GRADUATE COURSES IN DENTISTRY.

PRESIDENT'S ADDRESS.

By J. F. Biddle, D.D.S., Dental School University of Pittsburgh.

(Read before American Institute of Dental Teachers, Pittsburgh.)

WHILE considering the subject of the President's address, the speaker recalled a statement that was made at a previous meeting of this Institute to the effect "that in one city alone, thirty malpractice suits were pending against as many members of the dental profession, as the result of the teachings of certain well-intentioned radical men who had given so-called post-graduate courses in dentistry." This statement influenced materially my decision to make, not only Post-Graduate Courses in Dentistry, but Graduate Courses as well, the subject of his address.

It is the belief of the writer that one of the greatest needs in the dental profession today is to extend the work of the colleges beyond their four years' curricula so that they will adequately meet the needs of the large and constantly increasing number of progressive dental practitioners who are earnestly striving to satisfy the demands of their profession for highly skilled and intelligent dental service.

Scientific research investigations within the past few years, with their corresponding acquisition of knowledge, have so enlarged the scope of dentistry that many of its methods of practice have been completely revolutionized, thus making necessary a pronounced amplification of dental courses. This

condition renders it important that the schools provide adequate post-graduate courses for men who have been in practice for a number of years; and suitable graduate work for the recent graduate who is desirous of carrying his professional study further than the regular curriculum.

The speaker believes that an admirable way to develop this field with a desirable uniformity, and to secure its early adoption, would be to have the faculties represented in this Institute decide upon the character of the work most needed.

To carry out this plan and to provide for a graduate faculty, present faculties, no doubt, will have to be enlarged by the addition of outside talent, either sion. There are many men, not permanently, or specially, for the occasion under the supervision and control of the organized teaching bodies of the profession. There are many men, not members of school faculties, who would be available for this work, and whose connection with the graduate faculty and the resources of a school, would prove advantageous to them, to the school, and to the work. This plan would do much also, to eliminate the unqualified teachers of post-graduate courses.

The writer has endeavored to obtain the consensus of opinion of representative dentists upon the question of post-

graduate and graduate courses, to which end questionnaires were addressed to the forty-nine presidents of State societies, the secretaries of all State Boards, and the deans of all the colleges of the Institute.

We shall consider first replies received from men not connected with, nor materially interested in the Institute, namely the presidents of State societies, and the secretaries of State Boards, from whom replies were received as follows:

1. Are you in favor of Dental Post-Graduate Courses for practitioners? Fifty-two answered "Yes."

2. Are you in favor of independent Post-Graduate Courses conducted by individual dentists forming classes for their individual profit? Twelve voted "Yes;" 39 "No;" and 1, no answer.

3. Are you in favor of Dental Schools giving extension Post-Graduate Courses to dental practitioners? Fifty-one votes "Yes;" 1, "Not sufficiently posted to make any reply."

This data is significant: It is indicative of the fact that altho 100% are in favor of post-graduate courses in dentistry, less than 25% are in favor of having such courses conducted by individuals. It is evident, therefore, that post-graduate courses are in demand, and if this be the case, our schools should devise some plan to provide them.

Of forty-six schools holding membership in this Institute, only eight are offering post-graduate work, altho to judge by replies of the deans, every school is in favor of same. It appears, then, that the majority of our schools assume that their responsibility to the student is terminated with his graduation. In reality, this is the beginning of his education,—his initiation into the practical. This is the time of all others in his life he would appreciate most a correspondence, or information bureau, where he might write or call in person, present models, or data regarding

cases in practice, and be advised as to their best mode of treatment. In addition to this feature, each school should have its own pathological laboratory, where specimens, swabs, etc., could be sent in for examination and diagnosis. This department should be open to every dentist within the school's jurisdiction, who wishes to avail himself of its use. A small fee, sufficient to cover expenses of operation, could be charged. Office technic for the dentist should be included, in order that this work could be carried on by a definite plan thruout. Such a department would furnish a great deal of clinical material for use by the schools; be of great service to the dentist, and give him practically all the advantages of his own pathological laboratory, which the average dentist has neither time nor money to develop.

In order to encourage the better type of student to take up graduate work and to develop real value in it, one year, at least, should be required, and a graduate or advanced degree, such as, Doctor of Dental Science, for instance, should be given. This does not mean that a dentist be required to retire from his practice for one year to pursue graduate work, unless he so elects, but that the course be arranged to suit his convenience, thru one year or a number of years, day or evening, to cover the prescribed course of study on required or elective subjects, to entitle one to advanced degree, at least one half number of credits required for degree, to be acquired in resident work in Institution. For instance, much of this work might be done by night courses at the school, or extension courses in other cities, if sufficient demand be developed therefor. As required work upon each subject is completed, grade cards containing record of credits might be issued. Thus the work could be continued from time to time, until the aggregate courses totaled sufficient credits to entitle the student

to advanced degree. In this way, one or a half dozen courses might be taken, regardless of credit for same, individual advancement being paramount, credits, secondary.

