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Fred. C. Zappfe as
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Transactions ^{secretary}
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Association of American Medical Colleges

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AMERICAN MEDICAL COLLEGES, AND THEIR BETTERMENT.¹

BY PARKS RITCHIE, M.D., of St. Paul, Dean of the College of Medicine and Surgery,
University of Minnesota.

GENTLEMEN: It is indeed a high compliment that the new dean of one of our younger university medical schools should be chosen to preside over this, the *largest* representative body of medical teachers in the world!

In assuming the functions of the presiding officer I shall endeavor impartially to administer "advice, correction, instruction, and reproof."

As the business man at the close of the year takes an inventory of stock, notes the results of his enterprise, and examines the value of his business methods, may we not profitably consider the progress we have made, observe and correct our errors, and take further steps in the direction of our ideals? It seems to me the time has come when we as an association should ascertain more definitely the status of our membership, and be more exacting in our demands for proofs of fitness from future applicants. I am advised that the custom has prevailed of accepting without question the printed college catalogue as evidence of entrance requirements, equipment and facilities for laboratory and clinical teaching, while it is a fact well-known to all of us,

¹ President's address before the Association of American Medical Colleges, Atlantic City, June 4, 1900.

that many of the printed announcements are misleading and should be accepted only in the "Pickwickian sense."

By the report of the supervisor of the college department of the University of New York we learn there are 122 regular medical schools in the United States, all eligible to membership in this body provided they come within the limits of our minimum requirements. That the needs of our country justify the existence of such an army of medical schools, is unworthy of discussion. That a majority of them fall below the standard of our minimum requirements, their laboratories a farce, and their clinic instruction a "delusion and a snare," is equally obvious. The lax and unequal laws in the many states of our union have made it possible in some localities for a body of medical men to combine and declare themselves a medical college, regardless of the fact that few if any of them are teachers either by training or experience.

The present status of medical education demands laboratories with modern equipment, and teachers with scientific attainments, who should devote their entire time to the work. This means a large outlay of money to establish and maintain the laboratories, and for the payment of salaries. It is an outrage to demand of a medical practitioner that he should devote enough of his time and talent to meet the necessities of his work without an adequate remuneration. The day has passed when the instructor can impart such knowledge through the medium of the recitation and the didactic lecture alone. How then can this little coterie of pseudo-scientists secure students, and through them the necessary income to keep their machinery in motion? Only by the issuance of announcements of great promise and small performance (which are accepted by this body as credentials for membership), by matriculating any clown "who has the price," and by small fees for instruction that would be dear at any figure.

I sincerely hope that future applicants for membership in this association will be required to present convincing evidence that they have the ability to do and are doing satisfactory work, and that the plan of admitting a weak school to effect its reformation,—which one of my good friends is pleased to call our "missionary method,"—shall forever be abandoned.

One hundred dollars per annum is, in my opinion, the smallest sum for which adequate instruction can be given. In the report of the New York College Department already referred to, some very interesting figures are given in regard to the expense account. One college in Iowa produces doctors for the small sum of \$33.00 per annum, while another in the same state expends \$250.00. The three great schools of New York City average about \$175.00 annually, and the university medical schools about \$150.00. An alleged college in a small city south of the Mason and Dixon line announces 531 matriculants with a net income of \$15,000 over all disbursements, and "makes doctors while you wait" at the modest price of \$27.73! A small school in New England which, I am told, does not issue diplomas, expends \$16.00, while another in a neighboring state makes the preposterous claim that they "burn money" to the extent of \$528.00 annually for each student. This report justifies the old adage, "there is nothing so unreliable as figures, except facts!"

The printed report of your Committee on the Condition of Medical Education is worthy of your careful consideration. This committee was continued, and will report the results of its labors at our executive meeting to-night. From this report will be learned the poverty and instability of the entrance requirements of some of our schools. Seven reported, and doubtless others unreported, require a *common school education*, which is practically no education, to fit the individual for the arduous duties and responsibilities of a learned profession. A teacher's certificate of the first or any grade has no definite value, and should be considered worthless unless issued by a state normal board, or a state high school board.

The absurd paragraph in Section 3, Article 3, of the constitution admitting students conditioned in one or *more* branches should be amended so as to state specifically one, two, or even three conditions, and thus prevent the entrance of a student with no passing marks whatever. From the report of our committee you will note that more than one-third of our membership admits students to advanced standing from evidence of attendance only, regardless of whether they show any knowledge of the subject

taught. We may reasonably assume that a larger number who did not so frankly confess their sins are equally guilty. Technically, by the loose construction of our constitution this laxity is permissible, but it is unworthy the membership of an association whose battle-cry is "the advancement of medical education."

There is at present such a wide gulf between our best and poorest schools that general reciprocity for advanced standing is impossible. By existing rules we are permitted to accept certificates from colleges of equal merit with our own, but we should be certain that an equivalent of work has been performed. Some good schools earnestly striving to do the best work have weak spots in their armor, certain departments which are not up to the standard, and which should not be permitted to soar with the pinions of their colleagues. The school which I have the honor to represent demands for advanced standing official credentials not only of attendance and passing marks, but in addition examination *if deemed necessary* by the professor in charge of each department. He is the best judge of the knowledge and fitness of the applicant, and the newcomer has no right to expect advanced standing with a lesser degree of excellence than is required of the students of our own school.

Last year at Columbus under a misapprehension the association defeated an amendment to our constitution specifying the number of hours devoted to instruction. As the rule may now be interpreted a school may teach one hour a day and still fulfil the requirements of the law. It may be located so remotely from centers of population that it is manifestly impossible to secure the clinical facilities necessary to properly equip the student for his professional career.

The Committee on Condition of Medical Education will recommend that the four years' course demanded must embrace at least 3,300 hours of actual work in the college, of which 500 or more hours shall be laboratory, and 750 or more hours of clinical teaching. I warmly endorse this amendment and urge its adoption.

I am keenly alive to the fact that any proposition to increase our entrance requirements for students will meet with active

opposition. To make a high school diploma or its equivalent of knowledge under proper examination a minimum requirement is essential to our continued usefulness and prosperity. Some members plaintively assert that to accept such a rule would mean suicide. To such faint hearts I would say that it is better to die with a bold front fighting in a just cause, than to be ignominiously decapitated by the judicial ax of the examining boards.

This is no idle threat. The adoption last June by the Federation of State Examining and Licensing Boards of the report of its Committee on Minimum Standards for Admission to Medical Colleges (see BULLETIN OF THE AMERICAN ACADEMY OF MEDICINE, August, 1899), compels us to advance practically to that plane. Though the federation is not a legal body its units are, and a large majority of the state boards will accept and enforce its provisions.

In a recent editorial the *Philadelphia Medical Journal* suggests that the state licensing boards which have under the law the power to accept or reject the diplomas of questionable schools, should officially examine into the teaching facilities of the schools within their state jurisdiction, to determine whether their work agrees with their announcements, whether their laboratories are in fact or in fancy, and whether their clinical instruction is sufficient to justify their existence. This is practical, and *legal* in many states. If this clearing house method is adopted by the examining boards the problem is solved. By organized and uniform inspection they will be enabled to sift the wheat from the chaff, and compel medical pretenders to reform or quit the field which they disgrace. Last year, after hearing and discussing the admirable paper of Dr. Dodson on "The Elective System in Medical Education," a committee was appointed to investigate the subject further and to report at this meeting.

The art and science of medicine has developed to such a degree, the seven original chairs have been subdivided and multiplied into the many specialties in medicine and surgery, until the student is confounded with the immensity and complexity of the subjects with which he has to contend. Primarily our standards are established for the pupils of minimum ability acceptable to us. Many barely reach the line, and yet become worthy

and satisfactory practitioners. Others, more richly endowed with mental gifts aspire to a higher plane, and their wishes should be gratified. This can be accomplished by the intelligent application of the elective system. The members of the committee are enthusiasts and may, probably will, propose some radical changes in our educational methods. The plan is now in active and successful operation in some of our foremost schools, and appeals strongly to the intelligence of our association.

The degree of M.D., should be a mark of distinction and scholarly attainment. At the present time over 80 per cent. of the faculty of one of our oldest and best schools have no distinguishing mark above the title of the new M.D., from our poorest three-year colleges. As in our academic departments the bachelor leads to the doctor's or master's degree, and in Great Britain the licentiate precedes the fellow, so we too should establish a bachelor's degree, and reserve M.D., for those who earn it by scientific research and lofty endeavor.

Finally, if in my strictures I have wounded the sensibilities of any representative present, please bear in mind the fact that "we may hate the sin and love the sinner." We are united in the avowed purpose of elevating the standard of medical education, and with it our profession to a higher and nobler plane, and to render the possession of a medical degree a testimonial of the highest type of scientific attainment. If any school in our membership is below our standard, let it at once, regardless of cost, repair the defect or offer its resignation. Let us admit no school which does not offer the most positive evidence of its ability to conform to the rules of our Association, and at the same time aspires to better work in the near future. Let us increase our entrance requirements and broaden our curriculum as speedily as may be compatible with our environment. To use a commercial phrase, let our success be measured by the quality rather than by the quantity of the goods. Our advances in the past few years have been marvelous, and our possibilities are illimitable. The true scientific spirit is not lacking, and if we can eliminate the canker of commercialism a glorious future is ours.

Let us rejoice in the good work accomplished, and resolve that the United States of America, the most prosperous and progressive nation of the earth, will at an early day, through the unselfish, earnest, and efficient scientific work of its medical faculties, remove the stigma which in Europe now attaches to "The American Doctor."

THE USE OF CLINIC RECORDS IN TEACHING MEDICINE.¹

BY W. B. CANNON, A. M., Boston, Student Harvard Medical School, Instructor in Zoology, Harvard University.

"And I said of medicine, that this is an art which considers the constitution of the patient, and has principles of action and reasons in each case." These words from Plato's "Gorgias" summarize concisely the work of the physician. He practises an art. This art requires careful and thorough examination of his patient, and wise and skilful diagnosis and treatment of the conditions of his patient. The problem confronting teachers of medicine, therefore, is that of training young men to be skilful practitioners of the medical art; to observe closely, and to judge and act with reason in their treatment of disordered individuals.

Now, in preparing a novice for the practice of any art, the reasonable method is that which requires him to do the sort of work demanded by his art when he follows it seriously and without guidance. The student of mechanics learns drafting and the touch of tools in the shop; the painter accumulates power from every object he portrays; the speaker becomes ready-witted and quick-tongued only by repeated speaking. In medicine, too, there can be no exception to this rule that we learn to do by doing, for only thus does assurance come; only thus are mistakes made that impress upon the mind the proper way.

The physician's work then is twofold: first the observation, and later the rational judgment of his data. In the discussion which follows, the training of the powers of observation will not be considered. Such training is so generally recognized as fundamental in its importance that there is little danger of its being neglected. It is the second part of the physician's work—the judgment of his data and the application of rational treatment to cases—which is to be further considered.

This matter of judgment and treatment requires two sorts of mental equipment, an accurate memory of facts and principles,

¹ Read before the Association of American Medical Colleges, Atlantic City, June 4, 1900.

and an ability to bring these facts and principles to bear on special cases. In training students to accurate knowledge and wise action the methods customarily used in medical schools have been the methods of didactic lectures and of recitations. As recent discussion has shown, there are many objections which can be brought against each of these ways of teaching medicine. The didactic lecture seldom presents more than the student can find in the newest text-book,—the source to which he turns naturally, rather than to uncertain lecture notes. The student therefore at lectures is spending time in passively listening to another's information, while he might be acquiring this information by his own active energies. The time spent at lectures, then, is not spent to the best advantage. Furthermore the lecture system has the serious fault of allowing a neglect of study during a large portion of the year, and of encouraging a cramming for examinations at the end. Knowledge which is to persist cannot be gained in this manner, for time is needed for the new ideas to become intimate with those already at home in the mind.

In favor of the method of recitations, more may be said. The student must prepare day by day for his exercises, and this requirement not only prevents the shirking of study, which is possible when lectures alone are used in teaching, but the daily preparation also makes the student thoroughly acquainted with his authorities. At the recitations the student has the opportunity to correct false impressions and to fix especially in memory the more essential points of the topic studied. What new matter of interest the instructor may present, falls now into a prepared mind and finds a place there. Thus by association and repetition the facts of medicine become more and more the permanent possession of the student.

