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Journal

AMERICAN COLLEGE OF DENTISTS

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. *James Nuckolls and Harry E. Frisbie*

Proceedings of the Meeting of the
Board of Regents

Dental Journalism

Council on Dental Education—American Dental
Association *By the Secretary*

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AMERICAN COLLEGE OF DENTISTS

Objects: The American College of Dentists "was established to promote the ideals of the dental profession; to advance the standards and efficiency of dentistry; to stimulate graduate study and effort by dentists; to confer Fellowship in recognition of meritorious achievement, especially in dental science, art, education and literature; and to improve public understanding and appreciation of oral health-service." — *Constitution, Article I.*

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Next Meeting, Board of Regents: Miami, Oct. 12-13.

Next Convocation: To be announced.

Fellowships and awards in dental research. The American College of Dentists, at its annual meeting in 1937 [*J. Am. Col. Den.*, 4, 100; Sep. and 256, Dec., 1937] inaugurated plans to promote research in dentistry. These plans include grants of funds (The William John Gies Fellowships) to applicants, in support of projected investigations; and also the formal recognition, through annual awards (The William John Gies Awards), of distinguished achievement in dental research. A standing committee of the International Association for Dental Research will actively cooperate with the College in the furtherance of these plans. Applications for grants in aid of projected researches, and requests for information, may be sent to the Chairman of the Committee on Dental Research of the American College of Dentists, Dr. Albert L. Midgley, 1108 Union Trust Bldg., Providence, R. I. [See "The Gies Dental Research Fellowships and Awards for Achievement in Research," *J. Am. Col. Den.*, 5, 115; 1938, Sep.]

Journal

AMERICAN COLLEGE OF DENTISTS



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Journal

AMERICAN COLLEGE OF DENTISTS

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American College of Dentists

DR. WILLOUGHBY D. MILLER says: "I should say, therefore, that it is not optimism, but rather criminal thoughtlessness, when a student goes through his college days with no thought of the future, and doing only just the amount of work necessary to secure his degree. In fact, the student often makes the mistake of supposing that he is studying only for a degree, and that, the degree once obtained, everything else will come of itself. This is a great mistake, and the sooner it is remedied the better. The degree is simply an outward decoration, a guarantee that the holder has gone through with a certain amount of study and work; it adds nothing whatever to his capabilities.

"Professors of a great and beautiful science with a constantly widening sphere of activity, with manifold great and complex problems, both scientific and practical, to be solved, a great future lies before you, and if you are willing, I doubt not that you will also show yourselves capable of meeting all the requirements that your profession justly exacts of you. Liberally educated, well posted in all collateral branches of medical science, master in the science and practice of dentistry, unerring in the performance of his duties, ethical and Christian to his patients, his colleagues, his profession, and his country—this is my conception of what the dentist ought to be, and of what I trust each of you will be, never forgetting that, however great a thing it may be to be a good dentist, it is far greater to be a good man."



CHOICE AND CONSEQUENCE

By THE EDITOR

JOURNALISM

An important phase of medicine (dentistry¹) is the ability to appraise the literature correctly.

—HIPPOCRATES

For a number of years past, or to be exact, since 1928 there has been a continual study of dental professional literature, under the direction of the Commission on Journalism of the American College of Dentists, now known as the Committee on Journalism. This Commission (Committee) was appointed by the then President, Dr. Henry L. Banzhaff (1928) as a result of a general discussion of professional affairs and ultimately, the adoption of the following resolutions, pertaining to dental journalism in particular:²

“Whereas, dentistry as a profession dedicated to the service of mankind must accept its responsibility and maintain its dignity and ideals; and,

“Whereas, a profession is weighed and judged by its educational standards, its accomplishments for the public welfare, and the dissemination of its contemporary knowledge and advancements; and,

“Whereas, the educational standards of dentistry are now practically on a par with those of medicine, and dentistry’s accomplishments in relation to the public health are well known and acknowledged; and,

“Whereas, a large proportion of dental literature and proceedings of dental societies is still being published in periodicals which are financed and controlled by dental trade houses; and,

“Whereas, such a condition is not compatible with the maintenance of professional dignity, independence and idealism; and,

“Whereas, a broad advance in dentistry would come through the elevation of the journalism to a plane appropriate to the importance of dental relations to the public health; and,

“Whereas, the American College of Dentists aims to advance the standards of the dental profession; now therefore be it

¹The word “dentistry” is not in the original.

²The status of Dental Journalism in the United States: Report of the Commission on Journalism, 1932, pp. 1 and 2.

"Resolved, that the American College of Dentists create a commission whose function shall be to survey the present situation in dental journalism and report to the College within one year, in particular respect to:

"(A) The total amount of dental literature published per annum.

"(B) The proportion of that literature published in periodicals not under the auspices or control of the dental profession.

"(C) Measures which may be effective in terminating the non-professional publication of dental literature.

"(D) Measures which may be undertaken to develop a journalism having capacity sufficient to publish all the worthwhile contemporary dental literature."

Now at the end of this period the JOURNAL presents to its readers under the above caption this statement of "aims" or the goal to be attained with the latest report³ of that committee, and a few short statements on the subject by as many different authors who have had little if any intimate association with the study. Now the question, to what extent has the goal been attained?

A long time ago a great leader of a great people stood up in front of them and said, "Choose ye, this day whom ye will serve." All down through the years this challenge has rung in the ears of men in all walks of life. It has rung in the ears of men in their private lives and they have had to choose between that which was primarily of benefit to themselves and that which might be of possible greater benefit to the greater number.

Life proves to be a testing arena for men, whether it be in private or in public; whether it be in matters of personal gain or community benefit; whether it be in the field of economics, of education, of literature, of ethics or of morality, and there must be those who will choose the ideal, for always it is the ideal that must be held before the masses. And *consequence* comes as the result of *choice*. The Honorable Winston Churchill is quoted as having said: "Gauge your actions by standards of morality. Do not use your wits to gain your own advantage."

Just as dental schools had to be cleaned up a few years previously

³Read also the Committee's Report, *Journal Am. Col. Den.*, 11, 355; 1944 (Dec.)

because of rampant commercialism, so also it became imperative to change the leadership of dental journals. By the very fact of ownership the profession was subtly influenced toward a spirit of commercialism rather than professionalism. Dental editors, although exercising an apparent free hand, nevertheless could not do other than fit into the plans of the owner. Editors of some professionally owned journals are even now accused of lacking a free hand because they are seemingly dominated by officers, councilmen, trustees, etc., of the organized profession. By virtue of that charge, the former condition must be similar, and the answer is, even so, it is the profession, and not a commercial owner.