The following is offered as a tentative schedule for Graduate Courses:

Subjects	Lectures	Demonstra- tions	Labora- tory
1. Dental Pathology.	20 hrs.	10	10
2. Radiology	10		4
3. Anesthetics	15	15	
4. Minor Surgery	20	10	20
5. Oral Hygiene	5	5	
6. Bacteriology	20		60
7. Pathology	20		60
8. Dental Histology..	15		60
9. Operative Dentis- try	10		20
10. Prosthetic Dentis- try	10		30
11. Crown and Bridge Work	10		30

Thesis—An original article on some problem of dentistry requiring study and investigation to be submitted by each candidate for degree.

The exact number of hours devoted to each subject in lectures, clinics and laboratory with credits for same, should be determined after course has been outlined in detail by various teachers of these subjects. To be of most value, such a course should include both the practical and scientific phases of dentistry. For after all, the acquisition of knowledge, unless it be accompanied by the skill to apply it, availeth little; and in dentistry this power consists largely in one's ability to correlate the practical, scientific and theoretical parts of his education, that it may prove of greatest service to the human race.

Graduate Degrees under consideration by various schools of Institute:

1. Doctor of Dental Science—One year's work, at least, required.
2. Master of Dental Science—One year.
3. Bachelor's Degree for four years' course in dentistry; Master's Degree at end of fifth year; Doctor's Degree, within one or two years thereafter.

Thus far, one school, only, is offering a graduate course and conferring a degree, but as correspondence with deans who have thought sufficiently upon the subject to express an opinion upon it, indicates there is a widely different idea as to the degrees to be conferred, it would seem to be indicated that some uniformity is necessary. Otherwise, we shall have a half dozen kinds of degrees in as many institutions, which in reality, are conferred for identical courses. Now is the time to adjust this matter before many graduate courses are inaugurated, or many such degrees conferred.

COURSES IN WAR DENTISTRY.

Not every school in our membership may be equipped to offer graduate courses to graduates and practitioners, but, in the present world crisis, it is the duty of every dental school in the United States and Canada to establish courses in War Dentistry.

Such courses might profitably be divided into four parts:

- a. Anatomy: Lectures and dissections of head and neck.
- b. First Aid Work:
Bandaging of wounds.
Reduction of fractures.
Assuming general direction of patient until arrival of medical aid.
- c. Infections and Inflammations.
- d. Study of Equipment of Army Dentists and Operations Required of Same.

A committee should be appointed to collect all necessary data, outline courses, and distribute such information to respective members. Such courses to be offered upon recommendation of American Institute of Dental Teachers, and to consist of day or evening classes as occasion demands, to teach dentists within their jurisdiction first aid work, as well as the essential features of governmental requirements. These courses

would in no sense cover the work required of men who take up head surgery, which of necessity must be covered in special courses and which every school is not equipped to give. No one can tell how long this war may continue, or how many of our men may be called to the service, hence we should equip ourselves to the fullest degree of efficiency, fitted to do our part in any emergency, rather than to enter the service untrained and unskilled in such particulars, and be compelled to waste valuable time in the acquisition of rudimentary essentials. Upon receipt of plan outlined for this work, it is suggested, that schools adopt it promptly, thereby encouraging this movement.

Briefly stated, the matters upon which the Institute's action is respectfully urged are as follows:

1. Systematic graduate and post-graduate courses should be established, and to this end a committee should be appointed to work out a detailed plan for their operation, to be submitted to this Institute at its next meeting.

2. Courses in war dentistry should be inaugurated in all our colleges, and to this end a committee should be appointed to work out details and submit them to deans of all Institute colleges, suggesting their immediate inauguration.

This occasion commemorates the twenty-fifth anniversary of the founding of the American Institute of Dental Teachers. At the time of its inception, dentistry had made no organized or scientific advancement other than what had been accomplished by a few men, who by close application of mechanical and scientific principles had succeeded in evolving methods far in advance of their times, but which were designed more for the benefit of the particular operator and his following, rather than for the profession as a whole.

However, with the organization of this Institute, whose avowed purpose was the

systematic teaching of operative technics in dental schools, the teaching of dentistry has been elevated to a higher plane, there has been a wider dissemination of knowledge, additional inspiration to study and research work, until now dentistry has come into deserved recognition on account of its high standards and its importance as a branch of the healing art. The greater enthusiasm for this work, its higher ideals, incentives to new and better methods, developed, in large measure, by the work of this Institute, and by the men, who have contributed to and controlled its destinies, has reflected a corresponding influence upon our student body, and each year we are graduating a better equipped class of students, to cope with problems that will confront them in every day practice.

In conclusion, therefore, the speaker desires to pay tribute to the founders of this Institute, and the men who have succeeded them as officers of this organization, thru whose efforts this Institute has advanced to its present sphere of service, and has proved such an important factor in standardizing the teaching methods of our dental schools.

