a necessary logical consequence of these and should not be determined empirically, he has carefully gauged his didactic teaching to what might be termed the *composite* mind or intelligence of the class, makes his lectures argumentative rather than dogmatic, and endeavors to impress and fix each important principle or statement by means of visible experiments and demonstrations that appeal not only to the intelligence but to the physical senses of the students. In addition to such lectures, conferences are held by him, and the adjunct professor conducts a regular weekly quiz on the didactic teaching and theory of Chemistry.

Moreover, the work in the laboratory is most carefully planned, and so arranged as to unconsciously im-

press on the students the importance of system and order and of satisfactorily completing each task before proceeding to another. At the beginning of each laboratory period there is a brief exposition by the adjunct professor of the work of the day, after which, and while the rest of the class are engaged at their desks, he calls each student in turn and quizzes him on the work of the preceding period, an outline of which work the student has detailed on his laboratory slip. This quiz is brief, but concise and comprehensive. If satisfactory, the student is passed, his slip so marked and filed away; if the quiz is not satisfactory, the student is conditioned on that work, and must complete it before he can proceed or be given credit for it. All records are kept under a card index system, and by reference to them the exact standing of any student can be determined almost instantly. Thorough, careful and satisfactory work throughout the session exempts a student from an examination at the end of the year.

Work in Pathology and Bacteriology is begun in the first year by weekly lectures in each subject throughout the session. In this way the student is prepared not only for the laboratory work of the following year, but he is better able to understand the teaching from other chairs, especially where bacteriology is concerned. In the sophomore year there is also a careful correlation between the lectures and the technical and demonstration work in the laboratory, the same subject being worked out in each wherever possible.

During the past session we were able to demonstrate mathematically the value of the conference method when applied to the work of even the second year.[1] It so happened that in arranging the schedule in Pathology and Bacteriology for the sophomore class, which was divided into halves for laboratory work, one section was found to have an unoccupied hour, and it was decided to use this hour for a conference. Otherwise the work of the sections was the same. A mid-year examination was held preliminary to changing the sections about. As the division of the men was simply according to their order of registration, there should not have been much difference in their average grades. But the

1. See article on "The Value of the Conversational Method of Medical Instruction." by Prof. Joseph McFarland, M.D., THE JOURNAL A. M. A., Aug. 13, 1904, p. 449.

results showed a marked difference. Section A, which had had the benefit of the conference, consisted of forty-five men, whose average grade was 82. The highest mark was 98 and the lowest 37, but there were sixteen marked between 90 and 100, twelve between 80 and 90, and only four below 60. On the other hand, Section B, comprising forty-nine men, had an average grade of 70, the highest mark being 100 and the lowest 35, but only nine received marks between 90 and 100, and six between 80 and 90, with thirteen below 60. I may say that the men were marked in alphabetical order, with no thought as to the section to which each belonged.

We were curious to know whether the conference was alone responsible for the marked difference manifested in the sections. Consequently, in the examinations at the end of the year the questions were only on the subjects taught in the second half, while Section B was having the conference instead of A. The average grade of the forty-seven men of Section B that took this examination was 75, the highest being 97, the lowest 21, and there were eleven between 90 and 100, eleven between 80 and 90, and only six below 60. As for Section A, which excelled in the mid-year examination, the average grade of the forty-four who took the final was only 66, the highest being 96, the lowest 21, but there were only five between 90 and 100, seven between 80 and 90, and there were fourteen below 60. As the average for both examinations was 74 for Section A and 72.5 for Section B, it is evident that the two sections did not differ much in ability and intelligence.

On the other hand, the second examination was the more difficult, since the general average in it for all the men was 71 as compared with a general average of 76 for the mid-year examination. This helps to explain why Section B only increased its average by 5 points after the conference, and also why Section A had its average lowered by so much as 16 points. If the general average for the second had been the same as that of the first, B would have gained 10 points and A would have lost 11 points—this representing very accurately, it seems to me, the value of the conference work in this teaching.

In my own work in Hygiene this year, I have also tried the conference plan with the sophomores, by having at almost every meeting open discussions of all

phases of the subject under consideration, and have been much pleased with the results. Each man is encouraged to ask questions and to express his opinion, and it is surprising how many new ideas are brought out and how many points of view may be discovered. Moreover, I think the papers of the final written examination of this class are the best that I ever received.