But commercial owners saw the change in the offing and began long ago to turn ownership over to the profession. Today there is very little left of commercial journals—some published by publishing houses and some strictly advertising media.

It is currently reported that "Liberty" magazine no longer sponsors Mayor La Guardia's remarks over the air because certain advertisers in that magazine do not like what he says. Comment has been made on the question, concluding with this summary statement: "The chances are that a small group of highly intelligent and competent administrators would permit more impartial information than a similar group who are interested only in the commercial point of view." This statement follows a consideration of private direction as compared to government direction of the radio. Our comparison is that of private versus professional direction.

Look over the general or public field of journals and magazines! How many of them have advertising matter and of what-so-ever kind, all through the reading pages. In fact commodities are so well displayed and pictured, that one is surprised to find that instead of a good story, he has been reading about the "Roses" or the "White Horse." Such procedure may be ethically acceptable from the standpoint of the general public. The public may select for itself. If magazines with extensive advertising matter and whose subtle suggestion is that of personal gain be desired, such may be

had, or those with higher purposes and free from subtlety may likewise be had.

But in the professional fields, the one aim should be the presentation of professional material of the highest type unhampered by traits of trade. Our ethical understanding has increased greatly. Look back over the years; consider the acts of men and compare those of yesterday with our understanding and even our acts of today. While a critical study of morality and of moral conditions might reveal much yet to be desired, still our understanding and our struggle upward would indicate some gain had been made. As time goes on and as this effort continues, understanding will be increased and man will more effectively guide his onward march, whether in dentistry or in any other field. The point attained is not always of the greatest importance. It is that one continues the struggle.

The present tendency in many fields is to give emphasis to the value of "man." His is the central position and he it is who should be the beneficiary. One has said,⁴ "The great originality of the 'Illiad' lies in this, that the events of which the story consists are represented as springing out of the character of the actors." Certainly, too, it must be, that in a profession, which is essentially altruistic in character, personal in relationships, and helpful to the other fellow, before consideration of gain to one's self, the "character of the actors" plays a most important part, and further, their character and continuance of the acting must be dependent upon the environment to no little degree. If that environment be directed even by innuendo, by the idea of gain, the whole professional outlook will be modified or altered accordingly.

It has long since been demonstrated that you do not get something for nothing. We must pay for what we get, then we can look to the getting.

All through the years there has been a dropping out of journals

⁴*Science in Antiquity*: Benjamin Farrington, Professor of Classics, University College of Swansea. Published by Thornton Butterworth, Ltd., London 1936, p. 35.

published by trade houses. This has been occasioned in large part by the changes in our material and also in material offered for sale by the trade houses. Through the research commission and the Federal Bureau of Standards, requirements have been established which manufacturers must meet, therefore emphasis on the technical aspect is not so great as formerly. Papers presented today are scientific in character with illustrations expensive to publish. Funds for their publication must be sought elsewhere. We must provide the funds.

Our ethical understanding and ethical relationships have been stepped up also, so that today we see scientific truths both in the ideal and in the real, or in the abstract and in the applied. This must be unhampered by any influence pointing toward personal gain. The only way to be free is to be free. You make your *choice* and take the *consequences*.

FUTURE DENTISTS

According to recent announcement of the Council on Dental Education,⁵ the largest enrollment of students in Dental Colleges in 20 years is expected. This is a contrast in thought as earlier expressed, when appeals were made to the Selective Service System "to provide for deferment of certain groups for professional and pre-professional training."⁶ The change in the possible number of students is due to the fact that many who were planning to study dentistry had their plans changed, but now with the termination of fighting, these men are released to follow out their original plans, and here they are, coming into dentistry.

This is another *choice* and *consequence*. The war changed an original *choice* to a *consequence* and now with the close of the war, a *consequence* reverts to an original *choice* which bears another *consequence*. We will ultimately have more dentists to meet the need.

⁵A.D.A. News Release.

⁶Bryan, A. W., D.D.S., Dean College of Dentistry, University of Iowa; *Iowa Dental Bulletin*, 32, 82; 1946 (June).

WHY MORE DENTISTS?

We need more dentists because there is more need for dentists. The people need more dentists, because somewhere along the line they are making wrong *choices* with the result of damaging *consequences*. We need more dentists to think in terms of children and to care for children, whose teeth are in many respects worse today than ever before. This is not just talk, it is fact. Men in the field of prosthetics, who see older people, complain of an increasing lack of vertical growth. Orthodontists complain of this same deficiency. Perhaps the answer lies in the following statistics:⁷

50% of our children have dental decay at age 2.

80% of our children have dental decay at age 3.

90% of our children have dental decay at age 4.

96% of our children have dental decay at age 5.

25% of our children are found to be dental cripples at age 5.

85% of our children need dental care three times a year.

Here is the *consequence*—what was the *choice*?

Two articles appear in this issue of the JOURNAL,⁸ one is a treatise concerning dental caries, its *cause* and *prevention* and the other concerning the use of porcelain in the restoration of tooth substance, either in part, an entire tooth, or several teeth—in other words it has to do with the cure of carious lesions. These two papers are published herein and commented upon, that readers might perchance be helped to see a little more clearly the task imposed upon dentistry. It is further designed that in the contrast of the two papers something of the object to be attained might be emphasized in the readers' minds.

What is dentistry? Somewhere within the scope of these two papers, even including the discussion on journalism, lies the answer and the object to be attained.

Briefly this may be suggested: dentistry or the practice of dentistry has for its object the welfare and comfort of the patient in that freedom from dental disease or restoration to dental health may

⁷Davenport, R. D., D.M.D.: *Dental Health*, 6, 7; 1946 (May).

⁸Gill, J. R., D.D.S.: See September issue of the JOURNAL as it became necessary to postpone publication. [Ed.]

be attained; and further, through this accomplishment, the dentist is sustained in his livelihood. By a combination of these it is easily ascertained that two people are benefited, made happy or provided with a satisfaction, which according to Hedonistic philosophy is man's ultimate object.

One of the characteristics of a profession is that it shall try to run itself out of business. Therefore, prevention of dental diseases is the paramount demand upon dentist. The only time for prevention is in the early stages of growth and development. This means in childhood and it is our children who need our attention. Here is the field of prevention, but also a field of restoration, in terms of the child. We need dental pediatricians—pedodontists. But we also need dentists for adults and for older people (geriatricians)—men to do technical work and all that is involved in dentistry.

Is this too abstract, too idealistic? Is it too far from the reality of a dentist and his patient, or of dentistry itself?