Note:—Upon unanimous vote of Institute a committee composed of the following men: Dr. A. E. Black, People's Gas Bldg., Chicago, Ill.; Dr. Guy S. Millberry, San Francisco; Dr. A. E. Webster, Toronto; was appointed by the chair to formulate plans to carry out suggestions embodied in President's address. Readers that have any suggestions to offer along these lines are requested to communicate with any of the above mentioned committee.—Editor.

DISCUSSION.

Ellison Hillyer, Brooklyn.

It has been my good fortune to have listened to the presidential addresses every year since 1899, with but two exceptions: One due to unavoidable absence and the other when I had the honor of addressing you from the chair and listening was not required.

A perusal of these several addresses would unquestionably corroborate what Dr. Biddle has said regarding the influence of the men who, for the quarter

century past, have guided the destinies of the Institute. No doubt the inception of the work of this body in 1893 by a small number of earnest workers was the result of natural processes. Prior to that time the development of the profession was erratic and spasmodic and, in some ways, detrimental rather than beneficial in character. The Institute's beginning marked the passing of the two-year curriculum, with its indefinite methods and standards, to the three-year course, which demanded more specific and definite lines of teaching. Influenced by the somewhat chaotic state then existing, such men as Dr. G. V. Black, of sacred memory, Drs. Cattell and Morgan, whom we trust may be spared to us for many more years of activity, and "dear old Tom Weeks," whose migrations have carried him to southern climes,—all these men realized the necessity of some organization to bring about some measure of order. Their efforts with those of several others made the work of the National Institute of Dental Technics what it was for the first few years of its existence. Hardly had its technic teachings been fairly established before it was realized that its scope was limited by the needs of the enlarged curricula. The change to the "National Institute of Dental Pedagogics" made it possible to broaden materially the range of its operations, and, in all probability, no change would have been deemed necessary in name except that it became necessary to explain to many just what the Institute name really stood for. Then, too, we were more than a national body. With our four conferees across the border we were in reality "international," and hence the appropriate change to the present name of American Institute of Dental Teachers.

It may seem that I am not discussing the President's address but indulging in reminiscence. It is not usual to discuss the last of an address first but I

have digressed purposely in order to make apparent what passed thru my mind as I read this presidential communication. All these changes that have marked the quiet, forceful progress of this unassuming body have been leading us, who form the working force of the colleges, along definite lines of progress. As the colleges have progressed, the profession has advanced and your President is correct in his statement about the graduate of today. We are now entered upon the operation of the four-year course and still we feel that the tremendous scientific impetus which has been given the profession in the last few years will outstrip our efforts to adequately prepare the graduate for his career at the end of even this period.

This, added to the fact that this same progress has resulted in leaving behind the non-student graduate, and even the graduate who is desirous of keeping up and is depending upon his own efforts to do so, makes the President's plea for a definite post-graduate course a wise one. We cannot keep on adding years to our course. Rather, more earnest attention should be given to the rearrangement of the preliminary courses and greater co-operation should be sought with the various "powers that be" in obtaining for our future students these desired changes in their early training.

In analyzing the President's tentative schedule, it appears that he has included all the subjects desired except Orthodontia. Possibly he places this outside the proposed course and there are arguments *pro and con* such a plan. It is, however, a specific post-graduate dental subject. As I have to present this matter later in the session, I will not amplify upon it at this time.

Regarding the first eight subjects on the list, I am not in a position to question whether or not sufficient time has been allotted to properly meet the requirements. Nos. 9, 10 and 11 I feel should

have more time than has been allowed. Possibly, in the reference of the recommendation to a committee, we will be given a re-arrangement which will better subserve the needs of the general course. It is my impression that this work should be carried on by a definite post-graduate faculty whose efforts should be primarily devoted to the work. It will be necessary to make these courses more than evening courses unless much less time than is indicated is given, and it would appear that Dr. Biddle's estimate of 489 hours is a minimum rather than a maximum. In other words, in thirty-two weeks, ten hours a week would give a total of 320 hours, 15 hours a week 480 hours, 25 hours a week 800 hours, and 40 hours a week 1280 hours, if I am correct in the casual figuring I have done.

As to the degree: Most certainly we should unite at the outset upon a suitable one. Whether our State laws will aid or hamper us in our several localities remains to be seen.

The President's recommendation regarding the course in War Surgery needs no comment other than to say that we as colleges stand absolutely back of our governments and the boys who have gone and are going to the front. As individuals we simply ask, "What is desired?"—and the response will go forth, "Whatever is asked, be it easy or difficult, we will do if it is in our power." We are constantly making sacrifices and will continue to make them till the end, whatever and wherever that may be. As colleges it is our manifest duty to carry the plan forward to the best of our ability.

J. H. Kennerly, St. Louis.

After a careful reading of the President's address, I find myself to be so thoroly in sympathy with the ideas expressed by him that it seems to me that whatever I may say will simply be a reiteration of what the address contains.

It is impossible for me to conceive of

one finding anything in the address to criticise. Certainly, we must all agree with him when he says that, "one of the greatest needs in the dental profession today is to extend the work of the colleges beyond their four years' curricula, so that they will adequately meet the needs of the large and constantly increasing number of progressive dental practitioners who are earnestly striving to satisfy the demands of their profession for highly skilled and intelligent dental service."

