INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH

Scientific Proceedings of the Seventh Annual Meeting

Northwestern University Dental School, Chicago, Illinois, March 23 and 24, 1929[1]

Compiled by WILLIAM J. GIES, F.A.C.D., *Secretary*[2]

Columbia University, New York City

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I. President's Address[3]

Leroy M. S. Miner, D.M.D., M.D., Dental School, Harvard University, Boston, Mass.

Owing to the fact that a permanent secretary has been selected (at least unofficially) who has the responsibility of arranging the programs and caring for much of the ad interim business, and also to the

[1] The first and second sessions, and the fourth and fifth, were held in the Northwestern University Dental School, Chicago, Ill., where every facility for the successful conduct of the meeting was provided. The third session followed an informal dinner in the Medical and Dental Arts Building (185 North Wabash Avenue). The chairmen were Leroy M. S. Miner, Harvard University, President, and Arthur D. Black, Northwestern University, President-elect. An account of the executive proceedings will be published in the Supplement of this volume, in the number for December, 1929. Abstracts of the papers presented at the annual meeting in 1928 were published in the *Journal of Dental Research*, 1928, viii, p. 395.

[2] Most of the abstracts have been prepared by those who presented the corresponding papers. All have been verified by the authors.

[3] Delivered at the opening of the third session, after the informal dinner on March 23, and preceding the annual business meeting. See page 283.

fact that the structure of the Association is built on a number of self-governing units, it happens that the duties of the President are confined principally to presiding gracefully and effectively at the annual meeting, and to delivering an annual address. This latter duty carries a real responsibility, if such address assumes to be a declaration of principle, a guide for effective development, or an inspiration to renewed effort.

The practical idealism on which this Association is founded must ever be a source of inspiration to all pioneers on the frontiers of dental knowledge. To promote broadly the advancement of active research in all branches of dentistry, and in related phases of the arts and sciences that contribute directly to the development of dentistry, and also to encourage and facilitate coöperative effort and achievement by mutual helpfulness among investigators in all nations in every division of stomatology, to the end that dentistry may render cumulatively more perfect service to humanity, are worthy purposes that appeal both to the imagination and to the practical senses.

In the President's address last year it was pointed out that, to develop dental research most effectively, the coöperative effort of three different groups was necessary: the investigators, the administrators and the donators. The scientific program of last year's meeting and of the present meeting quite clearly indicate how well the first group is beginning to contribute to the advancement of knowledge. In order that the administrators and the donators may be able to take active part in furthering the interests of this organization, provision should be made for membership in the Association of these groups. The deans of two dental schools have expressed to me the wish that they could become members. Deans of both dental and medical schools, and directors of hospitals and infirmaries, with an interest aroused, could do much to further research in their institutions and thereby contribute to the general good. This recommendation is strongly urged.

In considering the relation of an administrator of a dental school to dental research, there arises the question of the relation of dental education in general to this problem. Dental education has been concerned chiefly with training technicians. If dental education is at all concerned with education, and not merely with vocational training, it should be concerned with the development of scientists as well as

with the training of skillful technicians. Under the most favorable conditions very few students in dentistry have the capacity for, or the interest in, both the acquirement of technical skill and of scientific achievement. Such men are exceptions at present; but when they do appear, opportunity should be provided for them to develop as broadly as possible. When a man gives evidence of being interested chiefly in the science of dentistry, in research, or in teaching, such a man should be given the largest opportunity for development.

We used to hear much about the theory courses and the practical courses. Such courses as physiology, histology, bacteriology, etc., have been regarded as subjects to be taken and passed, and perchance forgotten as soon as the so-called practical courses are under way. This has been and is a weakness in dental education. To be "practical" should not mean that science is disregarded. In fact, it should be quite the reverse. In the industrial world, the practical man promptly seizes and applies to his field the attainments of science. It is a fact that there has been a lack of progress in the prevention and control of dental ills. Is it because we have not adequately applied what science has discovered, or has there been a lack of progress in the science of dentistry itself? Have we disregarded the importance of dental research in our educational problem? The two last questions can be answered emphatically in the positive.

The criticism has been made that there is a lack of graduate work in dental education. The reason is obvious. There has been a great lack of research activity among teachers in the various fields of dentistry. This, in turn, has been due to the inability of most dental schools to pay adequate salaries to teachers. This economic problem is the most critical now facing dental education. When this is solved, men will be available. Here is a large opportunity for the donators. The recent gifts to Yale and Rochester, for the development of dental research on a broad basis, is indicative that an appreciation of the situation exists. There is then reason for optimism. This meeting radiates it.

Here and there men endowed with a thirst for new knowledge—who have always the inquiring mind—are beginning to produce interesting and valuable results. Along this route progress will be made. Research is a matter that cannot be standardized or organized too highly to advantage. Each problem is an adventure into the frontiers of

knowledge. Vision, imagination, courage, patience, and persistence are as important and necessary as acquaintance with the field of knowledge already conquered, and with the fundamental principles involved in acquiring that mastery. But research may be nurtured, developed, stimulated, encouraged, so that the spirit of inquiry may become ablaze with new energy. To nurture, to develop, to stimulate, to encourage must ever be important functions of this Association.

II. First Session: Morning, March 23

1. BONE REGENERATION FOLLOWING EXTRACTION OF TEETH IN DOGS

Edward H. Hatton, B.L., M.D., and Warren R. Schram, D.D.S., Northwestern University Dental School, Chicago, Ill.

One of us has previously discussed the healing of the sockets of teeth in dogs after extraction, by the forceps and also by the so-called open-view or surgical method. In the former procedure this concerns the rapid organization of a blood clot by vascularization, and its conversion into very young connective tissue. The cribriform plate of the socket disappears very early—within one to two weeks. The adjacent new connective tissue becomes very richly cellular. These cells arrange themselves in the form of columns projecting perpendicularly from the surface of the socket, and within the spaces so made bone is formed. This process spreads rapidly into the center of the socket until the whole is converted into spongy bone. In the second case, so-called surgical removal, the method is essentially the same. But since the blood clot is quite scanty, and the muco-periosteal flap is sutured across the space formerly occupied by the tooth, the socket is nearly obliterated. Roughly speaking, it may be said that a central, bucco-lingual section of the new bone is rectangular in shape. But in the forceps extraction, a similar longitudinal section of the surgical extraction is a right angled triangle. In other words, in the end result there is less bone in the surgical removal than in the forceps extraction. This variation seems to be due to the limitation placed upon regeneration by the position of the muco-periosteal flap.

This same material seems to present evidence as to the source of new bone and the ability of the periosteum to function as an osteogenetic layer. In performing the surgical operation, the periosteum