CARIES OF THE ENAMEL¹

*A brief Discussion of the Historical Background; the Fundamental Pathology of the Carious Lesion; and Factors Which May Exert an Influence on the Control of Dental Caries.*²

JAMES NUCKOLLS, D.D.S., and HARRY E. FRISBIE, D.D.S.³

San Francisco

I. THE HISTORICAL BACKGROUND

In order to evaluate more clearly the present status of the caries problem, it becomes necessary to review briefly the historical background. Time does not permit a mention of many of the theories which influenced the concepts of the past; however, it is possible to weave together certain trends of thought which have persisted down through the years and determine those that have had a definite influence on even the modern concepts of the histopathology of dental caries. It is these which will be reviewed.

It was Andreas Vesalius of Brussels,⁴ born in 1514, who first made the observation that "the teeth not only fulfill the previously mentioned uses but also aid in the modulation of the voice, as they are formed of a hard and stony substance, having minute but significant cavities within. These cavities are for the purpose of lightening the teeth and that they may receive nourishment more adequately. Because of them, whenever holes appear in the teeth from the influx of sharp and eroding humours which extend to the cavity, the teeth are very rapidly eaten right down to the tip of the root." He also pointed out "the teeth are believed to be distinguished from other bones not only by their sensibility and because they are naked, but

¹Presented before the Arizona State Dental Association, April 27, 1946.

²From the Division of Operative Dentistry, Section of Oral Histology and Pathology, University of California, College of Dentistry, San Francisco, California.

³Nuckolls, Jas., Professor of Operative Dentistry, and Harry E. Frisbie, Assistant Professor of Operative Dentistry, University of California, College of Dentistry.

⁴All references to Vesalius have been taken from "A Reading from the *De Humani Corporis Fabrica* of Andreas Vesalius," a translation by J. B. de C. M. Saunders and Charles Donald O'Malley and published in the *Journal of the American College of Dentists*, Vol. 11, No. 2, June, 1944.

also because they are always more richly nourished than the rest of the bones." Although Vesalius failed to recognize the primary and secondary dentition as such, his observations on the teeth which have a direct relation to the carious process were extraordinarily accurate; for it must be borne in mind that these deductions were made more than 400 years ago.

In 1771 John Hunter⁵ published "The Natural History of the Human Teeth" and this publication made all other known concepts obsolete. It is not known whether Hunter was influenced by Vesalius' observations on the teeth. In any event, Hunter, like Vesalius, was not a man to respect time-honored observations, nor did he have any use for baseless theorizing. He accepted no one's observations and conclusions.

The observations of Hunter led him to the conclusion that teeth were different from "other bones" of the body. He stated, "From these experiments it would appear that the teeth are to be considered as extraneous bodies with respect to their circulation to their substance," but he significantly added, "they must certainly have a living principle, by which means they make part of the body." We, therefore, are reminded for a second time, first by Vesalius and many years later by Hunter, of the difference between bones and teeth. Hunter also concluded that "teeth being singular in their structure, and some other circumstances, have diseases peculiar to themselves." Thus we find Hunter concluding that teeth are not like bones, and speculating further that in common with the rest of the body, the teeth have a living principle. He also observed that decay or caries had its beginning on the outer surfaces of the teeth and that the carious process was partial to special surfaces and areas. These surfaces, he asserted, were in locations which favored the collection of food

⁵All references to Hunter, Fox, Greenwood and Parmly and much of the content concerning them was taken directly from the excellent article entitled "Early Concepts of Dental Caries in America," by Louis Laszilo Schwartz and published in *Bulletin of the History of Medicine*, Vol. XVI, No. 3, October, 1944, which the reader is advised to consult on this period.

and debris, and as expressed by him, "the juices are pressed and there stagnate."

Hunter recognized that the inflammatory process was the outcome of the reaction of what he called "a living principle" to the disease process. Consequently he was unable to visualize caries except as a lesion in which the degradation of the tooth substance progressed from within outward. But he had observed that decay had its beginning on the outer surface of the tooth. Therefore, he was faced with a serious contradiction between observed facts and his theories of inflammation which he failed to resolve in satisfactory manner and so weakly attenuated a compromise which led to the statement that "We may, therefore, reasonably suppose that decay is a disease arising originally in the tooth itself." A compromise, it has often been said, is just the beginning of another argument, which in this case was to mislead and stultify progressive thought on the caries problem for many years.

John Fox, 1803, a practicing dentist, influenced by Hunter and a lecturer in Guy's Hospital, London, avoided the problem by denying that important part of Hunter's contributions which emphasized the difference between bones and teeth. He reached the remarkable conclusion that "the diseases to which the teeth are subjected are similar to those which affect the bones in general, and in like manner they have their origin in inflammation. The teeth differ only from bones in not possessing sufficient power to effect the process of exfoliation."

So we find that theory in dentistry has served both as an accelerator and as a brake upon its progress.

In the *new world* across the ocean there was developing a different kind of thinking with regard to dentistry. The early dentists in this country were individualists, unencumbered by theories and traditions of the Old World, and they had little use for theories which were not founded in fact and little respect for authority. With this setting in mind, we can better understand John Greenwood's observations found in his copy of "Hunter's Natural History of the

Human Teeth." He agreed with Hunter on many points, but on others he violently disagreed. "This Hunter writes about a theory he acknowledges he knows nothing about, which he certainly does not," and Greenwood goes on to say, "The disease as it is called by Dr. Hunter is not accounted for by him or any other person in the manner I shall explain it. You will find in Dr. Hunter's opinion that the teeth are destroyed by diseases within the teeth. I have found from upwards of twenty years of constant practice that Dr. Hunter's opinions and observations are entirely wrong. In the first place the teeth are destroyed and attacked first on the external part of the tooth which leads me to search out the cause why the teeth should be thus destroyed. It was several years before I could satisfy myself concerning it, with all my diligence and search, for I saw no good reason given by any authors that wrote on the destruction of the teeth, that is the teeth are destroyed owing to disorders within the teeth." As to the actual cause of caries, John Greenwood expressed a theory when he said, "I have fully ascertained through practice and incontrovertible facts that the decay or destruction of the teeth is occasioned by the acidity of the stomach." Thus we have established by an American dentist that decay of the teeth progresses from the surface toward the pulp and a chemical theory as to its mechanism. He further states, "Brush your gums frequently and your teeth also with a weak alkali which is common chalk or Spanish White, it will certainly preserve them."

Another American dentist who deserves to be mentioned in this regard is Levi Spear Parmly, who in 1818 published a small volume on dentistry which gave to American dentistry a theory of its own. He not only pointed out where Fox had gone astray on the question of dental caries, but he says, "What in all probability gives rise to a contrary opinion is that the aperture in the enamel, through which this disease finds its admission, is in many cases so exceedingly minute as to escape the detection by all but those who are aware of its true cause." Parmly also advanced and promulgated the idea that "by a chemical agency on those relics of food which accidentally

lodge between them, a deleterious change takes place, constituting an active poison which corrodes their structure." Again we have the "acid" erosion theory given as an etiological factor in the pathology of caries.