Scientific research, which he so highly recommends, seems to me to be absolutely indispensable to the future success of the dental profession. The present conditions met with, and which are so frequently brought to our attention by reference from the medical profession, emphasizes the absolute importance of making the dental curriculum more scientific. More time should be given in the dental school to the subjects of biology, pathology and bacteriology. This is emphasized, to my mind, by the frequent applications from men who have graduated some years ago who are now seeking post-graduate work in these particular subjects. While operative and prosthetic dentistry are, I think, adequately taught in all schools, the sciences above referred to, do not receive the attention, in some institutions, which they deserve. If it is impossible to give the time required for this work in the regular curriculum, then, certainly, post-graduate courses should be established whereby the work could be had by men who earnestly desire it.

I know of no body of men so amply qualified to outline a course of post-graduate instruction as can be found in this body, and heartily favor the recommendation that a Committee be appointed to formulate a course which can be adapted to all schools in this association, and report it for action at our next annual meeting. Just how this shall be done, in my estimation, should be left

to the Committee and not take up the time of this meeting in discussing the whys and wherefores of the proposition.

The questionnaire sent out by our President speaks for itself. It is 100 per cent in favor of giving post-graduate courses in the dental schools, and I am surprised that so many are in favor of post-graduate work being done by some individual whose primary motive in giving such work is the accumulation of dollars. If the independent post-graduate teacher's work is meritorious, certainly his work can be incorporated into the work of a regular educational institution and thereby lend greater efficiency to the work.

"Of forty-six schools holding membership in this institution, only eight are offering post-graduate work." Just why this is true might be interesting to ascertain. Some schools believe in conducting their post-graduate courses simultaneously with the regular course of instruction, or during the college year, while others feel that it is better to conduct a post-graduate course during the vacation period. To the latter class I claim allegiance, for I believe that having accepted a class of students we should allow no other influence to detract from our effort to give them the very best that lies within our power. So few institutions have sufficient full-time men for giving post-graduate work during vacation period, consequently, the matter is neglected. I hope, however, that some solution may be arrived at by the committee suggested by the President. The value of a pathological laboratory to the dental profession is inestimable. I believe that the dental profession would occupy a higher position in the United States army today if more attention were given to the strictly scientific part of the dental curriculum. Too much encouragement cannot be given to graduates to urge them to continue their studies after graduation.

For some time the faculties of Wash-

ington University Medical and Dental Schools have been discussing a plan whereby the dental student could receive the M. D. degree in less time than would ordinarily be required by taking the medical degree first and the dental degree following, which now, in our institution, would consume about seven years. If the medical profession would be a little more liberal in their demands and realize certain fundamental subjects necessary to the practice of dentistry as equivalent to certain others in the practice of medicine, a conclusion might be arrived at whereby such a course could be consummated in five years.

As to the curriculum for post-graduate courses, suggested by the President, I see no reason why it should not be adopted, provided the hours in each subject correspond with the hours demanded by the educational institution teaching the subject.

Concerning the course in war dentistry, and I speak from experience, having taken part in the teaching of three classes in the Officers School of Neurological, Plastic and Oral Surgery, established by order of the Surgeon General of the Army in Washington University Medical Schools in October, 1917, too much emphasis cannot be placed upon the lack of preparation by the dental profession for the handling of such cases as result from the terrible war now in progress in European countries, to which the American soldiers are going day by day and who will very soon be returning from the front with demands for the greatest skill that human ingenuity can devise. How frequently I have heard the men taking these courses say, "How I do wish that I had been taught more of this when I was a student." While it is sure that the work of the dentist in the field and base hospitals will be to a large extent, mechanical, yet the lack of the knowledge of the treatment of wounds will be a very great handicap to the dental surgeon. My suggestion in this

particular would be that, anticipating the time that we arrive at the fourth year in the four year course, upon which we have just started, that wherever possible instruction in war surgery, splint making, etc., be taken up, but upon arriving at the fourth year of the dental curriculum these subjects be made a large part of the course of instruction for that year. So, that it may not be said of us in the future, should the occasion ever arise, (God willing that it never shall), that we were not prepared. Hence, we should (to use the words of our President) equip ourselves to the fullest degree of efficiency, fitted to do our part in any emergency, rather than to enter the service untrained and unskilled in such particulars and be compelled to waste valuable time in the acquisition of rudimentary essentials.

Arthur D. Black, Chicago.

I will confine my remarks to the subject of post-graduate courses. We need courses especially for the recent graduate, altho others should be eligible for them. These should occupy the time of at least a full school year, and should lead to a degree upon the presentation of a thesis, as suggested in the President's address. Courses of this type should be given to prepare for special lines of service. Those who expect to practice orthodontia should remain for another year, after completing their regular school course, to take a special course in this subject. Those who expect to specialize in oral surgery, those who intend to devote themselves more especially to treatment of diseases of the soft tissues of the mouth, and possibly also those who intend to devote their time especially to prosthetic or to operative dentistry, should have a year of extra training. My thought is that one's time should be very largely devoted to a particular line of study, which would include all closely related subjects. One taking a special course in orthodontia,

for example, should devote a part of his time to a careful review of dental histology, and should make a special study of the nose and naso-pharynx, etc. One taking a graduating course in oral surgery should make a very thoro dissection of the head and neck, should have a special course in bacteriology, and a course in general surgery, which should include attendance at hospital clinics, etc.