Although recitations are in some respects more valuable than lectures, they yet share with the lectures certain important failings. In the first place, diseases in text-books like diseases in lectures are abstractions; they are descriptions of averages or types without the interest provided by the sense of real conditions. Study of text-books and lecture notes is accordingly a dreary process of laborious memorizing, a condition especially

unfit and absurd in medicine which deals so intimately with vital interesting issues.

By far the most important objection, however, to be lodged against the prevailing methods of instruction is their real inefficiency as a means of mental training for medical work. It is admitted that medicine is an art, it is admitted that the best means of learning to practise an art is by actual practice with opportunity for correcting mistakes, it is admitted that a large part of a physician's work lies in judging correctly medical data and meeting the problems presented by human needs. Now the most powerful destructive part of the present argument is brought to bear just at this point, for neither the lecture system nor the recitation requires of the student intelligent thought on practical problems, or the exercise of reasoned judgment, or the wise handling of the difficulties of a given case. The methods used do not demand of the student what practice will demand of him as a physician; they are not, therefore, a satisfactory means of teaching the art of medical practice.

The argument, however, has its constructive side. Is there any better way of training students of medicine for their work than has been provided in the schools? About two years ago it occurred to me that for learning the practice of medicine a study of clinic records would serve as a most immediate substitute for the actual care of patients; for in clinic records all the data to be judged and acted upon are present in every instructive variation of every sort of disease. The plan of giving students printed records of cases was brought forward last January. It contemplated a detailed analysis of the data, a consideration of the differential diagnosis, the principles of prognosis in the case, and the rational treatment. The students after having studied the case were to come to a conference with an instructor, and in the conference all the points in the particular problem should be discussed. Since the scheme was broached it has been used in three courses in the Harvard Medical School, and also in the University of Pennsylvania, and in the University of Minnesota. My own observations of the working of the method, which I now present, are confined to the exercises con-

ducted during the last four months by Dr. Richard C. Cabot for the senior class at the Harvard Medical School. The trial has not only confirmed the original claims made for the method, but has revealed new unforeseen features of great value.

The first claim made for the method was that by its use the objectionable features of the didactic lectures are avoided. The student does not spend his time duplicating his reading matter by lecture notes to be set aside for later study; he is learning his facts gradually from day to day, by actually applying them to his work. Instead of depending on his uncertain records of lectures, he is training himself by practical experience to use his books just as later he may have to use them in reference to his patients. And as for the pernicious method of learning medicine by cramming for examinations, the very nature of the study of cases forbids it. .

The power of arousing interest and enthusiasm among the students was a second claim made for the method. This claim has been abundantly confirmed. The printed record of an actual case gives a center of interest. As one student said, "I used to sit down and read twenty pages of 'Practice' and be sleepy: but there is an excitement in hunting down the diagnosis of a case and in getting ready to stand by my idea of the treatment of it, that keeps me lively." The exercises at which these cases have been discussed have had the largest regular attendance of all clinic exercises of this last half of the senior year. The students argue and discuss the case together in their rooms, they come to the conference and dispute and question not only one another but also their instructor; they are kept alert and keen-minded throughout the exercise. Impressions made under such conditions, when the attention is naturally sharp and eager are deep and lasting. It is the particular patient, the concrete instance, that gives body and form to textbook abstractions, holds the attention, and stimulates the reasoning power. Neither the lecture nor the recitation stirs enthusiasm; the case system, however, is on record as having accomplished this result most successfully.

The most important virtue of the case system, however, is its great value in drilling the mind of the student to meet intel-

ligerly the difficulties of practice. With the usual methods of instruction, skill in logical thinking, which makes knowledge a power, is not infrequently sacrificed or impaired by the strained effort at accumulating the very knowledge to be used. How many students will exercise independent judgment or do critical reading while preparing for a recitation a dozen pages of any standard work on practice? To be sure, in some instances, such preparation develops an extraordinary ability to memorize, but the mind is thereby only burdened with an unwieldy multitude of facts, while there is not the slightest necessity for any effort at real intellectual construction. Instead, let the students have a number of cases with similar symptoms, but with peculiarities and complications, and can any student fail to puzzle over them and study them? And having studied them, will not the conference at which his diagnosis and treatment are either confirmed or questioned mean more to him and produce a more lasting impression than any lecture? The clinics train the medical student in observation; nothing at present requires him to look carefully on all sides of many cases, to think clearly and accurately, or to have reasons for his conclusions. Are not these powers among the most indispensable qualities of a physician? If so, the method bringing these qualities into constant use and discipline, and at the same time demanding the most thorough and precise knowledge is certainly that best adapted for the study of medicine.

And during the past four months, nothing has been more interesting than the growth among the students in the power to grasp quickly the essential needs of the situation. "Conference maketh the ready man,"—yet there is nothing in listening to lectures that tends in any way to develop this valuable trait in the medical student. Another matter which the students have been learning is the judgment of clinic data, and the estimation of the value of evidence. In the text-books, symptom after symptom is written down without indication of importance or weight. In considering a particular case and discriminating between the various diseases it might represent, the students first begin to see what may be called the perspective of symptoms; they are learning to distinguish between the big and the

little, the important and the unimportant, the common features and the more unique.

Among the new unforeseen merits characterizing the case method, is the discovery that the particular instance may be stated so vividly that it will leave on the mind a picture quite as definite and lasting as the sight of a real patient. This virtue suggests the especial use of the method in teaching the management of acute urgent conditions, such as alarming hemorrhages, the agonizing distress of angina pectoris, and the cutting, stabbing pains of biliary colic, conditions which students never see in the hospitals, and which they may be called upon at any time to treat. A simple case recently given out in class for discussion will illustrate the point.

"A middle-aged man was seen writhing in intense pain referred to the epigastrium. Vomiting of greenish fluid took place; there were loose discharges from the bowels, small in amount. This state of things lasted with only short remissions for two days, until a small dose of morphia, which, for special reasons, had hitherto been withheld though asked for, was administered, after which there was complete relief for many days. The pupils were dilated, the pulse regular and of normal character. Nothing special had been eaten or drunk to cause irritation of the stomach. The abdominal walls were neither distended nor retracted, no intraabdominal tumor was to be detected, nor was there excessive tenderness on pressure. It was afterwards learned that he had had several such attacks, that for many months or years his legs had been weak, that he had had neuralgia and numbness in them, and that he stumbled in walking and staggered with his eyes shut."

Here we have a real and vivid description of agastric crisis in tabes, made so striking that it leaves a deep and permanent impression in memory.

This case also illustrated another of the unexpected features of the case method, that of showing to the students themselves and also to their instructors what they do not know and wherein their knowledge is inaccurate. The question was asked: What further examination would you make? This one question alone showed to about one-half the students present, that they were entirely wrong in their memory of the Argyll-Robertson pupil, and the question further showed that a large number of the graduating class believed that the knee-jerk was ordinarily increased in tabes. These are merely instances of the state of

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affairs among the students which the method is bringing to light. They are going through their last year in the school, ignorant of their ignorance and complacent in their false knowledge until meeting the actual conditions of real cases shows them their deficiencies. It is not to be expected that the lecture system will reveal to students their faults. How can it do so? The students sit passively listening to their instructor; the instructor does not know if they have understood, or learned, or are remembering; his chief knowledge of the students is derived from what they write in an examination book after cramming their minds for a few weeks with what he has told them during a whole school year. In the complexity of medicine what can such a test show?

Another merit which the actual employment of the case system has developed, is the training which students get in being required to adapt themselves to actual difficulties in practice. The first case presented under the method was, at the time, in the private practice of the instructor, Dr. G. L. Walton; the diagnosis of cerebral hemorrhage was made by the students and the probable site of the hemorrhage located. The instructor then put the practical questions which he had to answer for the family: Will you allow the patient to sit up in bed? Why will you forbid him to sit up? What will you give him to eat? Does he need drugs? What will you do for him? What is the prognosis with such a past history? His wife is a nervous imaginative woman who will worry herself to a wreck if you are not careful. What will you tell her about her husband? All these questions the students were compelled to answer, and give reasons for answering as they did.

Now does it not seem reasonable to suppose that by requiring such exercise of thought, and discrimination and circumspection of all the data, students are trained to greater power in studying their authorities, in increasing and applying their knowledge, and in using their judgment than could possibly be the result of sitting idly listening to lectures?

Finally, I wish to state from a student's point of view, the apparently proper place for such a method in a medical curriculum. In the argument for the adoption of the study of

case histories in medicine, a sharp distinction was drawn between the two attitudes of the physician. His first work is that of the observer,—he must secure his data thoroughly and skilfully, and this work is fundamental. But there is the other attitude of the physician, that of the careful judge who regards his data on all sides, relates it to his previous knowledge, makes his differential diagnosis, has his reasons for his prognosis, and applies his rational treatment. Now it is in just this central position between the scientific part of medical training, which provides principles and theories, and the practical work of dealing with actual problems, that the study of data provided in printed cases will have its greatest value. At the clinics, the students are drilled by their corrected efforts to be thorough and discriminating in their observation and thus to secure reliable clinic data; the emphasis here is on observation. At the clinics, however, the time is not sufficient to consider these cases in all their details. This defect, the case method makes good; for with the printed records in their hands, the students are drilled by their corrected efforts to judge with care exactly the same sort of reliable data which their own observation has secured. The cases can be so arranged as to develop naturally the relations of the group of diseases under consideration, and the similar diseases between which distinction must be made. To these cases the students can bring all their knowledge of anatomy, physiology, pathology and therapeutics, and these subjects which are now more like separate packets in the mind than related parts of a single system, take on a new importance and interest. The students then fix their knowledge by unifying it, by bringing the new information into relation with that already secured. They learn the use of their authorities as books of reference; they must study their matter from day to day, for judgment and reasoning, and skill in analysis cannot be crammed in the few weeks before an examination; and finally all this discipline has a direct value for the bedside instruction, pointing out to the student what to watch for, showing him the importance of complete examination, and teaching him how to interpret observations as they are made.

It seems to me that such a plan presents conditions worthy of

an instructor with the widest knowledge of both medical science and medical practice, one who is keen and ready and accurate. In his free intercourse with the students in the conferences, he occupies a position of far greater importance as a personal factor than can be possible in formal lectures and recitations, in ensuring the knowledge and skill, and in determining the ideals of young men who are looking forward to the work of the physician.

DISCUSSION.

Dr. John Chase, University of Colorado :

I have been particularly interested in this paper. I have found for many years that the principal difficulty in pounding things into the students' heads is to keep them awake. I have always guaranteed my students that they would know something at the end of the year in my course if I could keep them awake for nine months. I have made use of the same plan as Dr. Cannon, although I have not had the case records printed. I have frequently presented a case, going through the diagnosis and then change some of the symptoms, and said, "What will you do now?" "How answer questions the family will ask?" "What will you do as far as the sanitary regulations of your city are concerned?" I know how it was when I studied medicine, when I was interested I was wide awake, but when the course was dull and uninteresting I simply could not bring my faculties to bear on the subject on hand for any length of time.

Dr. J. W. Holland, Jefferson Medical College :

There is one significant fact which has not been mentioned. The originator of the case system was a student, an undergraduate. A series of papers were published in the *Boston Medical Journal* by him. He was a law student and he mentioned the case records which they used, the law science being a book science. A library is an important part of the professional man's furniture, but this undergraduate found that the law students were deeply interested in their cases, and were making great progress in reasoning, in lucidity of their thoughts, and he broached the question why this method should not be used in medicine. He recognized the deficiencies in our own methods. Of course the ideal method is to work up the living case, permitting the student to watch the progress of the disease, the influence of the remedies upon it, and to read it up in his text-book. That represents an ideal state of things, but I think no school has succeeded by trusting cases to the student and allowing him to make experiments. In lieu of that, it seems to me that the method presented is a most excellent one. The student is allowed to read up and is furnished with some actual case taken from the clinic record of the hospital or dispensary and putting it to the student as a problem. Unless it is presented as a problem to be worked out, his brain will not work with any effect.