Thus we note that almost three hundred years have passed between the observations of Vesalius (1543) and those of the Americans, Greenwood and Parmly, who definitely established beyond all doubt the external origin of caries, and we observe the beginning of an explanation as to its mechanism.

The next most significant work on dental caries was that of W. D. Miller,⁶ an American dentist working in Koch's laboratory, who in 1889 proposed a theory based on some scientific evidence. This theory has persisted to our time. Miller concluded, by his studies, that bacterial fermentation of carbohydrates always resulted in an acid reaction and that the initial lesion of dental caries consisted of a decalcification of enamel and dentin. If we are to take into account the observations of those who preceded Miller, namely, Vesalius, Hunter, Greenwood, and Parmly, we must admit that the concept of the etiology of the carious process has changed very little through the centuries. At this point it might be well to pause for a moment and examine somewhat critically the concepts of enamel formation during this period.

J. Leon Williams⁷ in 1896 advanced the hypothesis that enamel was inorganic in nature; and since this was the nature of the structure, it could undergo the degradation only through a decalcifying process, and an acid must be evolved from some source. The acid, of course, was furnished through the fermentation of carbohydrates. Williams⁸ and Black,⁹ working independently, demon-

⁶Miller, W. D.: *Microorganisms of the Human Mouth*. Philadelphia, S. S. White Dent. Mfg. Co.; 1890.

⁷Williams, J. L.: On the Formation and Structure of Dental Enamel. *D. Cosmos*, 38, 101-127; 269-296; 435-478; 1896.

⁸Williams, J. L.: A Contribution to the Study of Pathology of Enamel. *D. Cosmos*, 39, 169-196; 269-301; 353-374; 1897.

⁹Black, G. V.: Proceedings of N. Y. Odontological Society. *D. Cosmos*, 39, 404, 403-410; 1897.

strated the formation of the plaque, thereby giving a mechanism for the accumulation of the acid. However, this manner of theorizing was somewhat disturbed, since Black and later investigators were never able to prove conclusively that dental caries was entirely an acid solution of the inorganic salts. The disturbing element was the presence of what was then thought to be remnants of organic material which appeared in their preparations. Then, too, there was the ever-present organic material in pits and deep fissures. It is to be remembered that this occurrence presented the troublesome problem of early caries which develops in many instances soon after the tooth erupts.

During the past thirty to forty years, there have evolved, as the result of the observations of Miller, Black and others, two schools of thought with regard to the pathology of the carious lesion. One school, under the leadership of R. W. Bunting¹⁰ (University of Michigan) who by his extensive studies conducted on children in orphanages concluded that all initial lesions of caries are the result of carbohydrate fermentation within plaques which adhere to protected surfaces of the teeth and which produce an acid of sufficient strength to decalcify enamel. This concept is essentially but an elaboration of the theory promulgated by Miller. So deeply imbedded is the idea that the enamel is nothing more than a purely inorganic complex that perforce, the thinking of the Bunting school is conditioned by it. Consequently we find these observers, limited by this idea, setting out unconsciously to prove the acid erosion theory as the only conceivable mechanism. The deeper and fundamental aspects of the caries problem and its complexities, therefore, do not present themselves or are ignored. We have but variations on the old theme, in which no doubt there is some truth, but certainly not the whole truth. Thus, these authors, by their mass clinical researches on varying diets, concluded that a high-carbohydrate intake, especially refined carbohydrate such as sugar and foods con-

¹⁰Bunting, R. W., and Hill, T. J.: *A Textbook of Oral Pathology*. Philadelphia, Lea & Febiger, 196-197; 1940.

taining a high content of sugar, was conducive to more carbohydrate fermentation, and with more carbohydrate fermentation there was sufficient concentration of acid produced to decalcify enamel. According to them, the *Lactobacillus* organism is capable of giving an index to the caries incidence in the mouth, and they evolved a method for culturing these organisms and determining this factor. The work of Bunting and his co-workers is well known to all who are concerned with dentistry and so will not be discussed in detail.

In the popular concept, the *Lactobacillus* organism eventually becomes the one responsible for the direct production of the carious lesion through the fermentation of carbohydrates and the formation of acid. The researches of this school underwent no further advancement, so their contributions to an increasingly puzzling picture ends here.

One must concede, however, that this concept of caries has largely dominated the caries picture up to the present time. It is a simple theory requiring little or no understanding of the true structure of enamel and no knowledge of the complexities of the developmental processes concerned with enamel formation. Although the theory is easy to understand, it does not answer all of the perplexing questions which come under the investigator's eye; and one of the most perplexing of all has been the failure of the laboratory worker to produce caries by decalcifying methods which bear a resemblance to caries in the mouth. An example of this approach was the work of Dietz,¹¹ who exercised an unusual amount of ingenuity in devising methods for producing caries. He found that he could only produce an eroded area of a certain depth at which time further progress of the lesion stopped. The investigations of Gore¹² showed that any acid produced would eventually undergo a neutralization through the action of the basic salts. But all of these disquieting

¹¹Dietz, V. H.: In Vitro Production of Plaques and Caries. *J. D. Res*, 22, 423-439; 1943.

¹²Gore, J. T.: Individual Susceptibility of Dental Caries. *J.A.D.A.*, 30, 1008-1029; 1943.

observations did not affect the *Lactobacillus* theorists with their slogan, "An unsweetened tooth doesn't decay."

There was, however, a second school of thought, of which Bodecker deserves to be called the leader in this country. They considered the lesion of caries to be a two-phase process, one of which was a degradation of the organic content of the enamel and the other a decalcification of the inorganic structure. While Bodecker and his co-workers represented to the scientific mind a much more profound approach to the caries problem, they were unable to recover and demonstrate the presence of a complete organic matrix as a part of the enamel structure. Their inability to demonstrate more than scattered remnants of the organic material is due to the difficulties encountered in recovering this in any quantity which will permit an examination under the microscope. The effect of strong acids used for decalcification produces almost simultaneously a complete solution of both the organic and inorganic parts.

As a result of this failure to demonstrate the presence of a complete matrix in the tooth, Bodecker¹³ and others were unable to advance their theory, although they observed far more of the fundamental carious process than did the earlier acid-erosion or the later *Lactobacillus* groups.

Another investigator deserving of consideration is Gottlieb¹⁴ of Baylor University, who as early as 1942 emphasized the role of proteolysis as being of primary importance in degradation of enamel.