Our work in teaching Materia Medica and Pharmacy is much the same as at other schools, including laboratory work in preparing prescriptions, but it is introductory to the lectures that follow in the second year on Pharmacology and the physiologic action of drugs, and these in turn to the third-year work on Therapeutics, all leading up to the fourth-year clinic on Applied Therapeutics, in which the student is brought into immediate relations with the patient before the class in the amphitheater, is made to diagnosticate the case, and to prescribe the appropriate treatment under the criticism of the professor and the class.

Training in Physical Diagnosis begins in the second year when the student is taught the signs and conditions of health by thorough and frequently repeated personal examination of the normal living body. Lectures on the physical diagnosis of pathologic conditions are also begun in this year, these being illustrated by appropriate cases, and all the year's work in this department is made preparatory to that of the third year, when the bedside and dispensary instruction to small ward classes begins and becomes a part of the teaching of Internal Medicine.

So far I have spoken more particularly of the work of the first two years of the course, and, perhaps, I have done so with too much detail, because I believe that the secret of successful medical teaching must lie in securing a good foundation; that is, in a thorough understanding and mastery of the fundamental studies.

In our advanced work our aim is to make our teaching thoroughly practical, to utilize the large amount of clinical material at our disposal to the best advantage, and wherever possible, to train the student for his future by making him do the work himself and especially by making him rely on himself, for when anyone has once done a thing, no matter how imperfectly, he knows and feels confident that he can do it even better the next time.

The course in the Practice of Medicine has been carefully arranged, and is closely related to the work in Physical Diagnosis and in the clinical laboratory. Thus the junior class is subdivided, and twice weekly has definite recitations on Practice from the text-book. Collateral with this, the study of Physical Diagnosis, begun in the second year as before stated, is carried on in the hospital or dispensary with ward-classes of ten men each. Other similar ward-classes are also receiving bedside instruction from the Adjunct Professor of Practice and his assistant, and the entire junior class during the year receives a thorough laboratory training in clinical methods, the whole course preparing for the more advanced and exacting work of the next year.

In the senior year, in addition to four lectures, or rather seminars, weekly on Internal Medicine and two corresponding quizzes and the continuing of ward-class instruction in hospital dispensary, clinical conferences are held weekly by both the Professor of Medicine and the Professor of Clinical Medicine. At each meeting five students are assigned a patient, who is either in the hospital wards or is attending the dispensary, and must report on the case at the conference of the following week. One has for his part the determination of the family and personal history; another the physical examination and the laboratory investigation of urine, blood, sputum, etc.; the third has the differential diagnosis; the fourth outlines the treatment, and the last indicates the diagnosis and prognosis of the case. Where necessary, these reports must be in the form of a carefully prepared paper, and after they have been presented, any member of the class may ask questions or criticize the opinions expressed, the conference closing by the professor in charge commenting on the reports, calling attention to errors and omissions, and by indicating points of importance or peculiarities of interest in the case. By this conference or modified seminar method, the advanced students receive a practical training and experience that they could acquire in no other way, and it has been repeatedly asserted to me by the students that it was of the greatest advantage in developing their knowledge and their confidence in themselves.

In Surgery, the preliminary training includes not only the didactic lectures and attendance on the clinics and quizzes of the junior year, but thorough courses

in Applied Anatomy and Operative Surgery and ward-class attendance in the hospital and dispensary. In the senior year ward-class attendance is increased, each section being under the direct instruction of each professor for several weeks and meeting with him in the amphitheater, operating-room and hospital ward, so that not only are operations seen at close range, but the students are enabled to assist and to observe the cases in subsequent stages. This is, of course, in addition to the regular didactic work, quizzing and attendance on clinics imposed on the whole class.

Likewise in Obstetrics, in Gynecology and in all the special subjects. Without neglecting the proper didactic instruction and the use of the cadaver, manikins, models, etc, every effort is made to bring the student into actual contact with the living patient, and, wherever possible, to have him do the work himself. We are confident that this is the best way at present to properly and satisfactorily teach modern medicine and surgery, and our results seem to confirm our belief.