As to the students recognizing the real meaning of the knee reflex, I suppose there is not a man here to-day but what at one time did not know what that meant. The student's mind does not go so far; he only knows the name. I think this method is splendid and I sincerely hope that it will succeed.

Dr. Bayard Holmes, Chicago College of Physicians and Surgeons :

I do not like to speak on this subject and say what I want to say. In 1892 I published, in the *Philadelphia Medical News*, an article under a rather long and clumsy title; it was "Is it Desirable and Practical to Teach Medical Students the Methods of Medical Library Research?" I described how I tried to teach the student the subject I had in hand by requiring them to look up cases of a particular kind in the literature and make abstracts of them, bring them in and discuss them before the class. At that time somebody in the legal profession called my attention to the fact that there was a system of teaching law called the "case system." The books for this system are usually entitled "Material for the Study of Contracts," "Material for the Study of Torts," etc.

I investigated the method and found that it was used in several law schools. Then I tried the experiment in a more serious manner and wrote an article, which was published about the year 1894-95, entitled "The Library Method of Teaching Surgery." This article was published in the *Journal of the American Medical Association*. I do not want to think for a moment that the gentlemen are ignorant of these two journals or of their contents. I then began to teach surgery in that way and I still continue it, although I do not use it to the exclusion of any other method, as no method can be used exclusively. They all have some desirable feature.

Dr. Dudley S. Reynolds, Hospital College of Medicine :

I wish to bear testimony to the proof of the last speaker's statements. In a meeting of the College Association in Atlanta, Georgia, in 1896, Dr. Holmes referred to his method of instruction. He stated that he had at that time just completed the study of a case of osteomyelitis, in which the class by sections, had been compelled to read up everything on the subject, then examine the patient and suggest the mode of treatment.

Dr. Wm. L. Wills, College of Medicine, University of Southern California :

I think the system in vogue in schools at the present time where the clinic method is completely divorced from the didactic or lecture system, is a mistake. Twenty years ago in the University of Pennsylvania we were not allowed to go to the clinics at all until our senior year. Instead of studying records why cannot you study cases? When I went to college, Leidy lectured immediately after dinner. He was a good man, but an exceedingly tiresome lecturer, and he invariably put us to sleep. He either ought to have

brought in a case to us and talked about that or his hour ought to have come earlier in the day. This last year I have been giving the first-year men (although I was not really allowed to do it) a surgical clinic from the dispensary. Although the students are not allowed to go to the regular clinics, I took it upon myself to give them a special clinic on Saturday afternoon in order to keep up their interest. Much to my satisfaction, those boys derived considerable benefit from this clinic.

Dr. W. J. Means, Ohio Medical University :

I have been very much interested in the discussion of this important question, and I am pleased to see the progress in teaching methods in our medical colleges. The case method, as suggested by Dr. Cannon, is a step in the right direction. I presume that most of you are familiar with the recitation plan as conducted at our school. We claim to be the pioneers in that method of teaching. The lecture system was abolished almost entirely, the recitation plan adopted, and the case method introduced to a certain extent. Our professor of obstetrics has used the case method for about two years. A section of his class is required to attend a case of obstetrics and make a complete record of it. That record is then taken into the classroom and made the subject of the recitation. I have adopted this plan in teaching surgery, but I have used instead of the case the outline of a certain subject, the students being expected to familiarize themselves with the subject, getting their information from any reliable source. Then cases are taken up in order to fix the important points of the subject in hand on the student's mind. I am not ready to accept the case plan primarily. I believe that we might as well say that we could apply the fundamental principles in mathematics to the more complex problems without previous study. A foundation is necessary and the student must familiarize himself more or less with some textbook before he can take up the case method exclusively. I do approve of it, however, in the junior and senior years, and it ought to be used to a much greater extent in our medical colleges than it has been heretofore.

METHODS OF CLINICAL INSTRUCTION AND THE MANAGEMENT OF CLINICS.¹

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The end of all medical education is to prepare the student for the practice of medicine on scientific principles. Medical schools, therefore, have a twofold task to solve: they must instruct the students in the theory as well as in the practice of medicine; in medical science as well as in the healing art.

The science is taught in the lecture room; the healing art is acquired in the clinic room. The lecture room furnishes the theoretical instructions; the clinic room gives the practical object lessons. The clinic is the medical student's training school for the acquisition of practical experience and the education of those faculties which make the successful physician. Success in practice does not depend so much on book learning as on good observation, thorough examination, manual dexterity, and good judgment in applying our scientific principles to the wants of our patients.

Well prepared by recitation work and didactic lectures the student enters the clinics to find the opportunities of training his senses, especially the sight, hearing, and touch, in the quick recognition of morbid symptoms; of acquiring the habit of making thorough examinations and of exercising great care in making a diagnosis. One-half of the mistakes in practice can be traced to careless examinations and hasty conclusions. I regard it as one of the most essential features of clinic teaching to impress upon the students the paramount importance and necessity never to accept a diagnosis as final until it is supported by all the essential symptoms in the case. As long as there exist any symptoms which do not agree with the supposed nature of the disease we should examine again and again with the utmost care until the mystery is cleared up and our diagnosis is verified or modified. The clear conception of the nature of

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the disease before us makes us master of the situation ; for it determines at once our plan of therapeutic action and sets clearly before our mind's eye all the possibilities we may encounter and be prepared for in the course of the malady.

Clinic instruction, therefore, first of all things, should strive to educate the student in the art of reading and interpreting symptoms correctly—to become a good diagnostician; and in the art of adapting the scientific principles of therapeutics to the conditions of the patient—to become a successful therapist. To this end it is necessary that in the course of his clinic attendance the student shall become acquainted at least with all the most important diseases and the various ways in which they may manifest themselves in different individuals.

It goes without saying that this cannot be done without abundant clinic material. Any medical school which has not a well frequented dispensary, and a well filled hospital from which to select the proper cases for the clinic object lessons, does not meet the demands of modern medical education. But how about those colleges which control an abundance of clinic material ? Are their clinics so managed as to make the best use of the material for the ends to be attained ? I believe I voice the sentiment of every progressive clinic teacher when I say the methods of clinic instruction prevailing in our colleges are obsolete, inadequate, and faulty, and a thorough reformation in accordance with modern ideas of medical teaching is urgently needed. In my opinion the chief faults of the present system are : 1, That the clinic classes are too large ; and 2, that the clinics in the various departments are too few and far between.

If the main object of clinics is to let the students study disease-pictures from life, to give them object lessons, demonstrations *ad oculos*, it is plain this purpose cannot be effectually carried out before a very large class of students, because the student cannot witness the demonstrations and observe the symptoms unless he sits within easy range of the patient. But the custom still prevails to give the clinics to the whole senior class or even to seniors and juniors together, irrespective of numbers, in a large amphitheater where the students are perched upon rows of seats like the spectators in the gallery of a theater. And just as these

cannot see the facial expressions of the actors on the stage, so the students cannot perceive the symptoms of the patient in the arena. Only the fortunate two dozen occupying the front seats really get what they come for to the clinic; the rest only hear what the professor says, and must imagine what he demonstrates. In my clinic I have often seen students in the upper seats use opera-glasses in the vain endeavor to perceive the symptoms of a diseased eye. Now I have read about studying astronomy with an opera-glass, but I do not believe it is a serviceable instrument for studying ophthalmology. The profitable study of clinic ophthalmology requires the close inspection of the diseased eye; and it is physically impossible that more than a dozen students at the same time can see what the teacher is demonstrating. In numerous cases the delicate but important, because pathognomonic, symptoms can be recognized only by focal illumination and cannot be demonstrated to more than about six students at the time. Still by repeating the demonstration several times it is possible to give every student of a class of 40 or 50 a chance to see, without losing too much time with the exhibition of one patient.

Most glaringly apparent becomes the absurdity of giving clinics to large classes in the diseases of the ear, nose, and throat. The entire clinic hour would not be sufficient time for the proper demonstration of one single case, if every student of a large class of over 100 students should (as he ought to) see the morbid condition; for only one student at the time can inspect the ear, nose, or throat.

But even diseases of the skin, medical and surgical cases and operations, cannot be properly taught to an unlimited number of students. This is practically admitted by the teachers themselves when they select for each clinic a so-called clinic staff of 20 or less students who are invited to the front to examine the case and witness the operations. But what of the rest of the class? Is their time well spent by doing nothing but holding down the seats? Truly this seems to me the poorest conceivable method of furnishing your students opportunities to train their senses by self-observations and to gain practical knowledge of diseases by studying their clinic pictures from life.

You may tell me as the students are selected for this clinic staff in regular rotation all students are given an equal chance. This is true; but I ask you to consider how often during the entire session each student will be a member of the staff. Does not his real, rational, and practical clinic instruction shrink down to a few hours; and is not the larger portion of his time spent in the amphitheater to very little purpose? What good can it do the student to listen to the explanatory remarks the professor may apply to the clinic aspect of the case, if he cannot see the case?

From whatever point we may view the amphitheater clinics we must pronounce them a decided failure; they neither satisfy the demands of our time nor the expectations of our students. The construction of costly amphitheatres with a seating capacity for hundreds of students is an injudicious expenditure of large sums of money and valuable space, which would be utilized to far better advantage in the building of a number of clinic rooms, each accommodating about 50 students. This is in my opinion the largest number which should be admitted to a clinic. Whenever the clinic class exceeds this number it should be divided into sections, and the college should provide for the requisite teaching force and the necessary numbers of clinic rooms so that all sections may receive clinic instruction in the same department at the same time. Besides the advantages inherent in the smallness of the class this plan has the additional advantage of offering the students an opportunity to witness the practice, and to absorb the mature experience of several teachers in every department. Let me explain: Suppose there are 150 senior students—they would form three clinic sections and, for instance, three surgical clinics would have to be given at the same hour. At the beginning of the college year Section A would be assigned to Professor A, Section B to Professor B, and Section C to Professor C. After three months Section A would change to Professor B, Section B to Professor C, and Section C to Professor A; and after the expiration of another three months the sections would be shifted again so that Section A would attend Professor C, Section B, Professor A, and Section C, Professor B. This rotation carried out in every department would be exceed-

ingly profitable and interesting to the students, and would also stimulate a friendly rivalry among the teachers to furnish the highest grade of clinic teaching.

2. We all prize the value of clinic experience so highly, because the mental impressions of our own observations are more lastingly preserved and more readily reproduced by our memory than the impressions we carry away from lectures or readings. The careful examination and daily observation under the direction of the teacher of a case of typhoid fever will leave in the mind of the student a more lasting impression and a far clearer conception of the malady than the reading of the most brilliant essays on typhoid fever. Hence, if the clinic is the student's training school where he is to gather a fund of practical knowledge for his future career, it is not sufficient that he is shown a number of patients, but it is of vital importance that he should see these patients repeatedly to observe the changes occurring from time to time in the manifestations of the disease. By these repeated examinations alone can the student gain a thorough knowledge of diseases and learn to recognize them in their various phases and stages. A patient, therefore, should be brought before the class as often as his condition shows a noteworthy change; and as such changes often, especially in acute diseases, occur at short intervals of time it is self-evident that clinics in every department should be given frequently. In the great and important departments of medicine and surgery, including gynecology, clinics should be held every day in the week, and in the special departments of disease of the skin, nose and throat, and eye and ear, at least three times per week.

Do our colleges meet these requirements? some apparently do, inasmuch as their lecture schedules provide for daily clinics at least in medicine and surgery; but on closer examination we find that these clinics are parceled out among several teachers, each giving clinic instruction perhaps twice weekly and each handling a different set of patients. Under this system a patient cannot be reexhibited on any day in the week, but his presentation is limited to the two clinic days of his attending physician or surgeon. If he is shown on Monday and the next clinic of his attending physician occurs on Thursday, he cannot be

brought before the class until that day, no matter what important changes in his condition may take place in the meantime. Though they receive clinic instructions every day the students do not get daily clinics in our meaning of this term, because they are deprived of the opportunity of having the same patient presented to them every day if necessary.