THE FUNDAMENTAL PATHOLOGY OF CARIES OF THE ENAMEL

In a report published in 1942, and another in 1943, Saunders, Nuckolls and Frisbie,^{15, 16} employing new histochemical methods,

¹³Bodecker, C. F., and Bodecker, H. W. C.: Bacterial Destruction of the Enamel. *J. D. Res.*, 9, 37-53; 1929.

¹⁴Gottlieb, B., and Hinds, E.: Some New Aspects in Pathology of Dental Caries. *J. D. Res.*, 21, 317; 1942.

¹⁵Saunders, J. B. de C. M., Nuckolls, J., and Frisbie, H. E.: Amelogenesis. *J. Am. Col. Den.*, 9, 107-136; 1942.

¹⁶Nuckolls, J., Saunders, J. B. de C. M., and Frisbie, H. E.: Amelogenesis. *J. Am. Col. Den.*, 10, 241-268; 1943.

were able to analyze in a more precise way, the processes which obtain in the development of the enamel. By their investigations they were able to demonstrate that enamel is formed first by the development of a protein matrix through the activity of the ameloblastic cell and that this fundamental matrix becomes impregnated with its characteristic inorganic calcium salts by a secondary extracellular source. *It was clearly shown that each enamel-forming cell was responsible for the formation of a single organic rod and inter-rod matrix. In the completed crown each rod extends from the dentino-enamel junction to the external surface of the enamel.* This concept was in almost complete contradiction to all existing theories, since heretofore the enamel was considered to be secreted or belched out by the cell in complete units of protein-bound calcium. This admixture was called calcoglobulin.

The organic constituent was thought to be removed in some mysterious way by an unknown mechanism, thereby leaving an almost completely inorganic structure. Saunders et al. were able to show that this protein matrix remained within the enamel up to the time the tooth erupts, and therefore it was only reasonable to assume that it might be recovered from the adult structure if the proper procedures were employed.

In another publication, Frisbie, Nuckolls and Saunders¹⁷ reported the presence of an organic matrix in the human tooth and described a method for its recovery. The recovery of the matrix is dependent on several factors, one of which is the ability to change the character of the organic structure so that it is less soluble than the inorganic salts when the enamel is exposed to a decalcifying agent. The chief problem in the recovery of the matrix was to find a chemical agent which would progressively penetrate the full thickness of the enamel without precipitating the surface protein and thus prevent its ingress. Such an agent was found in 10 per cent neutral formol which permitted a denaturation of the protein, bringing about a change in

¹⁷Frisbie, H. E., Nuckolls, J., and Saunders, J. B. de C. M.: *J. Am. Col. Den.*, 11, 243-279; 1944.

its structure so that it was less soluble in acids and at the same time allowed for a continuous penetration. This process is called fixation, and it requires as long a period as six months to properly denaturize the protein before it can be recovered from the tooth in any quantity.

The demonstration of a continuous organic structure in the enamel of the adult tooth has greatly modified all existing theories on the carious process and challenges the age-old, acid-erosion hypothesis of Miller and Williams which considers the lesion as being the result of the interaction of purely acid and inorganic elements. It will be remembered that they considered the enamel to be entirely inorganic in nature. It was also demonstrated by Frisbie et al. (1944) that the organic matrix could be recovered from man and other animals and from any age group if the proper procedures were employed. The structure and morphological arrangement is essentially the same in the mature and developing structures.

These findings not only confirmed the incomplete observations of Bodecker and others as to the amount and distribution of the organic content, but in addition, advanced a valuable hypothesis which could be utilized in a more precise study of the processes concerned with the initiation of the carious lesion as well as its extension into the deeper structures. A report of the carious lesion and its effect on the matrix was included in the report of 1944.

After calcium has been removed from the matrix, the latter is imbedded in nitrocellulose and then cut in thin sections on a microtome. These sections, cut to the order of 3 or 4 micra, are stained by various methods to reveal the structure, the organisms present, and to show their effect on the organic content of the enamel. The ability to cut these sections to the thinness of three-thousandths of a millimeter permits of a study of the individual rods and their reaction to invasion by microorganisms, with a precision heretofore unknown to dental science.

With careful handling, it is possible to retain the bacterial plaque in situ overlying the area of superficial carious enamel. The arrangement of the various organisms in the plaque is apparently relatively

constant. The threadlike forms appear to predominate in the more superficial areas and together with myriads of other organisms weave a complex pattern. The arrangement of the types, however, shows the spheroid gram-positive organisms predominating in immediate juxtaposition to the deeper zone of active enamel erosion.

The initiation of the microscopic surface lesion is associated with the presence of a bacterial plaque and the breakdown of the enamel surface. As a result the ends of the enamel rods and inter-rod matrix are uncovered and are invaded by the spheroidal organisms. Once the surface is destroyed, the progress of the process is associated with a progressive loss of structural detail in the organic matrix immediately underlying the surface plaque. With the advancement of the lesion, the matrix at the periphery becomes almost homogeneous, and the affected area eventually undergoes dissolution.

The spheroidal organisms, by this time, have penetrated the periphery of the active lesion and are found advancing deep into the tooth structure well beyond the area of surface breakdown and are found occupying the core in the interior of individual rods, or lying within the inter-rod matrix. The heterogeneous admixture of morphological types seen on the surface plaque are no longer found, and without exception, in these deeper areas of penetration, the organisms are uniformly spheroidal in shape and gram-positive in reaction. This process may extend along definite rods or follow irregular pathways through the full thickness of enamel, and in some fields leads to the establishment of a focus on the enamel side of the amelo-dentinal junction. From studies on the development of the teeth, it was demonstrated that the amelo-dentinal junction is a highly calcified homogenous region¹⁸ and forms a temporary barrier to the invading organism. After the degenerative changes have reached the dentino-enamel junction and established a focus of the carious process, they extend laterally along this junction on the enamel side, opening up the dentinal extremities of the enamel

¹⁸Saunders, Nuckolls and Frisbie: Amelogenesis. *J. Am. Col. Den.*, 9, 107; 1942, (June). *Ibid*, 10, 241; 1943 (Dec.).

rods and inter-rod intervals. Lateral spread of the focus seems at first to be confined to the enamel matrix; and only when a considerable amount of disintegration has taken place, does the dentin become involved. Under the higher powers of the microscope and with the use of bacteriological stains, these early tracts are found to contain exclusively gram-positive organisms, spheroidal in shape. The extent of the lesion may as yet be microscopic and should not be confused with the later stages of cavitation and the establishment of a visible break in the enamel.