This type of course is difficult for our schools to handle because the number taking a particular course would be few, and they would require many hours' attention from the head of the particular department. This means that the teachers of these special courses must be either full-time men, or at least half-time men. I do not see how these courses could be carried out properly on any other basis, and very few schools have full-time professors in those subjects in which there would be much demand for such courses.

There is a large demand for intensive courses for men in general practice. These courses should be so arranged that they will be convenient for practitioners living in the city in which the school is located, as well as for those who come from a distance. Practitioners living in the city in which the school is located would prefer to spend possibly three half-days a week in the school, and devote the remainder of their time to their practices while taking these courses. The schedule for such courses should extend over a period of a semester, or possibly one school year. Those men who come from a distance, closing their offices for the time, would prefer to cover the same ground in a shorter period by devoting their full time to the work. They should be able to cover in one month the same ground that the other group would in a semester. These two forms have been presented in the announcements which have been sent out in the post-graduate work of Columbia.

A school which is doing teaching of

this kind must develop a good research department, because it must be doing real work to advance our knowledge and many new things must be tried out and their value proven.

At Northwestern we have been giving post-graduate courses for a number of years, and I wish briefly to refer to some of our experiences. We have given a four-weeks' intensive course. Until last year this course was given immediately after the close of the school year; it was never quite satisfactory either to the classes or to us. There was the lack of animation, produced by a comparatively empty large institution. It was like a party of 25 or 30 couples in a ball room which would accommodate 250 couples; a chilly affair. Last year we gave our course in February, during the busy time of the school year, and it was so much better for both the post-graduates and for ourselves, that there really was no comparison. I appreciate what Dr. Kennerly has said about our duty in devoting our time to our students for their regular studies, but I believe that very few teachers are devoting so much of their time to their regular teaching that they cannot devote whatever time is necessary to the post-graduate work for a few weeks during the regular session. Not only does the post-graduate student have much more enthusiasm in his work, but there is an impression left with our own students; the thought is placed in their minds that perhaps some time they ought to return for post-graduate study. I believe the sowing of the seed of this thought is well worth while.

We have found difficulty in getting post-graduate classes to do much operating in connection with these courses. I think the principal reason is that we have not had a separate clinic-room for them. A man who has been in practice for several years, and who has become a little rusty, if I may call it that, as to some of the technical details, hesitates to operate among a group of students who

may ask questions that are embarrassing. This year we have provided a separate room, so that all the operations of post-graduates will be done apart from the clinic of the regular students. We are looking forward with interest in this feature of our course next month.

As to the teaching which we should give for Army dental service, I hardly know what to say. Ordinarily we would expect the teaching to be directed towards the service that is to be performed. Yet under the present regulations covering Army dental service, by which each enlisted man in the army is provided an average of two hours a year in the dental chair, they must go in and out like clock-work and it is absolutely out of the question for men in the dental corps to practice good dentistry. Many fine young dentists will be spoiled in the dental service under present conditions. They will all need to come to post-graduate schools when the war is over.

In the planning of courses for Army dental service, there are certain items which we feel ought to be included. The dentist who enters army service ought to be as familiar as may be with plastic and oral surgery, even tho under the regulations he is not privileged to operate on the soft tissues. We all know, however, that when these men get into a base hospital and patients are coming in faster than they can be handled, dentists are going to be given opportunity to do whatever they are able to do. And for that reason we ought to expect that those men in the service who have ability will have opportunity to do some things which are not provided for in the regulations. At any rate, it certainly will be a great advantage for every dentist in army service to know as much as possible of the anatomy of the head and neck and plastic and oral surgery.

Briefly stated, our course will give 30 hours in dissections of the head and neck, eight hours in surgery of the cada-

ver by demonstration; 36 hours in strictly oral surgery clinics, 22 hours in the making of splints for the treatment of fractures, 20 hours in surgical clinics at hospitals by general surgeons, those clinics being as largely surgery of the face as the material will permit; and 20 other hours in related matters such as radiography, anesthesia, extraction, etc. This makes 136 hours of laboratory, clinic and demonstration periods, to which should be added about 36 hours of lectures covering the same subjects, making a total of 172 hours in four weeks.

In the course for the general practitioner of dentistry, naturally much of the surgery is omitted, reducing the oral surgery to 24 hours, and including 48 hours in operative, prosthetic and orthodontic procedures.

Our school, like Washington University, has had one four-weeks' course for the Plastic and Oral Surgery Division, under the direction of the Surgeon General, and we have another one scheduled commencing the fourth of March. For this course our own school and the members of its faculty give a comparatively small part of the work, the teaching staff being composed of the members of the faculties of the other dental and medical schools in Chicago and surgeons operating at the various hospitals.