In the special departments the clinic instruction is usually limited to one day in the week. It really seems as though the old idea that practitioners need not know much about diseases of the skin, nose, throat, eye, and ear, is still haunting our college halls; for it requires no arguments to prove that very little can be accomplished under this system. One hour per week! How many cases can be properly demonstrated and explained in one hour? How can the student familiarize himself by his own observations with the progress of a malady if he can see a case but once a week? And what good does it do to have an abundance of clinic material, if the cases cannot be shown for lack of time, and cannot be presented in their fresh and unadulterated state. Suppose the eye clinic is on Monday, and on Tuesday or Wednesday a typical case of acute iritis or glaucoma is received. Now we cannot let the case go without treatment until the next clinic day; and by this time the treatment will have changed the conditions so effectually that from the appearance the case then presents, the student can never get an idea of the original state of the disease. In this way the clinic teacher is seriously handicapped in his work, because he cannot utilize the most important material at the most opportune time.

Another undesirable result of the paucity of clinic hours is that operative cases accumulate during the intervals to such an extent that the clinic is likely to degenerate into an exhibition of operations. It is true the students like to see operations and find such clinics the most interesting and attractive. But are they of great practical value? Do operative cases constitute the majority in a physician's practice? Certainly not. And since medical schools are to educate physicians, and not operators and specialists, the clinics should, first and chiefly, instruct the students in those diseases which they are likely to meet daily in their practice, and should devote less time to operations general

practitioners are not likely to undertake. The proper treatment of a felon or a dislocation is worth more to the future physician than a laparotomy; the proper management of iritis or conjunctivitis is a more useful demonstration than a hundred cataract operations.

To prepare our students successfully for their future career our clinic teaching should be conducted on the following plan :

1. No student should be admitted to the clinic until he has attended a full course of didactic lectures or recitations.

2. The number of attendants at a clinic should not exceed 50.

3. In the departments of medicine and surgery, clinics should be held every day and in the special departments at least three times a week.

4. Students should be called upon in rotation to examine a case, to make the diagnosis, and to suggest the treatment. In other words the student should be placed in the position to use his own power of observation, to put his theoretical knowledge to practical use and to exercise his judgment, just as he will have to do in his future practice.

5. The same patient should be brought before the class as often as his condition shows a material change.

6. The dispensary patients should be utilized for the clinic as much as the hospital cases, to give the students object lessons in the management of the common and little ailings.

7. Under the supervision of the professor and his associates the students should apply dressings, remove foreign bodies, and perform those minor operations which every physician is expected to perform. To have successfully done an operation, no matter how trivial, on the living flesh gives the student a wonderful amount of confidence in his own skill and ability.

The medical colleges which will conduct their clinics on the plan here recommended will soon become the favorite centers of medical education ; for our students are quick in appreciating the advantages of superior teaching and thorough training, and they realize that systematic and thorough clinic instruction is the best foundation upon which they can build up their future practice.

DISCUSSION.

Dr. Geo. F. Jenkins, Keokuk Medical College :

I simply wish to supplement the excellent paper by mentioning a feature that has not been alluded to by the essayist. Dr. Cannon says that colleges should educate men as practitioners; as general physicians, and not as specialists. You cannot educate physicians without general hospital training unless you go back to the old methods. The preceptor is an important factor in the teaching of every-day methods. The college should say to the student that unless he can get in with some physician for two years and watch the cases at the bedside with him, he cannot be a general practitioner. The colleges to-day are making a mistake in trying to take the students away from the preceptor. You learn eye and ear work and nose and throat by going into a little class, but the student wants to be taught case-taking in the hospital. He should have one day a week for drills in case-taking, the presentation of cases before the class and be examined on that. He wants his recitation day and two days on didactic work. He wants to go with the preceptor and watch a case from beginning to end. If you have the preceptor to help you, you can make a good general practitioner of the student, but you cannot make a specialist of him. Specialists are made in a different way. Colleges cannot make them, as they must have special training. The idea that used to be in vogue was to see those cases and watch them every day just as he has to see them when he gets out to work for himself. To work with a preceptor gives him two years of work under the training of a man who does that work, and it admirably supplements the work in a medical college. Four years in a medical college and two years with a preceptor will make as good a general practitioner of a man as it is possible to make.

Dr. James W. Holland, Jefferson Medical College :

I have enjoyed the reading of this paper very much. If I was to offer any suggestion in the way of a change it would be along this line; that is, that Professor Hotz, with all due respect to his experience as a teacher, has made his classes too large. It has been my privilege to teach classes of 30 or 40 students in the clinic, and there are just four times too many to get very much benefit from an operation. When the time comes that classes will be divided into small sections of 10 or 12 each, then we will have personal teaching. The students will come in contact with the teacher himself, they can be entrusted with the care of certain steps in the operation, and then they will derive much benefit from the clinic. Judging from the papers read here to-day, I think we are on the right track.

Dr. Dudley S. Reynolds, Hospital College of Medicine, Louisville, Ky. :

After 25 years' experience as a clinic teacher, I find that four students to a patient is as many as I am able to demonstrate to with advantage.

When I take four students with one patient and set them to work under my direction or that of a demonstrator, I feel that I have as many students as can study that case profitably. That is the way I divide my classes. I limit the number of students attending a clinic to the capacity of the hall. I limit the number examining the patient to four for each patient for as long a time as is allowed me for examination, and then with my demonstrators and assistants I attend to the other cases. In that way I have four students taking notes of each case, and during the next quiz hour I devote the quiz of the entire class to those cases which are most interesting and important. I make those gentlemen who get the record answer most of the questions for the benefit of the other gentlemen who miss. If one of the students misses a question, I call on one of the four who took notes to elucidate the case. Then I inquire whether any member of the class has any question to ask about this case. Someone may ask a question and I refer to one of the note-takers for the answer. If he cannot answer the question, I help him out. We have no talk in this except to call the patient and the requisite number of students and the talking is then done by the note-takers and the patient. The balance of the class is sitting there waiting to be called. If they are not called on that clinic day, they will be on the next. All they get during that hour is what they can see and hear from the seats. All the members of the class, except those interviewing the case, are doing nothing during that hour. We estimate from experience that we can use so many students at each clinic day. We call, by alphabetical order, for a clinic assistant who will call the row from A down to such a letter as we may need students to examine cases on that day. The others can remain or leave as they see fit.

I cannot teach everybody in one hour, but I try to teach those I do get at, all I possibly can. On the clinic day no discussion takes place, but on the class day everybody takes part. I believe that method to be more valuable than any other plan I have ever pursued or have seen pursued in other institutions. Mine is essentially a demonstration course, and I believe Dr. Hotz emphasized the fact that nothing could be done without demonstration. The student cannot make a diagram or map of a field of vision without being shown how to do it. He cannot use the ophthalmoscope without being trained in its use. I may have a patient of special interest come a number of times in order to have as many students as possible make charts of the field of vision. In that way I get probably 30 or 40 different charts.

The hour set apart for the quiz is the time devoted to the study of the clinic observations made by the section of the class. In a class of 100, about six or eight patients would be observed by each student in the course of a six months' term. That is about as much as I am able to do. I do not pretend to say that that is enough, but as I have them for two years, and many come back during the vacation term, when the clinics still go on (a great many of the students avail themselves of the opportunity to study patients in the vacation term), I can at least give them what work they do get in the proper way and that is much more to their advantage than to get a whole lot of cases improperly presented. I admit that these methods are crude, but they are the best I have been able to devise for practical purposes.

Dr. J. W. Holland, Jefferson Medical College, Philadelphia, Pa. :

I think Dr. Reynolds' system is an admirable one so far as the corps of students actually engaged in work are concerned. But what about the others? We must provide for a class of 150 and Dr. Reynolds has four students set to work and 146 students are idle. All pedagogic systems teach that the student should be kept busy. What are the 146 going to do during that entire hour? Nothing more than hold down the seats? The methods adopted in many schools is to have these gentlemen enter other clinics. The gentlemen who have considered this question are ophthalmologists and they have considered their subject only. We might have sections of 50 and have three ophthalmologists at work on them at one time. I would certainly not have a class of more than 20. Instead of having three eye men and three eye amphitheaters, why not at that time have classes of 10 or 20 engaged in different clinics, each clinic having its own waiting room and examining room. For instance, let A study the eye; B the ear; C diseases of children; D nose and throat; E the chest; F medicine; G might assist at a surgical operation; another section might study gynecology, and so on. That is the system in use in the institution with which I am connected. We keep the entire class busy at section teaching, and the fourth-year class is engaged almost all day long.

Dr. John C. Oliver, Miami Medical College, Cincinnati, O.:

After considerable observation of clinics in this country and abroad, it has occurred to me that the question to be determined is whether clinics are usually given for the benefit of the student or to impress him with the great ability of the man conducting the clinic. I am convinced that in the majority of cases the attempt is made by the clinician to impress the student with his wonderful ability. His efforts are not directed toward teaching the student what he ought to know.

The most interesting clinic I ever attended was one conducted by Dr. Newman Moore, at St. Bartholomew's Hospital, London. A few students were called down to get the history of the patient, make whatever physical examination was necessary, and then give the result of their findings and diagnosis to the class. If the two gentlemen did not agree on the diagnosis, they were given permission to discuss it before the class. Each member of the class was allowed the privilege of asking questions. It seems to me that the most complete development of cases was brought about by that method. The method takes time, more than is usually allotted to those clinics, but it certainly is an admirable one.

To supplement the remarks of Dr. Hotz in regard to the following up of patients, which undoubtedly is important, it certainly seems to me that there is no better way of doing that than by forming small classes which make the rounds of the hospital ward daily, observing the progress of a case from beginning to end. We have followed this method in our college for several

years, dividing the class into sections of five each. These men will report for six weeks, going through the same course every day. They are given the opportunity of seeing the operation and of following the subsequent history of the same case. This method gives all the students an opportunity to observe a case from beginning to end, thus getting an intelligent interpretation of what they have previously read in their text-books.

Dr. Henry D. Didama, College of Medicine, Syracuse University, Syracuse, N. Y.:

Ten years ago I was at Vienna, and while there I was introduced to Dr. Billroth. He invited me to his clinic, assigning me a seat in front of him, while he was operating. As he spoke good English I could easily understand what he was doing. The students afterward told me that I had an advantage which they never were given. As they sat in the amphitheater, and as Billroth had a habit of speaking through his whiskers, they could not understand what he said. They could not see the operations because of the assistants who wore such long gowns. These students only went to his clinic because it gave them a reputation of having attended a German University. I like the plan suggested here of having four who can see. Four could not see from the seat I occupied at Billroth's clinic.

I do not think the others have any great advantage in being there any more than I think that the balance of Dr. Reynolds' class derived any benefit from being in his clinic and holding down their seats. I do not like that word because whoever is in the presence of Dr. Reynolds for one hour is deriving some benefit, no matter whether he sees or hears anything or not.

Dr. W. H. Earles, Milwaukee Medical College, Milwaukee, Wis. :

It is evident that we are passing through a stage of active revolution. I wish to enter a plea, while conceding the advisability of small classes for clinical teaching, that while we have a limited number of students in the arena, that we at the same time teach a larger number in the seats. I do not believe that those students are there exclusively for the purpose of holding down the seats. I think any clinical teacher, competent to teach, will be able to instruct not only the few students immediately near him, but at the same time greatly instruct the larger student body in the amphitheater. The impracticability of dividing large classes into small sections will appeal to all. If you divide a class of 100 students into 25 classes, you have four students in a class. If you want to give them the clinical teaching as it was suggested here to-day, it means that you must have 25 teachers, and if each case is to come several times a week, you will have an enormous teaching body.

In our efforts to provide the best possible course for all concerned, from the laboratory to the clinic and the dispensary, and last, although by no means the least, the bedside work, let us not forget that we can combine

these and benefit our students more than by swerving into any one direction only.

The diversity of opinion expressed here to-day is the best evidence that we should formulate some course which we can all follow and by means of which we can achieve better results than we are now achieving in our medical colleges.

Dr. Dudley S. Reynolds :

I want it understood that I have six demonstrators assisting me at my clinic. I am the seventh, and as we have four students each, 28 students are at work at one time or as fast as the patients can be called in. The gentlemen on the seats hear nothing except who is to take charge of the case. Sometimes they may hear that "this is a case operated on last Monday for" or something of that kind.