By histopathological procedures, Frisbie, Nuckolls and Saunders have been able to demonstrate that caries of the enamel is more than a simple acid erosion effecting a removal of inorganic salts. The underlying organic matrix is fundamentally related to the pathological process. *A working hypothesis is offered that with the establishment of the lesion, caries is primarily a degradation of the organic matrix resulting from the enzymatic action of microorganisms which is followed by a subsequent physical disintegration of the inorganic salts. This disintegration is in part accounted for by the loss of the supporting matrix.* They are well aware that the problem of caries as it now stands is far from being solved. However, laboratory data demonstrates for the first time the mechanism involved in the pathology of caries of the enamel and places this problem on a sound experimental basis.

THE PRESENT STATUS OF THE CARIES PROBLEM

Opinions, in general, with regard to caries of the teeth are varied and for the most part contradictory. This state of confusion is understandable and can be attributed, in a large measure, to the lack of concern on the part of investigators with respect to the fundamentals of the problem. It has been pointed out in an earlier part of this paper that many of the present-day researchers still consider the enamel to be exclusively inorganic in nature, and, therefore, caries can only be a solution of its salts. This trend of thought is, of course, conditioned by earlier workers who, because of the gross histological methods then employed, were not aware of the true nature of the

enamel structure, and therefore could not envision the pathological lesion. The theory of acid erosion as the cause of caries has held forth in one form or another for more than 400 years. Only recently have researchers begun to look upon the disease of caries as being intimately related to the nature and extent of the organic elements comprising its matrix. There is also a definite trend in the scientific literature to point out and emphasize the totally different picture of acid erosion and that of the carious lesion as it is seen in the mouth. In a late publication by McClure and Ruzicka¹⁹ on the Destructive Effect of Citrate vs. Lactate Ions in Rat's Molar Tooth Surfaces in Vivo, they state: "The suggestion is made that in considering the etiology of dental caries, less emphasis be placed on acid decalcification, and that the possibilities of non-acid decalcification brought about by bacterial metabolites be given more attention in dental caries research." It is to be emphasized that these investigators were producing acid erosion in experimental animals through the use of citric acid in various concentrations. According to them, they were unable to produce the typical carious lesion in their experimental procedures; the clinical picture being that the entire tooth substance was progressively lost.

From oral reports and from the literature it seems permissible to make the statement that the evidence as it stands today clearly indicates that caries of the enamel is more than a simple decalcification and that little has been added in support of the acid theory since the investigations of Miller in 1889.

Keyes²⁰ of Rochester University recently presented a report in which he demonstrated for the first time the histopathological lesion of caries in experimental animals. Syrian hamsters were placed on a diet containing, among other ingredients, whole powdered milk and powdered alfalfa; and after ten days on this diet, carious lesions

¹⁹McClure, F. J., and Ruzicka, S. J.: Destructive Effect of Citrate vs. Lactate Ions on Rat's Molar Tooth Surfaces. In Vivo. *J. D. Res.*, 25, 1-12; 1946.

²⁰Keyes, P. H.: Character of Carious Lesions in Molar Teeth of Syrian Hamsters. Presented at the 24th General Meeting of I. A. D. R., Kansas City, Mo., March 16-17, 1946.

appeared especially in coronal and subgingival areas which favored plaque formation. His observations were also microscopic and confirmed the researches of Frisbie et al. on the human in that he was able to demonstrate the carious lesion beneath unbroken enamel surfaces and that the organisms found penetrating the enamel surface were without exception gram-positive in type and spheroidal in form. The importance of this work is far reaching since it provides for the first time a laboratory tool of inestimable value in approaching the problem of caries from a scientific, experimental basis.

FACTORS WHICH MAY INFLUENCE CARIES CONTROL

Fluorine and Dental Caries. It is generally conceded that fluoride ingested during the formative period as well as after the tooth erupts, in some way exhibits an inhibitory action on the development of the carious lesion. The mode of action of the fluoride ion in lowering the incidence of caries is not understood. There are, however, two well-established facts concerning the action of fluoride that must have a bearing on any mechanism of action that is proposed: (1) fluoride is readily and rapidly incorporated into the hydroxy-apatite structure of the enamel and dentin; (2) fluoride is an effective inhibitor of several enzyme reactions, especially those concerned with carbohydrate metabolism of the bacterial cell. At present there is no single explanation for the observed effects but possibly fluoride replaces hydroxy groups of the enamel structure. In any event the result of fluoride incorporation results in an enamel of greater hardness and lesser solubility to acids. It is possible that both effects of fluoride play a role in reducing the caries incidence; also a complete understanding of the phenomenon with regard to the development of the tooth and progress of the carious lesion may aid in an explanation of those cases where fluoride has not been shown to have a beneficial effect. One may visualize the constant use of fluorides as establishing concentrations of the element in the fluids of the mouth that will effectively inhibit the enzyme action and indirectly the growth of organisms responsible for the carious process. The same concentrations ingested while the enamel is

undergrowing calcification will be sufficient to yield an enamel of greater hardness and lesser solubility.

In the case of enamel in which fluoride is incorporated, the result would be a mineral substance that is less yielding and more stable in the physical sense. An inhibition of the organisms responsible for caries could only be made effective if fluoride were made available through a dissolution of the mineral elements, in this way releasing the fluoride ion. This mechanism could be made possible only by the action of acids on the inorganic content of the enamel. Thus it is conceivable that in contrast to enamel formed of the hydroxyl-apatite, the enamel composed of the fluoro-apatite may keep its form in an area where the organic matrix has been removed through the carious process. We may, therefore, have caries and at the same time have a hard unbroken enamel surface. Conversely, it would seem if there is to be an inhibition of caries through the action of fluoride as an enzyme inhibitor on the bacteria responsible for caries, an effective concentration of the fluoride ion must be maintained in the oral fluids. There is some evidence as to the validity of this theory. Miller (1938),²¹ Dale et al. (1944),²² and Restarski et al. (1945),²³ reported that amounts of fluoride incorporated in the drinking water and food of experimental animals produced an inhibition of the carious lesion. An analysis of the work in this field seems to indicate that the inhibition of enzyme activity by fluorides in reducing caries incidence is the more acceptable of the two theories.

Clinical studies on the control of caries by topical application of fluoride are as yet inconclusive. Following a topical application of fluoride to enamel surfaces, there is undoubtedly adsorption of small amounts of this substance. As to whether the method of therapy produces any beneficial influence awaits further clarification.

²¹Miller, B. F.: Inhibition of Experimental Dental Caries in the Rat by Fluoride and Iodoacetic Acid. *Proc. Soc. Exper. Biol. and Med.*, 39, 389-393; 1938.