However, as I have said, we do not pretend to know it all, and we shall be glad to learn and take advantage of any development for the better in the educational evolution of the future.

THE TRUE PURPOSE OF EDUCATION.

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I will confine myself to a few remarks bearing on the basic principles of mental science in its relation to the acquisition of knowledge, and the cultural capacity to use it in the study of the various scientific branches leading up to the degree of Doctor of Medicine, and to the kind and extent of recognition that should be given by the medical school for the bachelor's degree, or for work done in the college of arts and science.

Our highest aim in mental, intellectual and moral development, should be perfection and happiness, and these so coincide as to constitute a single end, and if the end is not used as a mean for further mental spec-

ulation, all progress ceases. With the possession of all knowledge and truth, but without the power of intellectual cultivation and progression, life would be unbearable, and we would be little better than so-called educated barbarians.

Truth is absolute, but speculative truth is valuable as a mean of intellectual activity, and its relative value a utility not prized on its own account, but because it is conducive to the attainment of something else. Then, in efforts to possess many truths, we must also educate the mind to use these truths as means for the accomplishment of useful ends.

The possession of knowledge as an end is worthless, but knowledge as a mean in the further search after truth inspires mental activity, without which there can be no intellectual life; for all life presupposes the existence of an active force.

While the search after knowledge is active, its possession as an end is passive, and can only have utility where as a mean it is used by the active mind. Then knowledge and wisdom are only related, the one in a degree being the complement of the other, each necessary to the existence of the other; but knowledge must be mainly subordinated to cultivation of the mental faculties. Truths, then, are but the silent material out of which the active mind constructs, and the extent and perfection of results are in proportion to the degree of mental force and the number of accumulated facts. Therefore. the philosophy of the mind must include a subjective and an objective utility, the one to call the intellectual faculties into existence, the other to furnish the mind with the objects of knowledge.

In speculative mental science, we do not find the same utility in the various branches of education, and the utility in any branch may be modified by environment; but the most effective mental force may result from the convergence of the utilities of many branches, for the harmonious unity of many forces yields relatively increased results.

Culture and wisdom presupposes the possession of truths, but the value of these truths is in the ratio of the mind's force to use them in further speculative research. Knowledge must be possessed, digested, assimilated and appropriated, and the perfection of results is measured by the perfection in the processes of men-

tal action, but the utility of little knowledge correctly used may excel the utility of much knowledge with imperfect mental activity. Education, then, means the acquisition of truths with the acquired cultural capacity to use these truths in the processes of mental speculation to develop other useful truths; "it is the friend of knowledge and the lover of wisdom."

The teacher does not educate, but supplies the facts and furnishes the stimulus that enables the mind to educate the mind by turning the mind inward on itself, thus concentrating its forces in the development of mental activity and intellectual growth, for intellect is not perfected by knowledge, but by active and continued energy, "an energy conversant about knowledge." This philosophic principle is accepted by the profoundest thinkers, who make "speculative truth subordinate to speculation itself"; men who are not only possessors of knowledge, but seekers or hunters of truth, whose perfection of cultural development is in proportion as the activity is spontaneously intense, and who feel that instruction can only enable us to teach ourselves.

No conscious fact observed by another can be accepted until observed and recognized by ourselves through a process of mental activity and intellectual growth.

In a study of the philosophy of the mind, we must admit that the sooner a student accepts instruction as a mean by which he may exercise his mental faculties, by the use of the truths given by the instructor, in the attainment of further intellectual power, the sooner and more perfect will be the development of these faculties. From the philosophy of the instructor, the student must philosophize, and the acceptance of the principle of doing everything for himself enables him to obtain from the study of mental science the best intellectual exercise and the most healthful development of the mind.

The value of knowledge and speculative truth must be mainly measured by the intensity of energy and activity, but this should not be at the sacrifice of too much breadth of sympathy or thought; and just here arises the question as to the wisdom of including in the college of arts and science any or much of the study of the sciences that have a direct application to the art

of medicine and surgery. In deciding this question, we must consider the influence of the ethical environments, in determining both the cultural and practical value in the study of the embraced branches, separately and collectively, in their relation to the perfected education in medicine. While it may be contended that these sciences studied in the college may give the student increased breadth of sympathy, it must be conceded that this breadth is secured at the cost of too much loss of intensity of application, except in isolated instances.