Dr. John Chase, University of Colorado, Boulder, Col. :

I think that nothing in the world is more important than a clinic. I do not believe that Dr. Reynolds could get up in front of 100 sophomores and talk on iritis for one hour without being of decided benefit to them. He is caustic enough and thorough enough to be able to give them as much in an hour's talk as he could in one hour of personal demonstration.

For the last 15 years I have been teaching in small colleges where four-fifths of the teaching consisted of clinical instruction. Four men are enough to one case, but I have always been able to keep 49 more awake at the same time.

REMARKS ON MEDICAL EDUCATION.¹

BY DR. GUSTAV FUTTERER, Professor of Pathology, N. W., University Medical School; Professor of Medicine, Chicago Polyclinic.

First, I think we must recognize the necessity of a good preparatory education on broad lines, but particularly the natural sciences and modern languages: of the latter, German, French, and Italian.

Second, however uniform and good the preparatory education may have been, students of very different quality will enter the medical schools. The recognition of this fact I consider of the utmost importance, even fundamental, as it would at once suggest that mere class teaching will not lead to desirable ends, but that the teacher must try to grasp the essential individual differences of the pupils as quickly as possible, and deal with them personally, accordingly.

It is not our ideal to turn out a class with a few shining stars, a mass of half-satisfactory men, and a number of others who are way behind; it is, and must be, our ideal to stir up every one of medium quality, to constant strong effort, and to lift up those at the lower end daily, friendly but unceasingly. Every student must feel that it is noticed at once when he lags behind, and that he cannot get rid of his teacher until he falls into line with the rest. Only in this way can we fulfil our trust to the student, his parents, our school, the public, and ourselves. Only in this way can we accomplish a uniform education of the classes,—as far as this is at all possible.

If then the study of the individuality of the student is our first duty, the second is the teaching on broad lines, adapted to the student's capacity for grasping things which are so new to him. While we may lecture to classes, we must be ever ready to explain to the single individual, who failed to see things in the light in which we wanted him to see them. We must also never forget that it is quite necessary when demonstrating the extent of our knowledge on a given subject to be very care-

¹ Read before the Association of American Medical Colleges, Atlantic City, June 4, 1900.

ful to show plainly its limitations. The student must be told where knowledge ends and where speculation begins.

When a student, I had a teacher who used to invade speculative territory without the slightest signal of warning, and this had a most confusing effect upon the minds of his students. They felt as if they had not the proper faculty for grasping and understanding the problems before them, and they were greatly relieved when a new teacher came, who taught in a clear, concise, and thorough manner, always indicating the beginning of speculation. It is surely advisable always, to remember our own difficulties as students, in order to anticipate and meet properly, those of our listeners.

Not only must students learn matters laid out for them, but it is all important that they should learn them at the proper time, as this will enable them to understand other parts of their study. It seems that only constant quizzing of each one individually, separately, not a general quiz before the class, will lead to the desired end. This is a most trying task for the teacher, but the reward is a very uniform education of the class, and at the end of a course, we know exactly the standing of each student, and we may then not only feel satisfied to have taught, but much better, because the students have learned everything that has been taught. Then we may feel assured that we have fulfilled our trust.

In conducting such personal quizzes, it is necessary to invite those whose knowledge is not satisfactory to another quiz for the next day, and should the result again be unsatisfactory, again for the next day, and so on. The student will feel that his kind but persistent teacher is in earnest, and that there is no chance for him to escape with dusty corners in his brain. Complete and unconditional surrender follows, and our student joins the better class.

Constant repetition is another important matter and it can easily be practised. The question may be raised whether the teacher will be able to apply such a method to large classes. But the first question should be, whether this method is the right one. If we concede that we must individualize, and I think we must do that, then we must apply ourselves to the

individual student in the way indicated. This conceded, there must be enough teachers to do the work. The writer has taught classes of 40 students in this manner without any assistance, and with an assistant, 80 could be taught. Of course, time must be well utilized, none must be lost.

Another subject that needs attention is the so-called "matter-of-fact standpoint," so much worshiped by the masses, and so religiously adhered to by most of the students, apparently so correct, and in reality so wrong.

In this huge vibrating mass composing the universe, nothing can be figured on with mathematical exactitude. There are aberrations everywhere, and the phenomena of animal life are confusingly irregular as compared to mathematical formulae. Therefore the student should be prepared to meet the problems which animal life offers in the proper philosophic spirit; and as he is not prepared to do it, he must be taught to do so, in words, by example, and last, not least, by experimental work.

Let him formulate a question, let him work out carefully the method which he wants to apply to his experiment, let him perform the experiment, and he will find that he does not get the plain and straight answer which he thought he had good reason to expect. He will either get no answer at all, or an evasive one. He has to modify his method or even his question. He learns that the road which he has to travel is not straight as he supposed, but zigzag.

Many experiments have to be made, instead of only one, and he commences to regard with greater respect the work of others.

Another important subject to be considered, is that of original research work of the simplest kind. If we give each student a specimen to examine and to describe, preferably a pathologic specimen with a clinic history, he will have to preserve, harden, imbed, cut and stain it, after different methods, then describe the changes as best he can (subject to later correction by the teacher), and make drawings. Then the pathologic findings are compared with the clinic history; the work is arranged in proper order and the disposition is made. He has to look up literature; that is, he learns how to do it. In doing this he

learns the historic development of our knowledge of the disease in question, and another very valuable lesson in that it teaches him that we are standing on the shoulders of others, with whose names and work he becomes familiar; his horizon widens.

When we give him his subject, to get him started, we may tell him that we expect him to commence his work at once, but that he has a whole year to complete it. After finishing his work it will always act as a stimulus for more, and when our student in his later life as a physician observes interesting phenomena, he will not hesitate to communicate them to his profession, because he knows how to do it in good form.

Occasionally the teacher will find that some of the students become particularly interested in their work and display abilities which would enable them to do original work of a higher order. Encourage them to do it, and let the teacher by his example, show them how it must be done in the right spirit of unselfishness, thoroughness, justice to others, and seeking the truth.

Thus our student will become a higher type of physician, and do the highest duty of man, by adding a grain—be it ever so small—to the knowledge, progress, and welfare of the human race.

REPORT OF SPECIAL COMMITTEE ON THE ELECTIVE SYSTEM.

Your Committee, appointed by the president at a meeting in June, 1899, to consider and report upon the elective system and its applicability to the medical curriculum, have had the same under consideration, and beg leave to submit the following report.

Election, as considered in this report, is understood to mean that method under which a student pursuing a certain course looking to the acquisition of a degree, or diploma, is allowed some choice in the courses of study which he may pursue,—a choice either in the branch of study, the method, or the instructor, or all of these combined.

The elective system, as thus defined, has been adopted more or less completely by practically every leading university in this country, and is constantly being extended. It is universally considered, by leading educators, as a very conspicuous advance in educational methods. We believe that all of the advantages which have been found to follow the elective system in institutions for general learning, would result in equal degree from its application to the medical curriculum.

The chief objection which has been urged against it, namely, that it may lead the student to elect his courses along some special line only,—may be perfectly guarded against by three efficient checks.

First, the good judgment and common sense of the student himself.

Second, the supervision of a competent dean whose approval of each student's registration should be required, and,

Third, by such a statement of the requirements for graduation as will compel each student to take a minimum amount of work in each important branch.

Guarded in this way, the elective system can with perfect safety be adopted by the medical college and given as large a scope as the teaching facilities and instructional force of the institution will permit.

Your committee would recommend, therefore, that this association pronounce in favor of the elective system as applied to medical education, and recommend to each of its constituent colleges that the elective system be introduced into its curriculum to that extent and in such manner as is best adapted to its teaching facilities.

JOHN M. DODSON,
R. O. BEARD,
LEWELLYS F. BARKER.

APPENDIX TO THE REPORT.

BY JOHN M. DODSON, M.D.

To accompany the report of your Committee on the Elective System, the chairman of the committee desires to present, in addition to the arguments set forth in the address which he had the honor to deliver before this association a year ago:

First, a quotation from the address recently delivered before the Congress of American Physicians and Surgeons by its president, Prof. Bowditch, of Harvard University, and,

Second, a brief statement of the experience of Rush Medical College during the past year.

I quote from President Bowditch's address, as follows:

In the first place, it may be assumed that a medical school of the first rank should be an institution in which the most advanced instruction in all departments of medicine can be obtained, and on this assumption it is, of course, impossible to arrange a course of study that every student must follow in all its details, for, in the time which may properly be devoted to a course of professional study, it is quite impossible for even the most intelligent students to assimilate all the varied information which such a school may be reasonably expected to impart.

It seems, therefore, to be evident that in arranging a course of medical study a distinction must be made between those subjects which it is *essential* that every student should know and those subjects which it is *desirable* that *certain* students should know; that is, between those things of which no man who calls himself a physician can afford to be ignorant, and those which are important for certain physicians but not for all; in other words, provision must be made both for required and elective studies. The task of drawing the line between the essential and the desirable in medical education will require the greatest possible good judgment and readiness for mutual concession on the part of those engaged in the work, but there is no reason to fear that the difficulties will be found insuperable when the importance of the change has once been recognized.

Any one who is familiar with the existing methods of medical instruction is aware that in nearly every department many things are taught which are subsequently found to be of use to only a fraction of those receiving the instruction. Thus, the surgical anatomy of hernia is taught to men who will subsequently devote themselves to dermatology, future obstetricians are required to master the details of physiologic outfits, and the microscopic anatomy of muscles forms a part of the instruction of men destined to a career as alienists. Now no one can doubt the propriety of including instruction on all these subjects in the curriculum of the medical school, but it may be fairly questioned whether every student should be forced to take instruction in them all.

To better indicate the nature of the reform which I am advocating, allow me to describe a possible arrangement of a course of study in the department of physiology, with which I am more familiar than with any other. An experienced lecturer will probably find it possible to condense into a course of about 40 or 50 lectures all the most important facts of physiology with which every educated physician must necessarily be familiar. Attendance upon these lectures, combined with suitable courses of text-book instruction and laboratory work, would suffice to guard against gross ignorance of physiologic principles. In addition to this work, all of which should be required, short courses, of not more than eight or ten lectures each, should be provided, giving advanced instruction in such subjects as the physiology of the special senses, cerebral localization, nerve-muscle physiology, the internal secretion of glands, the physiology of the heart, circulation and respiration, the digestive secretions, the reproductive organs, etc. These courses should be elective in the sense that no student should be required to take them all. Each student might, however, very properly be required to choose a certain number of courses, which, when once chosen, become, for the student choosing them, required courses leading to examinations. There is, in my opinion, no doubt that an arrangement of instruction similar to that here suggested for physiology could be advantageously adopted in the department of anatomy, histology, bacteriology, medical chemistry, pathology, surgery, and in the courses of instruction in the various special diseases, such as dermatology, ophthalmology, etc.

In the existing state of medical legislation the introduction of the elective system, in some form or other, seems to be an essential condition to any further important advance, for the curriculum of most of our schools is already so crowded that no considerable amount of instruction can possibly be added. Various arguments may, of course, be advanced in opposition to the change. It may perhaps be urged that no choice of studies can be made without determining to some extent the direction in which the work of a future practitioner is to be specialized and that such specialization can not be properly and safely permitted until the student has completed his medical studies. To this it may be answered that, whatever may be the dangers of too early specialization, the dangers of crowding the medical course with instruction of which many students do not feel the need, and of thus encouraging per-

functory and superficial work, are certainly no less serious. It is, moreover, a matter of common observation among teachers in medical schools that a certain number of students very early make up their minds, either that they will become surgeons, obstetricians, or specialists of some sort, or, on the other hand, that they have a strong aversion to certain branches of medicine and the determination never to practise them. For such students a prescribed curriculum necessarily involves great loss of time and energy.

If it be said that under this system the medical degree will cease to have the definite meaning now attached to it and that it will be impossible to tell from his diploma in what way a physician has been educated, it may be replied that, although the degrees of A.B., A.M., Ph.D., and S.D. are affected with exactly this same uncertainty of signification, their value seems in no way diminished thereby. As long as the M.D. degree stands for a definite amount of serious work on medical subjects, we may be reasonably sure that those who hold it will be safe custodians of the health of the community in which they practise.