²²Dale, P. P., Lazansky, J. P., and Keyes, P. H.: Production and Inhibition of Dental Caries in Syrian Hamsters. *J. D. Res.*, 23, 445-451; 1944.

²³Restarski, J. S., Gortner, R. A., Jr., and McCay, C. M.: Effect of Acid Beverages Containing Fluorides Upon the Teeth of Rats and Puppies. *J.A.D.A.*, 32, 668-675; 1945.

In summarizing, we may expect to see a leveling off of "fluorine enthusiasm" as sound experimental evidence accumulates. Eventually it may be accepted as a factor or an aid in the control of caries, but most certainly not as a cure-all.

Recently attention has been given to the hypothesis that vitamin K, maintained in the oral cavity in sufficient concentrations, will serve as an enzyme inhibitor on bacteria necessary for the formation of acid. The authors²⁴ propose to maintain a sufficient concentration in the mouth through the medium of chewing gum charged with the synthetic form of the vitamin. They assume as a basis for their experiment that acid erosion is caries and apparently accept this hypothesis without reservation.

A critical analysis of this work indicates that the evidence submitted in support of their contention is so meager and indefinite that it should be accepted with reservations, and be regarded only as an exploratory experiment. However, further investigations may demonstrate that this particular therapy has some value in caries prevention.

In conclusion, it should be borne in mind that up to date no single bit of evidence or critical analysis of the experimental work on caries points to the early solution of the problem. There are certain factors, such as the administration of fluorides, the reduction of dietary factors which induce the formation of plaques, adequate mouth hygiene, and many other considerations too numerous to mention which contribute to caries control. However, when caries control is exercised, they are but extraneous factors superimposed on an already fixed pattern—that of the fully developed tooth. The early pathology of the disease seems to be intimately related to the nature and extent of the organic elements comprising the matrix of the tooth. Developmental defects such as lamella and a lesser order of calcification of the enamel matrix during the formative

²⁴Burrill, D. Y., Calandra, J. C., Tilden, E. B., and Fosdick, L. S.: The Effect of 2-Methyl-1, 4-Naphthoquinone on the Incidence of Dental Caries. *J. D. Res.*, 24, 273-282; 1945.

period are of fundamental concern in the initiation of the pathological lesion. It is to be pointed out that the microorganisms associated with the lesion are to be found far in advance of a macroscopic breakdown (cavitation) of the hard enamel surface.

We are taking the liberty of quoting an old axiom given to us by Dr. Nina Simmonds,²⁵ "Man, so we have been told since the time of Plato, needs not so much to be informed as to be reminded."

We should like to express our thanks and indebtedness to Dr. John Eiler for his help in the chemistry of the problem, to Dr. Nina Simmonds and Dr. J. B. de C. M. Saunders for their review of the material, and to Mrs. H. Whitaker for secretarial assistance.

²⁵Nina Simmonds, Assistant Clinical Professor of Nutrition, College of Dentistry and Assistant Clinical Professor of Medicine, University of California. Personal communication.

AMERICAN COLLEGE OF DENTISTS

PROCEEDINGS OF THE MEETING OF THE BOARD OF REGENTS,
CHICAGO, ILL., FEBRUARY 10, 11, 1946
REPORTS OF COMMITTEES

(Continued)

II. HISTORY

WM. N. HODGKIN, D.D.S., *Chairman*¹

The Anniversary Number of the *Journal* will give some tangible idea of the work of the History Committee over the immediate past, since to be featured are the photographs and biographical sketches of the Founders, and the relation of the story of formation and early development of the College by those who played important roles in the events. Such is from the kind of material which the committee has sought to accumulate and on which it has pretty well concentrated recently.

The only further activity of the committee over the past year has been to support the efforts of Dr. W. Harry Archer toward the nomination of Horace Wells to the New York Hall of Fame. The distribution of the small book "The Life and Letters of Horace Wells" to the Electors of the Hall of Fame was endorsed by the Regents by unanimous committee vote.

III. CERTIFICATION OF SPECIALISTS

EARL W. SWINEHART, D.D.S., *Chairman*²

No concerted work has been done by the Committee during the past year. The majority of the members have continued to believe this advisable while the war was in progress. This has been mainly for two reasons. First, several members have been so actively employed in addition to their heavy civilian duties that they have not had time to concentrate upon the committee work. Second, the Committee believes that it should make an up-to-the-minute report upon requirements for specialization, dental school facilities for special study, medical methods of control and experience with control by legal statute while the profession shall be in process of its post-war adjustment.

Now that the war is over and most of the men in the Service will probably return to civil practice within the coming year, the Committee has already begun plans for a complete study and report.

¹The other members of the committee are (1944-45): E. E. Haverstick, A. W. Lufkin, Fred E. Maxfield and J. Ben Robinson. This same committee was continued for 1945-6.

²The other members of this committee are (1944-45): M. E. Ernst, W. E. Flesher, H. E. Kelsey,* D. F. Lynch and J. O. McCall.

*Deceased.

IV. JOURNALISM

The Committee on Journalism has been inactive this year,¹ in fact the Chairman has not suggested an outline for consideration, believing there is still much in the 1944 report for the profession to consider.

At the meeting of the Regents in February, 1945, authority was granted and methods made available for obtaining reprints of the 1944 Report for distribution. Some sixty thousand were secured and mailed from the office of the secretary to the members of the American Dental Association.

That some of the profession recognized the value of "The Status of Dental Journalism in the United States"—the 1932 report of the then newly created Commission on Journalism—and accepted its findings as an incentive to create a periodical literature *for* the profession and *by* the profession, may be seen in current publications.

But one of the greatest handicaps obstructing progress has been the apparent lack of interest of those controlling methods whereby the rank and file of the profession can be made to realize the value of professional periodicals.

When the report of the 1944 Committee on Journalism was received by the members of the American Dental Association it was the first time they had personally been informed of some of the commercial procedures made use of by the publishers of so-called professional journals.

It is evident the information presented was appreciated by many, for the numerous comments received by mail from all parts of the country was much larger than anticipated. Over two thirds of those writing endorsed the principle of professionally owned and controlled journals.

Publication and distribution of the report placed those responsible for the publications mentioned therein upon the defensive. The editor of *Oral Hygiene*² endeavored to cloud the issue with an editorial in *Dental Digest*. An editorial in the July issue of *North-West Dentistry*³ effectually nullified the effort.

From reports, much concern was evidenced among the Fauchard Academy officials and plans were made for an early meeting. Dental Survey is causing

¹There was no meeting in October, 1945; but this report was filed and referred to only at the February, 1946, meeting.

²*Dental Digest*, 51, 144; 1945 (March).