It must also be remembered that medicine being an art, can be best perfected by the combined utilities of many sciences, with a spontaneously active and continued convergence of the resultant forces; and that this intensity may be acquired with practically no loss of breadth, for culture in its broadest sense is typified in medicine by the most useful application of scientific truths, and this use of knowledge can best be acquired under the direction of an instructor who perceives and practically comprehends the conditions and purposes for which such knowledge is needed. I do not mean by this that students may not attain much useful knowledge in preparation for the study of medicine by including progressive sciences in their academic course, and I would give full credit in the medical education for all work successfully completed, but the direction in the application of this scientific knowledge must be intrusted to the instructor in the medical college.

I am not speaking of original research in one or more of the biologic sciences, for students who succeed in these lines of work become more scientists than physicians; in fact, a student who has successfully completed the work included in the curriculum of a four years' medical course, having done much of his biologic work while acquiring his liberal education, will have succeeded in doing but little scientific research, this being mainly deferred for his post-graduate work. The medical teacher will very soon have decided that attendance on the work of four years in a medical college is not an unreasonable requirement, even for a student with a Bachelor's degree from one of our best universities.

On careful investigation, I am convinced that no college in the United States includes in the curriculum of any or all the years the work embraced in the re-

quired branches of the freshmen year of a well-equipped medical school. Then let us decide that we will no longer give a time credit for work claimed to have been successfully completed in the college of arts and science, but if the college wishes to accept the freshmen year of the medical course, as the equivalent for the senior year in the college course, that is a matter that does not and should not concern the medical teacher, for no universal educational requirement for admission to the medical school can, for many years, be higher than a diploma from a certified high school obtained after attendance on eight years of primary and intermediate work, and four years of high school or secondary work, the time included in each year being not less than five hours a day for not less than forty weeks, this being practically the equivalent for the educational requirement for admission to the freshman year of the university course.

The adoption of a requirement by the Association of American Medical Colleges of attendance on four years' work in a medical school is both logical and ethical; it is no injustice to any student, and is in the interest of humanity, because it enlarges the powers of the physician in his efforts to prevent and cure disease. The medical school that insists on the privilege of allowing a time credit for a Bachelor's degree or for work done in the college, is influenced by commercialism, and is not in sympathy with the spirit of the age that encourages the acquisition of the greatest amount of truths consistent with the cultural capacity to utilize them in the attainment of the most perfect results in the development of intellectual, moral and physical health.

The four required courses in a medical school should have a minimum of not less than seven continuous months in separate years, at the beginning of which students may be matriculated, and at the end of which they may be examined for advanced standing, or in the senior year for the degree of doctor of medicine; and no school should be permitted to matriculate students for more than one session annually. If medical schools are not willing to conform to these requirements, then the medical profession, county, state, and national medical associations and state licensing and examining boards should compel them to do so by refusing recognition to the diplomas they issue to their graduates.

DISCUSSION.

DR. SENECA EGBERT, Philadelphia—A great deal of confusion has been created because we do not keep in mind clearly what this association approves and what it does not approve. I believe the association approves of the granting of advanced standing to graduates of academic and scientific schools, provided that these men have advanced standing for a certain amount of premedical or so-called biologic work.

The college which I represent is very emphatic in this matter. Our catalogue reads as follows:

ADVANCED STANDING.

College graduates in arts and science who have completed a systematic course in general biology, comparative anatomy, chemistry, physics, histology, human anatomy, physiology, zoology and embryology, covering not less than 960 hours actual time in the college schedule or curriculum, are admitted to the second year without entrance examination. They will, however, be required to take materia medica and pharmacy (including the laboratory work), bacteriology (as taught in the first year) to complete the dissection of the human body, and at the end of the sophomore year to be examined in materia medica, pharmacy, bacteriology, and in both first and second year anatomy and physiology.

We have lived up to that, and, I think, Jefferson Medical College has exactly the same requirements and is living up to them.

There are in the higher colleges, to use Mr. Taylor's classification, in the eastern part of the country courses given that run through the four years and are included in the curriculum, and do not interfere with the education those colleges give in the humanities and classics course. These courses are being given more or less at the instigation of this association. Several years ago this association indicated to the academic colleges that they should establish this premedical work, and that advanced standing would be given to students taking it. Let us see what will happen if you try to prevent the members of this association from granting such advanced standing.