If it be urged that the elective system in medical education will lead to the production of a class of physicians who, owing to the early specialization of their work, will be inclined to overrate the importance of their specialty and to see in every disease an opportunity for the display of their special skill, it may be pointed out that this result is apt to be due not so much to early as to imperfect instruction in the work of a specialist, and that since the Elective System tends to encourage thoroughness in special instruction, the evil may be expected to diminish rather than to increase.

In regard to the experience with the Elective System at Rush Medical College, I desire to say that during the current session, about one-third of the branches of the junior and senior years have been elective. In view of the fact that this plan was new, both to members of the faculty and with few exceptions to the student body, the readiness with which they adapted themselves to it, and the discretion and good judgment displayed by the students in filling out the registration cards, has been very gratifying. The increased enthusiasm and interest which was anticipated under this system, has been fully realized and not less among the members of the faculty than among the students.

Stimulated by the thought that students registering for a particular course had done so voluntarily, and not by the compulsion of college rules, some of the teachers of the faculty have been animated, as it were, by a new spirit, and some of the branches, especially those of a clinic nature, which were formerly poorly attended, and from which students were constantly seeking to be excused, have been largely attended and the stu-

dents have signified in an emphatic manner their appreciation of the change in the character and efficiency of the teaching.

The fear which had been expressed in regard to the Elective System, that students would seek to specialize and would concentrate their energies upon certain lines, to the neglect of others, has proved to be quite groundless. There are several efficient safeguards against this abuse.

First, the veto power of the dean, or other officer, whose approval of the student's registration card is necessary before he can enter upon the courses chosen. It is the business of this officer to consult with the student and to see to it that he selects his work judiciously, so as to insure a broad, thorough training.

Second, in the requirements for graduation, it is specified that when the student presents himself for the degree, he must present evidence of having taken a minimum amount in each of the essential branches.

Third, a thorough, final examination; written, oral and practical is to be given in each of the practical departments when the student comes up for graduation. Each student must see to it that the courses which he elects are such as will prepare him to stand this rigid examination. There will be little temptation, therefore, to elect work under teachers who are supposed to be more lenient in their teaching methods than others.

Last, but not least, is the common sense and good judgment of the student himself, which faculties are prone to underestimate. The average age of the students in Rush Medical College is about 24 years. A large proportion are college-bred men. They are fully alive to the fact that the successful practitioner in medicine, even though he may ultimately limit his practice to some special line, must have a broad, thorough training in all the departments of medicine, and the experience of the past year has shown that they elect their courses with this end in view. This very act of election with the introspection which it necessitates on the part of each student, that is to say, the careful study of his own ability and needs, and the adjustment of the curriculum to meet them, is an educational resource of no mean value.

The authorities of the college have been so well satisfied with

the results of the Elective System during the past year, that at the last meeting of the faculty it was unanimously decided that all the work of the junior and senior years be made elective after July 1, 1900.

Under the safeguards above mentioned, it is believed that this plan is free from the dangers of undue specialization in the college course, and that under its broad freedom the many advantages will be realized in the fullest possible manner.

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11/12

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

TRANSACTIONS.

June 4, 1900.

The Association of American Medical Colleges, pursuant to call, met in the parlor of the Hotel Shelburne at 2.30 P.M., with Dr. Parks Ritchie in the chair.

Fifty-eight colleges were represented, *viz.*:

- Arkansas Industrial University, Medical Department.
- University of Southern California, College of Medicine. .
- Gross Medical College.
- University of Colorado, Medical School. .
- University of Denver, Medical Department.
- Columbian University, Medical Department.
- * Georgetown University, Medical Department.
- * Howard University, Medical Department.
- College of Physicians and Surgeons, Chicago.
- Illinois Medical College.
- Northwestern University, Woman's Medical School.
- Rush Medical College, Chicago.
- Ft. Wayne College of Medicine, Taylor University.
- Central College of Physicians and Surgeons, Indianapolis, Ind.
- Medical College of Indiana.
- Iowa College of Physicians and Surgeons, Drake University.
- State University of Iowa, Medical Department.
- Keokuk Medical College, College of Physicians and Surgeons.
- Kansas Medical College.
- Hospital College of Medicine.
- Kentucky School of Medicine.
- University of Louisville, Medical Department.
- Kentucky University, Medical Department.
- New Orleans University, Medical School.
- Baltimore Medical College.
- University of Maryland, School of Medicine.
- Woman's Medical College of Baltimore.
- College of Physicians and Surgeons, Boston.
- * Tufts College Medical School.
- * Detroit College of Medicine.
- Michigan College of Medicine and Surgery.
- * University of Minnesota, College of Medicine and Surgery.
- Kansas City Medical College.
- Barnes Medical College.
- Marion Sims College of Medicine.

- John A. Creighton Medical College.
- Omaha Medical College.
- Albany Medical College, Union University.
- University of Buffalo, Medical Department.
- Syracuse University, College of Medicine.
- University of North Carolina, Medical Department.
- Cincinnati College of Medicine and Surgery.
- Medical College of Ohio.
- Miami Medical College of Cincinnati.
- Western Reserve University, Medical Department.
College of Physicians and Surgeons, Cleveland.
- Ohio Medical University.
- Starling Medical College.
Toledo Medical College.
- University of Oregon, Medical Department.
- Willamette University, Medical Department.
- Jefferson Medical College of Philadelphia.
- Medico-Chirurgical College of Philadelphia.
- Woman's Medical College of Pennsylvania.
Western Pennsylvania Medical College.
- Central Tennessee College, Meharry Medical Department.
- Milwaukee Medical College.
- Wisconsin College of Physicians and Surgeons.

The following papers were presented :

1. President's address, by Professor Parks Ritchie, dean University of Minnesota.
2. " A Report on the Practical Operation of the Case System in Harvard Medical School during the Past Year," by Professor W. D. Cannon, of Cambridge.
3. " Methods of Clinical Instruction, and the Management of Clinics," by Professor F. C. Hotz, professor of ophthalmology in Rush Medical College.
4. " Remarks on Medical Education," by Gustave Futterer, of Chicago.
5. " Report by the Committee on Elective Courses in Medical Schools," by Professor John M. Dodson, M.D., chairman.

The president appointed a Nominating Committee, consisting of Drs. E. Fletcher Ingals, J. P. Lord, and J. W. Holland.

On motion, the meeting adjourned until 8 P.M.

SECOND SESSION.

The association convened at 8.30 P.M., in the smoking room

of the Hotel Shelburne pursuant to adjournment with President Dr. Parks Ritchie in the chair.

On motion the reading of the secretary's report was dispensed with, it having been published in the June number of the Bulletin of the American Academy of Medicine and was distributed to the members.

The roll-call of membership showed 31 colleges present, represented as follows :

- Edwin Bentley, Arkansas Industrial University, Medical Dep't.
 A. R. Baker, Physicians and Surgeons of Cleveland.
 William E. Quine, Physicians and Surgeons of Chicago.
 D. R. Brower, Woman's Medical School, N. W. University of Chicago.
 U. O. B. Wingate, Wisconsin College of Physicians and Surgeons.
 Franklin E. Murphy, Kansas City Medical College.
 Randolph N. Hall, Illinois Medical College.
 Joseph T. Smith, Woman's Medical College of Baltimore.
 W. J. Means, Ohio Medical University.
 E. A. de Schweinitz, Columbian University Medical School.
 H. O. Walker, Detroit College of Medicine.
 Swan M. Burnett, Medical School, Georgetown University.
 Geo. L. Jenkins, Keokuk Medical College, and College of Physicians and Surgeons, Keokuk, Iowa.
 W. H. Earles, Milwaukee Medical College.
 J. C. Oliver, Cincinnati, O.
 Oscar Hasencamp, Toledo Medical College.
 J. P. Lord, Creighton Medical College.
 J. W. Holland, Jefferson Medical College.
 David Street, Baltimore Medical College.
 John Chase, University of Colorado.
 Geo. J. Cook, The Medical College of Indiana.
 Henry E. Tuley, Medical Dep't Kentucky University.
 J. M. Bodine, Medical Dep't, University of Louisville.
 William H. Wathen, Kentucky School of Medicine.
 William D. Middleton, State University of Iowa.
 R. S. Magee, Kansas Medical College.
 P. Richard Taylor, Hospital College of Medicine.
 Harold Williams, Tufts College Medical School.
 Randolph Winslow, University of Maryland.
 Dudley S. Reynolds, Hospital College of Medicine.
 Victor C. Vaughan, University of Michigan.

The Committee on Amendment of Constitution, through its chairman, Dr. E. Fletcher Ingals, presented its report which was received.

On motion of Dr. H. O. Walker, the amended constitution was considered by sections, *ad seriatim*.

The amendment to this motion offered by Dr. J. M. Bodine, that the consideration of the amendments be deferred until next year, and that a copy of these amendments be sent to each member of the association, was lost.

Sections 2, 4, 6 of Article II, and all of Article III of the proposed constitution were adopted as read, with slight modifications as below :

SECTION 2.—Whereas night medical colleges are both unnecessary and unhygienic, and whereas it is impracticable for a student devoting the day to other avocations and applying only the evening to the study of medicine, or even one who is studying part of the day and attending college by night, to make that progress that is required of students who devote their whole time to the study of medicine ; therefore this association cannot recognize the so-called night or evening schools, in which a considerable part of the instruction is given in the evening.

SEC. 4.—Any medical college desiring membership in this association shall make application to the secretary accompanied by evidence that the college applying is conforming to the requirements of this association and by a guarantee that the expense of investigation by the association will be borne by said college, but before such application can be accepted, said college must be visited by at least one member and thoroughly investigated by all the members of a committee of three appointed by the president of the association from the faculties of colleges, members of this association. The expense of this investigation shall be borne by the college desiring admission and this must be guaranteed before the investigation is undertaken and it must be paid as soon as the investigation is completed, and before any report can be made. Upon a favorable report of this committee and payment by the college of the annual dues, the college shall be elected to membership at the next meeting, if it receives the favorable ballot of three-fourths of the colleges represented at that meeting.

ARTICLE III.

SEC. 1.—From and after July 1, 1900, no medical college, a member of this association, shall permit a student to matriculate who does not possess a diploma from a high school, academy, normal school, or college, giving a thorough preliminary education, or who has not passed a thorough examination in all the branches usually taught in such schools. This preliminary education must include :

- (a) A thorough knowledge of English grammar, composition, and rhetoric.
- (b) Mathematics, including higher arithmetic, algebra through quadratics, and plane geometry.

(c) Latin, the equivalent of one year's study in a good high school, covering at least one book of Cæsar's commentaries or an equivalent thereof.

(d) Elementary physics.

(e) United States history.

SEC. 2.—This examination must be conducted by a state superintendent of public instruction or some one delegated by him ; or by the members of the faculty of a university or college, who are not connected with the medical faculty of the college the student wishes to enter ; or by such a body as the board of regents of the University of the State of New York ; or a licensed examiner of the state examining board. In place of this examination or any part of it, colleges, members of this association, are at liberty to recognize the official certificates from the above-named schools covering the work herein specified. If a student be found on examination deficient in not more than two-fifths of the subjects required, he may be admitted on condition of making up those branches before he enters the sophomore year.

SEC. 3.—Colleges, members of this association, may allow students to enter the sophomore class, who have earned the B.A., Ph.B., or B.S. degree from a first class college, whose required course extends over at least three years of not less than eight months each, and who have had an adequate course in science ; or students who are graduates from high-grade colleges in dentistry, pharmacy, or veterinary medicine, and who possess the proper preliminary education indicated in Section 1, providing all such students shall pass a thorough examination in at least three-fifths of the work of the freshman year of the college they desire to enter and that they shall be conditioned in the remaining subjects of the freshman year, which conditions must be removed before they can pass on to the junior year. Credit may be given for all work which, as demonstrated by thorough examinations, has been accomplished in the institution specified in this section.

SEC. 4.—Colleges, members of this association, shall not admit to the junior year (third year), students who have taken the first two years of their medical course in the medical department of a literary college (that offers courses for the first two years in medicine only), without first requiring such students to pass a thorough examination in all the branches taught in the freshman year, and in at least three-fifths of all the branches taught in the sophomore year of the said medical college. On the remaining branches they may be conditioned in the same manner hereafter provided for students passing from one medical college to another.