I wish to strongly support the suggestion of our President that committees should be appointed to investigate the question discussed in his address. I hope that the committee suggested relative to the work which is to be done by our schools in the matter of war dental service, will be able to make a report at this meeting, because this is a matter which ought not to lay over. I am sure that each member of the faculties of our schools is quite willing and anxious to do his part in order that those men who are going into the dental corps shall render the best possible service, thus reflecting

credit upon the dental profession and those of us who are teachers.

F. B. Moorehead, Chicago.

At the present time there are two courses of instruction under government direction; first, the course in plastic and oral surgery under the direction of Major Vilarity P. Blair of the Surgeon General's Office, the object of which is the special training of men to participate in the plastic and head surgery units. The second course is one given by the committee on dental education, the sub-committee of the Dental Committee, general Medical Board, which has as an object the preparation of men for military dentistry. Courses have already been given at the University of Michigan, University of Minnesota, University of Pennsylvania, Northwestern University, Chicago College of Dental Surgery and Forsyth Infirmary.

Courses under the direction of Major Blair will doubtless be continued, but the courses under the direction of the Committee on Dentistry will scarcely be needed inasmuch as the Surgeon General has organized a school at Fort Oglethorpe for the military training of members of the Dental Officers Reserve Corps.

In the matter of post-graduate work, we should differentiate between graduate work and post-graduate work. Graduate work is one thing, and post-graduate work is another thing. The question of the status of graduate work is well defined, and colleges and universities have adopted well known standards governing graduate instruction. No activity in university life is more closely surrounded by iron clad rules than that of graduate instruction. In the first place the graduate student must have certain definite preliminary education before undertaking graduate work. In the second place the graduate student is taking a course which leads to a higher degree. In the third place the teacher in a graduate institution must have certain scholastic attain-

ments before he can give instruction to graduate students. For example, at the University of Illinois no man can become a member of the graduate faculty who has not a Doctor of Philosophy degree, for the simple reason that many of the graduate students are taking a doctor of philosophy course and it would be an anomalous situation for a teacher to undertake to teach a course for which he himself had no credit. It would seem, therefore, that when this body takes the question of graduate work he should do it with a feeling that the standards will be in keeping with those already inaugurated by our best universities.

I imagine it will be some time in the future before any appreciable amount of instruction in graduate work in dentistry will be possible, as we do not have many students with bachelor's degrees coming to us. The question of post-graduate work should be taken up by this body, and in some way or other standardized. Post-graduate work in this country is in bad shape. A man will leave his practice and take a trip of ten days or two weeks to Chicago or New York or some other educational center, advertising the fact in his local papers that he is taking a post-graduate course in some institution, and then when he arrives he will spend his time enjoying life and possibly attend a few clinics. He again takes advantage of his return home to advertise the fact that he has completed a post-graduate course. It seems to me that this is the worst kind of advertising, and no institution should permit a man to come in for work unless he does so under definite prescriptions. He should remain a specified length of time, and do a certain amount of work by the clock. For the man who wants to learn, and is anxious to improve himself, the doors of the university should be wide open, but the fellow who comes to loaf for a few days, picking up perhaps an idea or two which he may exploit on his return home, should not be allowed the privilege of

the institution. I am always glad to have men visit my clinic who may be passing thru Chicago, but the student who is coming for business ought to stay a certain length of time and do a specified amount of work. It would not be a difficult thing to have a minimum requirement for post-graduate instruction. As Dr. Black has suggested, we should make some provision for the student who asks for special training in prosthetic dentistry or operative dentistry or therapeutics. Our institutions should encourage conscientious seekers after higher training and discourage the loafer by refusing him admission.

Alfred Owre, Minneapolis.

So much has been said in regard to post-graduate instruction that we ought to have the term well defined. We tried to do that last year. It is used in an ambiguous sense at the present time. The President states that he has sent out questionnaires. I wonder if, instead of post-graduate work, they do not refer to extension work for three or four weeks or something like that. There are only eight schools offering graduate work, where if a man is qualified he may receive instruction, be assigned a problem and receive the degree of Master. His thesis may be on oral surgery, or a similar subject. It seems to me we have these two distinct things to discuss. As Dr. Moorehead has said, graduate study is taken care of in the universities, we have nothing to do with it. In Minnesota, it is in the graduate school that graduate courses are offered in medicine, and the Medical Bulletin refers to the Graduate School Bulletin. There, it seems to me, is our future also. And the graduate school must be in charge of the graduate degree.

To illustrate: We had a student present himself who had had four years of under-graduate work. That is prerequisite. And he had covered the ground in elementary biology. His topic was "The

Bacteria of the Mouth." He said: "What must I do to qualify for the degree of Master of Science? My thesis will be on the bacteriology of the mouth." In the first place he was to take an advanced course in biology. In the next place he had had only an introductory course in bacteriology. He was to work in the clinic as much as was necessary to secure his bacteria, and grow his cultures in the laboratory. Now, if his thesis is of the nature that is necessary for the Master's degree, he will get his degree, and not otherwise. He confines himself to practical biologic study.