It will induce men to go to schools like Harvard, where they enter the arts course, go up to the junior year, and then, if they choose, enter the medical school as freshmen, and at the end of that year get a bachelor's degree, getting a purely medical course, losing all the higher training in the humanities that the ordinary academic schools are supposed to give. If this privilege is taken away from the association it will lose all the independent colleges. I want those men as a leaven for the other men; they have better trained minds, and they bring into the medical college that spirit of college life which helps to bind men together, and helps them to work as college men should work.

So that I would protest very seriously against not granting advanced standing to men who are qualified to receive it, as stated in our requirements. I do not believe that any school

of the association has the right to admit to advanced standing men without any degree, no matter what, unless they have had these 960 hours of premedical work. We insist on that very strongly. Every college man in our school has been a high-stand man, a man who has held his own and always can.

With regard to the uniform curriculum, I am utterly opposed to an absolutely uniform curriculum being foisted on the various medical schools. We must have a certain individuality or we are not what we should be. Every school must have it. Some schools are better than others; a school in a small city can not have the clinical facilities that schools in larger cities have, and it would be unfair to require it. We ought to have greater uniformity than exists now, but we should be allowed to adjust our own curriculum. This association stands for honesty and fairness and friendliness toward one another, and we should keep that in mind in all our work.

DR. CLARA MARSHALL, Philadelphia—I should like to ask whether physics is to form a requirement in medical courses when the minimum entrance requirements to medical schools include physics. Therefore, why should it be included in the medical course?

DR. EGBERT—I would like to ask Prof. Taylor whether they do not recognize medical colleges who give advanced standing to men such as I mentioned. Will our doing so jeopardize our standing with the Board of Regents of New York?

PROF. TAYLOR—Not at the present moment. There is a feeling of restlessness among our own schools because of the fact that we are now registering outside of the state a line of work not registered in the state. This law has been inoperative since its enactment. After convocation we will probably be instructed not to register such schools outside of the state, or to go ahead and register schools that will give the combined course in seven years. Undoubtedly the action will be made reciprocal—that is, if our schools are allowed to put them through in seven years, then there will be a registration of schools not in the state that will give the seven years combined course.

DR. KOBER—In answer to Dr. Marshall: We teach such physics as applies to medicine. I admit that the preliminary educational requirements include a knowledge of physics, but unfortunately the physics acquired at the high school and in colleges is not of so much intrinsic value in the medical school; so that the teaching of physics in the medical school has special relation to medical science.

In regard to how much credit should be given for academic degrees: We must admit that a degree of B.A. may mean a great deal or very little. It depends not so much on the degree or the college as on the man, and, therefore, we ought to satisfy ourselves primarily as to the qualifications of the individual.

The B.A. degree granted by some colleges is worth very little, and if we should grant advanced standing to men holding these degrees it would be disastrous to medical education. We must distinguish between good schools, indifferent schools and bad schools. Even though a man is the holder of a diploma, yet that is not an indication of what he knows, and an examination is the only way of finding out.

When colleges of high professional qualificaations teach such subjects as biology and other elementary medical studies, credit may properly be given, and I think this association at New Orleans expressed itself quite clearly on the subject by stating that credit may be given to the holder of a bachelor's degree from a reputable college or university for any work in the medical curriculum. It seems to me that we can stand safely on such a platform.

What constitutes a year's work? No college has anything to offer, and, therefore, I venture to offer something of a standard that might be regarded as the first year of medical work, or the second, third and fourth year, as you see in the proposed standard of 4,000 hours. It does not matter where men get their knowledge of physics, of chemistry, histology, anatomy, etc,. as long as they have it. It is not a question of a number of hours being sufficient, although a certain number of hours is necessary. For that reason it may be very desirable to look forward to the time when we can say that so many hours constitutes the standard for each year's work, and if they had this work in a college or academy we will give them credit, provided they pass an examination. We can well afford to give every applicant for admission to a medical school credit for the actual knowledge he possesses, and that is well expressed in the amendment of Article III adopted last year at New Orleans.