SEC. 5.—Colleges, members of this association, may allow *credit for time* to graduates or students of homeopathic or eclectic colleges for as many years (each of at least 825 hours' actual work in college) as they have attended those colleges, provided they have met the other requirements of this association and that they take a thorough course in materia medica and therapeutics, and pass the examinations in these branches.

SEC. 6.—No medical college, a member of this association, shall permit a student to enter an advanced class unless such student presents certificates

from a college whose requirements fully equal those of this association, of having successfully passed the examination in at least three-fifths of the branches embraced in the curriculum of the previous years of the college he desires to enter, or until such student has successfully passed examinations on the same. Upon the remaining branches such student may be conditioned; however, these conditions must be removed by the student taking the work (providing it has not already been taken) and successfully passing the examinations before he can pass on to the succeeding class (that is, a student shall not carry conditions for more than a year).

SEC. 7.—No medical college, a member of this association, shall confer the degree of doctor of medicine upon any student who has not attended, in a well-equipped medical college, four courses of lectures, 26 weeks of actual teaching, each, excepting, however, the credits allowed for preliminary education in science. (See Article III, Section 3.)

These courses must embrace at least 3,300 hours' actual work in the college, including besides didactic lectures and recitations:

(a) 500 hours' laboratory work, for example, in histology, pathology, anatomy, physiology, etc.

(b) 150 hours' practical work, such for example as operative surgery, physical diagnosis, bandaging, etc.

(c) One or more obstetric cases to be personally attended by each student; and

(d) 750 hours' clinical instruction.

All of the work shall be fairly apportioned throughout the four years. No student can be credited with the work of a course who has not attended at least 85 per cent. of the exercises and who has not successfully passed the examinations in at least four-fifths of that work. At least 42 months must intervene between a student's matriculation and the date of graduation, provided, however, that allowance shall be made for all credits permitted by this constitution.

Dr. Bayard Holmes rose to a point of order. He read the call for the meeting as follows:

Journal of the American Medical Association, April 28, 1900. Association of American Medical Colleges.—The next meeting of this association will be held in the Hotel Shelburne, in Atlantic City, N. J., June 4, 1900, the Monday preceding the meeting of the American Medical Association. The educational session will be opened at 2 P.M., with the following program: 1. The President's Address, by Parks Ritchie, Dean of the University of Minnesota, Minneapolis, Minn. 2. "Methods of Clinical Instruction and the Management of Clinics," by Professor F. C. Hotz, Professor of Ophthalmology in Rush Medical College, Chicago. 3. "A Report on the Practical Operation of the Case System in Harvard Medical School during the Past Year," by W. D. Cannon, Cambridge, Mass. 4. "The Library of Pathologic Specimens," by Gustave Futterer, Chicago. 5. "Report by the Committee on Elective Courses in Medical Schools," by John M. Dodson,

M.D., Chairman, Chicago. According to the constitution of the association, all amendments must be incorporated in the "Call." The following has been submitted by the *Milwaukee Medical College*, and is herewith submitted to the members of the Association, that it may be acted on at the meeting: Amendment to Article III (Section 8).—"*Colleges, members of this association, to remain in good standing, must not accept from any student a tuition fee less than that advertised by said college in its annual announcement for that year.*"

BAYARD HOLMES, M.D., *Secretary.*

He claimed that the consideration of these amendments proposed by Dr. Ingals did not conform to the requirements of Article VII of the constitution. He appealed to the chair for a ruling. The chair ruled against the point. Dr. Holmes appealed to the house. The house sustained the chair.

Dr. Street presented the following motion, which was carried.

"*These amendments shall become effective on and after July 14, 1901.*"

Dr. Bodine moved that these amendments proposed by Dr. Ingals and Dr. Street be adopted as a whole and that the vote be taken by roll-call. The motion was carried and the secretary called the roll, resulting as follows:

Number of members eligible to vote	56
Number voting	25
Yeas	18
Nays	7

The president declared the amendments carried.

Dr. Bodine asked the chair for a ruling claiming that according to Article VI, Section 2, there was no quorum present.

The chair ruled that there was a quorum, and that the amendments were carried in accordance with Article VII.

Dr. Holland presented the following resolution:

Resolved, That a committee be appointed to confer with a similar committee of the confederation of examining and licensing boards for the purpose of considering joint measures for promoting the aims they have in common.

2. That this committee shall be composed of five members including the president of this body.

The chair appointed Dr. Holland, Dr. Reynolds, Dr. Quine, Dr. Means, and the president.

The report of the Nominating Committee was presented by Dr. E. F. Ingals, and accepted. The secretary was instructed to cast the unanimous ballot for the association.

Your Committee on Nomination recommends the following nominations: For *President*, A. R. Baker, of Cleveland; *First Vice-President*, Thos. H. Hawkins, of Denver; *Second Vice-President*, W. H. Earles, of Milwaukee.

Members of the Judicial Council.—Parks Ritchie, of St. Paul, three years; W. W. Keen, of Philadelphia, three years; J. M. Dodson, of Chicago, two years.

[Signed] E. FLETCHER INGALS,
JAMES W. HOLLAND,
JOHN P. LORD.

Dr. Ritchie introduced the president-elect, Dr. A. R. Baker, to the association, after which an adjournment was taken till 9 A.M., Tuesday morning.

June 5, 1900.

Pursuant to adjournment the association was called to order at 9.40 A.M., in the smoking room, President Parks Ritchie in the chair.

Dr Bayard Holmes was elected secretary.

The judicial council, through its chairman, Dr. Dudley S. Reynolds, reported favorably upon the application for membership of the University and Bellevue Medical College, the Cooper Medical College, the University of Kansas, Medical Department, and the American Medical Missionary College. They were unanimously elected to membership.

The judicial council, Dr. D. S. Reynolds, chairman, reported unfavorably on the application of the Medical Department of the University of Missouri.

Dr. J. M. Bodine moved that the request of the Medico-Chirurgical College to confer degrees of D.D.S., and M.D., after a five years' course, be granted.

Amended by Dr. Oliver that a committee be appointed to consult with the National Association of Dental Faculties. Action was deferred, and motion was laid on the table.

Dr. Reynolds read the correspondence relating to the Kansas Medical College, and, on motion of Dr. Winslow, it was decided that a reprimand be administered to the college for having disregarded the regulations of the association.

The charges against the University of Buffalo were read. On motion of Dr. Jenkins, the explanation of the college was accepted.

After hearing the charges preferred against the University Medical College, of Kansas City, Dr. Chase moved that this college be suspended from membership until they conform to the rules of the association. Motion carried.

In regard to Albany Medical College, against which charges were preferred by judicial council, as it was decided on motion of Dr. Chase, that the college be suspended until they give sufficient evidence to the judicial council that they have complied with the rules of the association.

On motion a vote of thanks was extended to the judicial council by the association for the able manner in which it has performed its arduous and exacting duties.

Dr. Chase introduced the following resolution, which was adopted: *Resolved*, That the place of publication of the proceedings shall be left to the discretion of the president and secretary.

On motion Article I, Section 2, was amended by striking out all portions before the words "this association cannot" at the end of the sixth line and substituting the words "more than one fourth" for the words "a considerable part" at the end of the seventh line. Further that this association cannot recognize the so-called night or evening schools in which more than one-fourth of the instruction is given in the evening.

On motion the resignation of the Louisville Medical College from membership in the association was accepted.

The judicial council is empowered to make up as soon as possible for the information of all members, the decisions in matters referred to it at this meeting and which could not be disposed of at this time.

On motion the association adjourned.

BAYARD HOLMES, *Sec'y.*

APPENDICES.

DOCUMENTS RELATING TO A PROTEST AGAINST AN ACTION OF THE ASSOCIATION.

ATLANTIC CITY, N. J., June 4, 1900.

To the Association of American Medical Colleges :

I protest against the adoption of any amendments to the constitution, at this meeting, excepting that proposed by the Milwaukee Medical College concerning the matter of the fee which colleges shall demand of students, because, no notice has been given to all the members of any of the contemplated changes presented by Dr. Ingals this evening, as required by Article VII of the constitution, and ask a decision of the council as soon as possible.

Respectfully,

E. A. DE SCHWEINITZ,
Dean of the Columbian Medical College,
Washington, D. C.

This protest was filed with the secretary, and presented by him to the association; and, by order of the president, referred to the council.

The proposed amendments to the constitution include radical changes in the qualifications for membership, and alterations in nearly every Section of every Article in the constitution.

I certify that no notice was sent to me, and that the representatives from the following colleges announced at the time of the aforesaid proposed amendments that they had received no notice of any purpose upon the part of any one to so alter and amend the constitution; namely, Professor James W. Holland, of the Jefferson Medical College; Professor E. A. de Schweinitz, of the Columbian Medical College, Washington; Professor J. M. Bodine, of the University of Louisville; Professor H. O. Walker, of the Detroit Medical College; Professor Randolph Winslow, of the University of Maryland; Professor Bayard Holmes, of the College of Physicians and Surgeons, Chicago; Professor Wm. J. Means, of the Ohio Medical University, and others.

On taking the final vote upon the adoption of the amendments aforesaid, Professor J. M. Bodine, of Louisville, demanded a call of the roll, which was ordered. The secretary announced yeas, 18; nays, 7; total 25. Number of members eligible to vote at that time, 56. A quorum not being present, the association adjourned to 9 o'clock, Tuesday morning, June 5th. During the session of Tuesday morning, no reference was made to the action of the previous session, all of which I declare to be the truth as shown by my official records.

BAYARD HOLMES, *Sec'y.*

DECISION OF THE JUDICIAL COUNCIL SUSTAINING THE PROTEST.

The only authority known to the council for the presentation of the amendments, by Professor Ingals, of Chicago, is contained in the minutes of the meeting of the association, of June 5, 1899. On page 378 of the Bulletin of the American Academy of Medicine, which contains the official minutes of the meeting of 1899, it will be found that, after the reading of Professor Ingals' "Report on the Condition of Medical Education in the United States," "on motion of Dr. Holland, of Philadelphia, this report was accepted and ordered printed. The recommendations relative to the amendments to the constitution were referred back to the committee, with instruction to report to the secretary in time for the next annual call."

Now, it is clear from the secretary's certificate herein that, no such notice or report was sent to the secretary in time for the call for the meeting of 1900.

Two questions are raised in these proceedings; first, the question of authority to act upon the proposed amendments to the constitution. Article VII of the constitution says: "This constitution shall not be altered or amended, except by written notice to all members at least 30 days previous to a stated meeting, and by a vote of two-thirds of all the active members present at such meeting." The second question is, with reference to the number which constitute a quorum. Article VI, Section 2, of the constitution says: "A majority of the active members whose dues are paid shall constitute a quorum."

It will be seen that the language of the constitution is manda-

tory. It does not appear from the record that any member received notice of the intention to amend any of those portions of the constitution with relation to the qualifications for membership, or the requirements of members, etc. If, as it appears from the record, written notice was not sent to all members at least 30 days previous to the stated meeting, the association was not competent to consider propositions to amend, at the meeting of June 5, 1900. If the association had been competent to so consider, it appears from the record that 56 members were qualified to vote, and that, on the call of the roll on the final motion to adopt the proposed amendments, but 25 members answered to the call. It cannot be maintained that 25 constitute a majority of 56.

However much it may be desired to alter and amend our present constitution, it is, from the foregoing facts, manifestly clear that the meeting at Atlantic City, on June 4, 1900, was not competent to act upon any proposition to amend the constitution, excepting alone that which proposed to require all the members of the association to refuse to accept from any student a tuition fee less than that advertised in the official announcements for the current year, etc., no notice having been given of any other proposition to amend.

Cushing's "Manual of Parliamentary Practice," Section 19, says :

No business can be regularly proceeded with when it appears a quorum is not present.

Section 249 says :

When, from counting the assembly on a division, it appears that there is not a quorum present, there is no decision ; but the matter in question continues in the same state, in which it was before the division ; and, when afterwards resumed, whether on the same day or on some future day, it must be taken up at that precise point.