Taking this illustration in connection with the illustration given by the President, we would have to modify greatly the number of hours that Dr. Biddle recommends that we devote to a variety of so-called graduate subjects.

As to the degree itself, I think now is the time when we should discuss the abolition of the Doctor's degree in dental surgery, substituting the Bachelor's degree in dental surgery, to be given at the end of four years. At the end of the fifth year we should give the Master's degree in dental surgery, and then at the end of two or more years of study we could give the Doctor's degree in science. The problem assigned in securing this degree would be infinitely more difficult than that assigned for the Master's degree. After the student had the Bachelor's degree he would be assigned work in bacteriology in its different subdivisions, and work in the infirmary as well. In obtaining the Master's degree, for instance, in Orthodontia, he might write a thesis on the etiology of irregularities, referring to certain conditions favoring irregularity. But in writing his thesis for the Doctor's degree he would make it a world study. He would not only study his subject from the world standpoint, but embody in it his concept of economic and social conditions the world over. Therefore he

would present a thesis which would have the characteristics of a doctor's work.

Now, whether we want to or not we are going to have this question forced upon us. That is the challenge of the present moment. The President referred to the glories of the past, and, of course, I do not want to say anything against that; but I should rather accept the history of the past as a perpetual challenge for something better.

Dr. Black discussed two types of graduate courses. It seems to me that they are one type offered in a different way—the same graduate problem, which he wants in one year, or in two years, or in more or less time; it does not make any difference as long as the requirements are met.

I agree with Dr. Moorehead in regard to war dentistry. That is another one of the great challenges.

H. L. Wheeler, New York City.

I would like to say a word or two upon a subject that was not touched upon, but which should be covered. Mention was made of the necessity of those dental students who will enter the service of the Army, especially to practice Oral Surgery, going into departments of medical schools to obtain some of their knowledge. It seems to me that it is also necessary that the medical men practicing in the Army should have an opportunity to take a course in the dental schools. Some have done that, and in New York Professor Carr has given to a large number of medical men in the Navy, sent there by authority of the Surgeon General of the United States Navy, a short course in minor surgery of the mouth. It is as essential on one side as on the other. And I would like to suggest that in these courses the necessity of the young surgeon in the Army and Navy having to do minor surgery in the mouth be considered, and that they be given an opportunity to enter the dental schools to take these courses.

Henry W. Gillett, New York City.

I thank the Chairman for the opportunity of introducing myself to this body. I have been much interested in the President's address and in the comments it has brought out. Being, as many of you know, actively interested in an effort to establish courses in New York for graduate dentists, courses of a type that shall attract men who come for real instruction, we are endeavoring to so arrange those courses as to meet the varied demands of men who have been in practice as a rule for several years. In the inception of our work it was suggested that we should limit our admittance to men who had at least five years of practice. The rules of the Regents of New York State made this seem unwise but we were finding it desirable to discourage men from entering who have not been in practice long enough to place them in a position to grasp the type of instruction that we present. Our courses for graduates have been aimed at providing opportunity for broadening the knowledge of men who have had inadequate instruction as under-graduates, or inadequate experience by reason of location subsequent to graduation and who consequently feel the need for instruction in advanced method. Therefore our courses have been aimed at giving those men an opportunity to select instruction along the lines that they desired. It may be of interest to you to know that our experience indicated an overwhelming demand for that type of instruction.

We have endeavored to put in practice the plan mentioned by Professor Black, namely: The arrangement of courses so as to offer men from a distance opportunity for intensive study for comparatively short periods so that they may be constantly busy during their stay. We have arranged other courses so that similar instruction is offered at other times to local men for from one to three days a week, thus spreading the course over longer periods.

Otto U. King, Secretary-Editor, National Dental Association, Chicago, Illinois.

I assure you that it gives me great pleasure to have this opportunity to speak before this organization, for the American Institute of Dental Teachers is the dental profession's grand alma mater. Dr. Biddle, our president, has focussed our attention on one of the liveliest subjects before the dental profession today. This organization, as well as Dr. Biddle, is to be congratulated on the practical outline that he has presented—making it possible for us to carry out this work in the curricula of the dental colleges.

One thing that I desire to impress on each man, who may be connected with dental college work, is the fact that there is a tremendous responsibility resting upon all dental schools of this country, namely, the carrying into practical effect some sort of post-graduate school work. In my official connections with the National Dental Association, I notice an increasing demand, which has permeated the entire dental profession for higher educational attainment. Local and state dental societies, as well as small groups of men, throughout the length and breadth of this country, are endeavoring to meet this crying need by giving post-graduate courses of instruction at their dental meetings. Therefore, at times I have felt that this organization has failed to interpret in a practical way these indications of discontent in our profession and to take advantage of it by giving leadership.

I remember a few years ago when it was a very difficult thing to get men together to hear any sort of a scientific paper on dentistry or allied subjects. Today, the men who attended our conventions listen intently to the reading of the most scientific papers. They sit there just like—well, they just sit there and they stay there until the meeting closes.