DR. WATHEN—I would like to ask Professor Taylor whether all the medical colleges in New York are to-day accepting the senior year in the literary or scientific department of a university as the equivalent of the freshman year in the medical school, or does the college accept the freshman year in the medical school as an equivalent for the senior year in the scientific department?

PROFESSOR TAYLOR—Only as to time. The senior year is to take the place of the freshman year in the medical school, but not as to subjects.

DR. WATHEN—The subjects must be taught in the medical school?

PROFESSOR TAYLOR—Not necessarily. There is a four-year college course and a four-year medical course. For instance, Hamilton College gives the degree of B.A. at the end of four years. Long Island Hospital College gives the degree of M.D. at the end of four years. They are independent and far apart.

They are doing just what our laws require of them—four years of academic training and four years of medical training —to get a degree in either.

Meanwhile, Columbia or Cornell may have combined their courses, but up to this stage of the discussion Cornell and all others insist on a student registering in the medical department at the beginning of the first medical year, and he is allowed to count the first medical year, in time, against the senior year of the college course. But the reciprocal of that is not true; that is, they can not count the subjects of the senior year in the college course against the subjects of the medical year.

DR. WATHEN—I see no practical solution of this question of advanced standing, except by the adoption of a universal rule that every medical college shall require of its students attendance on four full years of medical work. Perhaps, in some of our best equipped universities the medical work may be done in three years if the student has been required to take a most extensive course in biologic studies. Still, that student would be a better man when he graduates in medicine if he had not accepted a privilege of that kind, and the college would have less trouble in arranging its curriculum harmoniously in the interest of the teaching faculty and of the students. If we adopt any rule that permits of the giving of time credits, and I wish to emphasize the word "time," we must restrict that privilege to men coming from universities that are fitted to give students proper work, and it must be accepted and utilized by every medical college in the country.

We are not, like the licensing boards, legislating for any one school or any class of schools, but for all medical colleges that prepare men for the practice of medicine. Therefore, we must have a universal rule that will protect the people against any kind of imposition by advancing students for knowledge they do not possess. There is not a college (of arts) in America that is giving in any or all of the four years the work that must be completed in the medical college in the first or freshman year. That has been conceded. Dr. Egbert says that they accept students in advanced standing who have studied the biologic sciences for a certain number of hours, but that these same students are required to do additional work in materia medica and other subjects embraced in the first year; hence, I claim, his argument fails.

The State Board of the University of New York and other state boards have passed regulations for admission to medical colleges that require a very considerable amount of biologic work. We knew that when we passed our new requirements at New Orleans last year. What are we to gain by giving anybody credit of time for work done anywhere outside of the medical college? We are doing the student as well as the pub-

lic an injustice. We make the student a better doctor and a more useful citizen by requiring him to do all the work we possibly can.

This being true, how are we to go at this question? By allowing no time credit. But this does not say that we shall not allow credit to a man who has done more work in the biologic sciences than we require, and who can show this on examination. Why should we ask him to do that work over again when he can put his time in to better advantage in some other subject, perhaps taking up advanced work? I believe that the work in the college proper fails to concentrate sufficiently the mind of the student on purposes for which that knowledge is obtained to enable him to make that practical application of it that the medical school does. You may talk about your breadth and sympathy in university environment. If there be any such thing it is limited to the fewest possible number of men in the institution. As a whole, this breadth and sympathy destroys in great ratio the intensity of application and convergence of force that are necessary to make a scientific and practical application of these sciences to the art of medicine and surgery.

Dr. D. A. K. Steele, Chicago—It seems to me that the whole thing hinges on the question of a year of time and work done in a university whether the four years required by all medical colleges are necessary to the college or university graduate, and whether a university graduate can not do more and better work in three years than a student fresh from the high school without such preliminary training. My experience with medical students dates back some twenty-five years, and I find that the quality of the students is increasing year by year. We are getting better students, and we must all admit that the best students come from the universities. We all admit that we want the university graduate. It has been my experience, and I think you all have had the same experience, that a premedical course better fits a man for the medical studies embraced in the last three years. It seems to me unfair to the best class of students in the medical college to require them to take four years, and to put them on a plane with inferior students.