It does not appear that any motion was made or any attempt to adopt the amendments to the constitution at the session next ensuing, after it was ascertained that no quorum was present. It is therefore clear, inasmuch as the association took no further notice of the matter at the subsequent session when, so far as we know, a quorum was actually present, no proposition to amend the constitution is now before the association, and there can be

no alterations made in that instrument without serving written notice upon all members at least 30 days before the next annual meeting.

The protest of Professor de Schweinitz is sustained.

[Signed] DUDLEY S. REYNOLDS,
 RANDOLPH WINSLOW,
 VICTOR C. VAUGHAN,
 HAROLD WILLIAMS,
 JOHN M. DODSON, undecided,
 PARKS RITCHIE, " "
 WILLIAM W. KEEN, absent in Europe.

True copy of original decision,
 L. B. BALDWIN,
CPk.

CORRESPONDENCE CONNECTED WITH THE DECISION.

CHICAGO, August 14, 1900.

My Dear Doctor :

In response to a letter issued by Dr. Reynolds, the chairman of the judicial council of the Association of American Medical Colleges, asking for a vote by letter upon the question as to the legality of an action taken at a recent meeting of the association, I made no reply. I could not understand how the council had authority to act in such a matter, nor could I satisfy myself as to the exact facts.

Some time after the receipt of the first letter, I received a note from Dr. Reynolds which read as follows: "Because of your failure to promptly answer official correspondence, the functions of the judicial council of the American Medical Colleges are suspended." Not at all understanding the significance of this note I wrote Dr. Reynolds and received a very courteous reply, explaining what had been the custom of the judicial council, and I also received a letter written by Dr. Reynolds to Dr. Parks Ritchie, stating that a majority of the members of the council had already voted on the question submitted.

In order that my position in the matter may be made clear to the members of the council, I send you herewith copy of a letter which I have written Dr. Reynolds. This letter was written after a careful investigation of the facts in connection with the

meeting and according to my understanding of the functions of the council.

Very truly yours,

[Signed] JOHN M. DODSON.

To BAYARD HOLMES, M.D., *Sec'y*, etc.

CHICAGO, August 14, 1900.

DR. DUDLEY S. REYNOLDS, Louisville, Ky.;

My Dear Doctor: Replying to your note of some days ago, I would state that I do not propose to discuss the validity of the action of the association at its last meeting in passing the amendments to the constitution proposed by the committee of which Dr. Ingals is chairman. I take this position because, according to my understanding of parliamentary procedure, the council has no right nor authority in the matter. Even if it had, I should not be willing to vote upon the matter without a thorough discussion of the subject and a much clearer presentation of the facts on both sides than has yet been given.

To explain somewhat more fully my opinion in regard to the position of the council, let me briefly review the facts as they appear to me from the secretary's minutes of the meeting held at Atlantic City, which I have before me. These minutes start out as follows: "The Association of American Medical Colleges, pursuant to call, met in the parlor of the Hotel Shelburne at 2.30 P.M., with Dr. Parks Ritchie in the chair. Fifty-eight colleges were represented, *viz.*;" the colleges are then enumerated. This statement is clearly an error; what the secretary meant to write was, that 58 colleges were eligible to representation in accordance with Article IV, Section 2, of the constitution which states that "only duly delegated and active members in actual attendance, whose annual dues are paid, shall have the voting power," etc. Following the list of colleges, occurs this paragraph; "The following papers were presented." Here follows a list of five papers and then the statement that "the president appointed a Nominating Committee consisting of Drs. E. Fletcher Ingals, J. P. Lord, and J. W. Holland. On motion the meeting adjourned until 8 P.M." Then follows the minutes of the second meeting, in which, after noting that President Ritchie presided,

and that the reading of the secretary's report was dispensed with, it is written that the roll-call of membership showed 31 colleges present, represented as follows;" here follows a list of members present. Then comes a statement that "the Committee on Amendment of Constitution, through its chairman, Dr. E. Fletcher Ingals, presented its report which was received. On motion of Dr. H. O. Walker the amended constitution was considered by sections, *ad seriatim*. The amendment to this motion offered by Dr. J. M. Bodine, that the considerations of the amendments be deferred until next year, and that a copy of these amendments be sent to each member of the association, was lost. Sections 2, 4, 6, of Article II, and all of Article III of the proposed constitution were adopted as read with slight modifications as below." Here follows a statement of these modifications, and Article III is printed in full. Then it is recorded that Dr. Bayard Holmes arose to a point of order. He read the call for the meeting as follows: "He claimed that the consideration of these amendments proposed by Dr. Ingals did not conform to the requirements of Article VII of the constitution; he appealed to the chair for a ruling; the chair ruled against the point; Dr. Holmes appealed to the house; the house sustained the chair." Then, and I call special attention to this,—“Dr. Street presented the following motion, which was carried. These amendments shall become effective on and after July 14, 1901. Dr. Bodine moved that these amendments be adopted as a whole, and that the vote be taken by roll-call; the motion was carried and the secretary called the roll, resulting as follows: number of members eligible to vote, 56.” (No mention is made as to whether these 56 members were present or not, but it is plainly evident that only 31 members were present.) “Number voting, 25; yeas, 18; nays, 7. The president declared the amendments carried; Dr. Bodine asked the chair for a ruling, claiming that according to Article VI, Section 2, there was no quorum present. The chair ruled that there was a quorum and that the amendments were carried in accordance with Article VII. Then follows the resolution of Dr. Holland, and although the secretary fails to record whether this passed or not, it is stated that the chair appointed Drs. Holland, Quine, Means,

and the president. Then the report of the Nominating Committee was presented by Dr. E. Fletcher Ingals, and accepted. Dr. Ritchie introduced the president-elect and adjournment was taken until 9 A.M., Tuesday morning."

Now it is clear from these minutes, first, that the association with at least 25 members present decided that there was a quorum, and yet the judicial council, purely a creature of the association, three members of which, moreover, were elected at this very meeting, and after this question of quorum was raised, presumes to declare that the action of the parent association was illegal and assumes the authority to set it aside.

I do not know what the custom of the judicial council has been in the past, but it is a well established principle of parliamentary law, that a creature can not be greater than the creator. A committee may interpret that action of the body which created it, and of which it is a part, but it surely is not competent to set aside or annul the actions of the parent association. I deem this attempt of the judicial council, therefore, unparliamentary, illogical, and indefensible. Again, it is entirely unnecessary and gratuitous for the council to take such action in regard to amendments which, by the association itself, can not go into effect until July 1, 1901, before which time this association will have another regular meeting. It seems perfectly clear to me that whatever action the council may attempt at the present time it will certainly be passed upon, if it is considered at all, by the association in regular meeting before these amendments can be of any effect. Without entering, therefore, into the merits of the discussion as to whether the association's action is legal or not, a matter which that body itself will be able to determine at its next meeting, I am of the opinion that the council is usurping functions which do not belong to it and is wasting time in an entirely unnecessary and unwarrantable procedure in discussing the matter at all.

Very truly yours,

[Signed] JOHN M. DODSON.

LOUISVILLE, KY., August 18, 1900.

Dear Doctor: In your communication of the 14th inst. you have wasted a great deal of ammunition in attacking the judicial

council, instead of discussing the only matter which was referred to you, as an associate judicial officer, by your chairman.

The questions presented to the council came from the association itself. A member filed a protest; this protest was read aloud by the secretary, and referred by the president of the association to the judicial council, without one word of dissent from any member. A subsidiary question subsequently raised by Professor Bodine, of Louisville, was also referred to the judicial council. These are the only matters you have any right to consider in connection with the subject of our present correspondence.

Just how you are able to satisfy yourself that 25 members could transact business, when the constitution says "A majority of the active members whose dues are paid shall constitute a quorum," and when the secretary certifies that 56 were entitled to vote, is more than I can comprehend. You are, however, entitled to your opinion, and the fact that you have appealed to all the other members of the council, is evidence that you have asserted your right. Meantime, the chairman of the council is without answer from you on the matters submitted for your decision.

I am, very truly yours,

[Signed] DUDLEY S. REYNOLDS.

To DR. JOHN M. DODSON,
Chicago, Ill.

LOUISVILLE, KY., August 22, 1900.

PROFESSOR BAYARD HOLMES, M.D., Chicago, Ill.

Dear Doctor: When you sent me what purported to be a certified copy of the record, I pointed out to you a number of omissions and inconsistencies. Instead of correcting these, you have furnished Dr. Dodson with this incomplete and imperfect statement, which you say you submitted to me. How do you expect to acquit yourself of the responsible duties of secretary without making some effort to have a correct record? After Dr. Bodine's point had been determined with reference to the quorum, and the matter had been referred to the judicial council, I arose in the meeting, and asked permission to publish the decision of the council on this important matter. I have furnished you with a

copy of the council's action, signed by four members, one member being absent in Europe, and the other two being unwilling to decide.

I find that you are furnishing ammunition to Dr. Dodson with which to attack the council and the association ; this is quite a surprise to me, as I had supposed your friendly interest in the association would prompt you to make your minutes full and complete.

The matter you sent me was so voluminous I was obliged to abstract it, and I promptly sent you a copy of the abstract, which by your continued silence I naturally took for assent.

I should like to hear from you on these matters at once.

Meantime, I am,

Very truly, etc.,

DUDLEY S. REYNOLDS.

AMENDMENT PROPOSED.

At a recent meeting of the faculty of the Northwestern University Medical School, the following resolution was adopted :

“The faculty request the Association of American Medical Colleges to amend Article V of the constitution by adopting this Section 5.” “Any college may be dropped from membership of the association for violation of its rules upon three-fourths vote of the colleges represented at any annual meeting providing the charges against such colleges shall be thoroughly investigated by the judicial council and said college shall have had opportunity of defending itself.”

Also by adding Section 6 as follows : “No college, a member of this association, shall state in its catalogue or other advertising matter that it is a member of the association or use its membership in any way as an advertisement.”

INDEX.

American Medical Colleges, and Their Betterment. By Parks Ritchie, M.D., St. Paul	197
American Medical Colleges, Transactions of Association of	239
Appendix to the Report of Special Committee on the Elective System. By John M. Dodson, M.D., Chicago	231
Association of American Medical Colleges :	
Delegates Present	241
Membership	239
Protest Against an Action of	248
Transactions of	239
Bibliography of Literature Upon Medical Pedagogy and Curriculums Published in 1899 to March, 1900	236
Cannon, W. B., A.M., Boston. The Use of Clinic Records in Teaching Medicine	203
Clinical Instruction, Methods of, and the Management of Clinics. By F. C. Hotz, M.D., Chicago	214
Clinic Records, The Use of, in Teaching Medicine. By W. B. Cannon, A.M., Boston	203
Constitution :	
Amendment Proposed	256
Changes in	242
Adopted	245
Protest Against	248
Protest Sustained by Judicial Council	249
Curriculums, Bibliography of, Published in 1899 to March, 1900	236
Dodson, John M., M.D., Chicago. Appendix to the Report of Special Committee on the Elective System	231
Elective System :	
Report of Special Committee on the	230
Appendix to the Report. By John M. Dodson, M.D., Chicago	231
Futterer, Gustav, M.D., Chicago. Remarks on Medical Education	226
Hotz, F. C., M.D., Chicago. Methods of Clinical Instruction and the Management of Clinics	214
Judicial Council	246, 247, 249
Medical Colleges, American, and their Betterment. By Parks Ritchie, M.D., St. Paul	197
Medical Colleges, Association of American, Transactions of	239
Medical Education, Remarks on. By Gustav Futterer, M.D., Chicago	226
Medical Pedagogy, Bibliography of, Published in 1899 to March, 1900	236
Medicine, The Use of Clinic Records in Teaching. By W. B. Cannon, A.M., Boston	203

Methods of Clinical Instruction and the Management of Clinics. By F. C. Hotz, M.D., Chicago	214
Protest Against an Action of the Association	248
Decision of the Judicial Council	249
Remarks on Medical Education. By Gustav Futterer, M.D., Chicago	226
Report of Special Committee on the Elective System	230
Appendix to the. By John M. Dodson, M.D., Chicago	231
Ritchie, Parks, M.D., St. Paul. American Medical Colleges, and Their Betterment	197
Transactions of the Association of American Medical Colleges	239
(The) Use of Clinic Records in Teaching Medicine. By W. B. Cannon, A.M., Boston	203