And now our exhibitors who come to

our meetings are saying, "we must have a specified time on the program for our exhibits or it will be useless for us to attend the meeting." In other words, formerly we had to use the megaphone and close up the exhibits to get men into a session to listen to the reading of a paper. Now, the tables are turned and our state society program committees find it necessary to give the exhibitors a special place on the program.

Only a year or so ago, in Kansas City, we saw the unusual sight of a thousand dentists attending a one-week post-graduate course. The men taking this course paid a special fee for it and seemed to be perfectly satisfied with the results attained. Many state societies during the last two years have inaugurated special post-graduate courses and several have already been announced for this year. Therefore, I again repeat that there is a tremendous responsibility resting upon this organization for the outlining and carrying into effect, in every dental college in this country some sort of a special post-graduate course. For I contend that the dental instructors and the dental college should be the leaders in this educational movement. I am wondering if our dental schools are going to miss this opportunity of leading our profession to a higher status of educational and professional attainment?

Dr. Owre: The question was brought up as to who should offer these courses, extension as well as graduate courses, but particularly the latter. These should be left within university, which should take advantage of practitioners who have reached a high degree of specialization in the various fields. In that way they could organize their material and become stabilized by the university. The best illustration of that, of course, is the Mayo Clinic, which virtually offers all the graduate work in medicine, outside of the sciences, in Minnesota. It is along such lines that we must evolve until the time comes when we can actu-

ally have all these men for state institutions.

Dr. Gillett: Dr. Biddle's schedule prompts me to say that it appealed to us at Columbia, in establishing courses for graduate dentists there, that the real need was for something different than it had been possible to offer in so-called post-graduate work of the societies, which were largely lecture and demonstration courses. We have had a good deal of experience with courses of that kind in New York and thruout the East and have found a demand for something different. We found a considerable part of the profession becoming satiated with that type of instruction and asking opportunity to do practical work under the eye of competent instructors. For this work we have provided very perfect equipment and demand earnest work of every practitioner who enrolls. We accept only such members as can work advantageously.

Dr. Biddle: I am greatly pleased with the discussion which my paper has brought forth. With reference to Dr. Hillyer's remark concerning a minimum schedule, would say that the schedule of hours I had in mind is not even a minimum schedule, merely a suggestion, for I think it would be presumptuous for any one member to furnish this organization with a complete schedule. If a committee were appointed to evolve a plan it should be submitted to this institution, only after consultation with various heads of departments of schools of this membership. While I have not furnished a minimum schedule, I had figured upon 1344 hours, a little more than is included in the schedule suggested by Dr. Hillyer. Orthodontia was purposely omitted from my list under graduate work inasmuch as I deemed it best taken care of in a separate course under Post-Graduate Courses. Operative and Prosthetic Dentistry, Crown and Bridge Work were not

allotted as much time as one of the discussers suggested, inasmuch as they are exhaustively considered in regular courses.

Dr. Owre says that eight schools are giving graduate instruction. Upon investigation, he will find that this is post-graduate work and in many instances, sporadic at best. In fact, there are but three schools giving regular, systematic, post-graduate courses. So far, investigations show that there is but one school giving graduate work with its accompanying degree at the end of the year. Regarding the time spent in graduate work, the writer does not mean to infer that all such work could be done in one year in evening classes, but that it may be done in day or evening classes extending thru one year or a number of years, as best suited to the needs of the various schools.

I cannot agree with Dr. Moorehead that graduate courses are in the future and need not be seriously considered at this time. As the writer stated previously, one school has already inaugu-

rated such a course and awards a graduate degree and within the near future, three other schools at least contemplate similar action, each planning to confer a different degree for practically the same amount of time and work. Therefore, I am of the opinion that the time has now arrived for some systematic, standardized graduate course to be developed by this teaching body to the mutual advantage both of this body and of the profession.

For a number of years, graduate and post-graduate work has been discussed at our annual meetings. This year the president's address was prepared with the one purpose in mind, that it might be the humble beginning of an earnest effort to outline a course, which with minor modifications for individual cases might be adopted by any school desirous of considering advanced work in dentistry, so much in demand by many members of our profession.

I thank the members of the Institute, and especially the discussers of my address for their kindly consideration.

LEGISLATION FROM A DENTAL STANDPOINT.

By Alexander H. Reynolds, D. D. S., Philadelphia, Pa.

(Read before the National Dental Association at its Twenty-first Annual Session, New York City, N. Y., October 23-26, 1917.)

THE question of securing dental legislation is one that is closely allied—in fact interwoven—with the growth and progress of dental society work, particularly that of state dental societies. In 1868, when the Pennsylvania State Dental Society was organized, it was created for the stated express purpose of securing the pass-

age of a law to regulate the practice of dentistry, and while the first law was deficient in many ways, it was a grand beginning. We have had several new laws since that time, as well as several amendments thereto, yet the first act was the greatest step forward that dentistry has ever made in Pennsylvania.

More has been accomplished in the