I am decidedly in favor of the suggestion made by Dr. Kober of giving a time allowance. Let them take the four years' course and give them the two degrees in seven years. That is fair to the student and fair to the school.

Professor Taylor—The question that is pressing on me personally in this work is whether there can be any unit of measure which the medical profession and colleges will recognize. Is there a first medical year, which you demand from the liberal arts colleges? Can we in any way help or cater to the prevailing opinion? We are asking too much of young men

to wait until they are 28 or 30 years of age before getting into active practice. You have all heard the argument time and again. They put in eight years in the grammar school, four in the high school, four in college and four in medicine; that brings them well along in life before they are ready to take up the profession for which they have equipped themselves. The minimum requirement should be to graduate from a medical school and enter on the practice of medicine at 21 years of ago, so that there are four or five years for scholastic training, and out of the course as at present organized three years can be saved by cutting one year off from the elementary school, high school and college, and let the medical school have the full four years. The only rational method that I can discover will be the reorganization of the entire system from the beginning of the school period at 5 years of age, to the completion of the highest degree in the strongest college, and I think I can see a method whereby 25 years can be reduced to 22. Briefly, that would be to insist on English being taught in the grammar schools and not putting in four years of English in the high school; but this can not be done on the present organization of the elementary schools.

How many colleges represented here to-day require physics for admission? How many of you, honestly, are requiring at least a years' study of physics as taught in high schools of the state of New York? I do not believe there is one.

I am not an M.D. I simply am a representative of the principals and superintendents of the schools of New York. Last year I went into a high school of New York which eight years ago objected absolutely to the regents raising the requirements from three to four years. By reason of that raising they have to-day one of the best high schools in the state, who before that time were unable to secure those facilities. That school gives its students in the physical laboratories better facilities than I ever dreamed of having in my college course.

There is no question but that all the requirements have been raised, but at the present time there is necessity for readjusting the curriculum so as to bring it down into proper proportion. The elementary grammar school course should be not more than eight years, and English should be taught in the grammar school. Latin should be started earlier, so that they can get through with three years in the high school. By putting in four subjects a day for three years, three years of Latin and of German, two years of mathematics, three years of science, one year of history, we can bring the four years' high school course down to three years, and we save one year. Then, when they have gone on into the college, by making a second course in physics, chemistry and biologic sciences—first, elementary and second—more advanced, we cut off from

the college one year and give them a chance to enter the freshman medical year, and then give both the baccalaureate and medical degrees as the highest scholastic gift.

DR. KOBER—It seems to me that the association has placed itself on record already, but from the remarks made by Professor Taylor it is very likely that we should like to have an expression of opinion as to whether this association favors the combined system. We ought to go on record as being either in favor of it or against it. Personally, I can see no objection why a student should not be given credit for work he has done in the scientific school, and this association ought to place itself squarely on record as giving credit for work accomplished elsewhere, provided it is equivalent to the first year's medical course in the average medical school. This may influence medical education all over the United States.

I am certain that colleges will give their students the advantage of taking premedical work if we will tell them what they ought to teach in their senior year. How many hours of chemistry, physics, embryology, etc., will we require in order to honor their credits for one year? They have a right to know what we expect of them in order to qualify their students.

As regards the attempt to arrive at a more uniform curriculum: Medicine is an exact science, and it does not require more hours to teach medicine at Harvard than in the humblest school in the country. A certain number of hours are required to receive a well-rounded education, provided the student possesses the preliminary knowledge necessary to enter on such work. Every dean knows that it is extremely difficult to formulate a logical curriculum, and yet there must be some foundation on which we can build. There are certain things that the student must know before he can enter intelligently on the study of medicine. He must have a certain preliminary education, and we must say what that should be; then colleges will conform to our ideas.

The same is true of medical colleges. Some colleges do not give such courses as we should like to have them give. Students from there will come to us and ask to be advanced to our third year, and yet we can advance them only to the second year. I have had such an experience year after year. Certain subjects are taught during certain years, but not the same in all the colleges.

I hope that the association will put itself on record as either countenancing or discountenancing the proposition advanced by Dr. Taylor, and that we will appoint a Committee on Uniform Curriculum to co-operate with a similar committee from the National Confederation of Examining Boards, and to submit to us some schedule or curriculum which will result in harmony and which will round out medical education.