³*Northwest Dentistry*, 24, 145; 1945 (July).

them the greatest worry. Demand is made by some that advertising conform to Council on Dental Therapeutics standards. Present policy appears to be watchful waiting. The following is found on page 1248 of the July issue:

"For the last three years, American dentists in the armed forces at home and abroad have been receiving the Journal of the Pierre Fauchard Academy, a publication containing selected material from Dental Survey, with most of the non-technical articles, editorials and news items omitted and all advertising excluded.

"With this issue, Dental Survey, to avoid confusion between the publications, ceases to carry on its cover the title 'The Journal of the Pierre Fauchard Academy,' confining the statements of that designation to its editorial page."

A communication was sent by the editor of the Journal of Orthodontics and Oral Surgery—whose salary as stipulated in an agreement between the owners of the Journal and the Orthodontic Association was to be privately agreed upon and paid by the Mosby Company—to the Officers of the Orthodontic Sections objecting to placing the Journal under the same classification as that of Oral Hygiene and Dental Survey. The editor knows the classification will be changed when and if the Journal is placed under the Association's control.

When we review past conditions and study present and future needs there are reasons to believe that dental Journalism is in a transition period. For years commercial interests owned and dominated both the published literature and the advertising in dental periodicals. When these publications became professionally controlled many of them still remained under the dominance of commercial advertisers, while editorials condemning questionable advertising were seldom published.

In the August issue of the Journal of the American Dental Association⁴ there is an editorial entitled, "The Other Half of the Picture," which accepts a challenge and serves notice to commercial advertisers that professional standards will be upheld.

The September⁵ issue of the Journal carries an Editorial, "The Case Against 'Taxi'," in which dental journalism is criticized for not endeavoring to protect the public against misleading advertising.

Such editorials point toward a new era of editorial guidance for the profession and with the Journal, the office of the Business Manager and the Bureau of Public Relations of the American Dental Association cooperating with the Council on Dental Therapeutics, there is reason to be optimistic over the professional value of dental journalism.

Subsequent to the filing of this statement the following, "Here are the

⁴J.A.D.A., 32, 1031; 1945 (Aug.).

⁵Ibid., 32, 1152; 1945 (Sept.).

Facts," came into the hands of the chairman of the committee and was presented to the Regents at the meeting Feb. 10 and 11, 1946, Chicago, Ill. [J. C. B.]

HERE ARE THE FACTS

J. CANNON BLACK, D.D.S., *Chairman*⁶

In the August 1945 issue of the *American Journal of Orthodontics and Oral Surgery* exception was taken editorially to the statements made in the last published report of the Committee on Journalism of the American College of Dentists which called attention to the lack of complete control over the periodical by the American Association of Orthodontists.

Sometime after the August issue was distributed a request was received by the Secretary of the College from the Editor-in-Chief of the Orthodontic Section of the *American Journal of Orthodontics and Oral Surgery* that the names of the Fellows of the College be furnished their Association for the purpose of mailing reprinted material to them. In complying with their request the Committee on Journalism welcomed the privilege of assisting in making available to the Fellows of the College reprints from the periodical entitled "Journalistic Sabotage," "An Open Letter to the Board of Directors of the American Association of Orthodontists and to the Officers of Its Component Societies" and "Mamma Lay That Pistol Down."

These communications were interesting in that the authors left much unsaid in their endeavor to justify the present agreement between the American Association of Orthodontists and the C. V. Mosby Company which became effective May 1, 1940. That there may be an authentic presentation of all facts without prejudice let us look at a copy⁷ of the agreement between the C. V. Mosby Company and the American Association of Orthodontists which was

⁶The other members of this committee are (1944-45): W. B. Dunning, Walter Hyde, E. G. Meisel and A. E. Seyler. This same committee is continued for 1945-46.

⁷Italics throughout, not in the original.

mailed to the Chairman of the Committee on Journalism of the College on October 29, 1940, by Max E. Ernst, Secretary of the American Association of Orthodontists:

“AGREEMENT

Between

The C. V. Mosby Company

and

The American Association of Orthodontists

“The following agreement, voluntarily concluded between the two organizations mentioned above, shall be considered effective as of May 1, 1940, when signed by representatives of both organizations. It shall continue in effect until one or the other party mentioned above shall ask for the termination of said agreement, in which case either party wishing to terminate said agreement shall give the other party one year's notice in advance.

“THE EDITORIAL BOARD. The majority of the Editorial Board of the American Journal of Orthodontics shall be selected from and by the seven sectional societies of the American Association of Orthodontists, one such editor representing each such sectional society, viz.:

The New York Society of Orthodontists

The Southern Society of Orthodontists

The Southwestern Society of Orthodontists

The Pacific Coast Society of Orthodontists

The Rocky Mountain Society of Orthodontists

The Great Lakes Society of Orthodontists

The Central Society of Orthodontists

“Furthermore, such an Editorial Board shall be selected, in so far as possible, from the past-Presidents of the American Association of Orthodontists, which stipulation now exists with the present Board. In the event of vacancies occurring upon this Board, new members (exclusive of foreign members) will be selected by the sectional societies where the vacancies occur, and shall be approved by the C. V. Mosby Publishing Company, the rule pertaining to past-Presidents applying if possible. *Such selections shall then be submitted to the Board of Directors of the American Association of Orthodontists for approval. The Editorial Board shall be responsible for the policy and conduct of the orthodontic section of the Journal, shall censor matters of advertising pertaining to orthodontics, and shall have the right to recommend for appointment such other associate editors necessary for the efficient conduct of the Journal, such as to take charge of special departments of publication, or for suitable foreign representation.*

"THE EDITOR-IN-CHIEF. It shall be the duty of the Editor to receive literature from all sources, pass on its quality, fitness and arrangement for publication. He shall supervise special departments, write editorials or designate the preparation of editorial material to members of the Editorial Board, and otherwise fulfill the obligation and responsibilities usual to this office. In the case of a vacancy of the Editor-in-Chief, *the new editor shall be selected jointly by the Editorial Board and the Publishers* from among the members of the American Association of Orthodontists.

"ASSOCIATE EDITORS. It shall be the duty of the Associate Editors to keep in touch at all times with the Editor-in-Chief. They shall report the meetings of their various societies to him, and be prepared to report all matters of orthodontic interest which may occur in their sections, and procure all information which may be requested by the Editor-in-Chief. If an Associate Editor heads up some special department of publication, it shall be his chief duty to pay special attention to the work to which he has been delegated.

"FINANCIAL AGREEMENT. In consideration of the exclusive publication in the American Journal of Orthodontics and Oral Surgery of the manuscripts, clinics, case reports, etc., of the American Association of Orthodontists, and all of the seven component sectional societies, it is further agreed between the contracting parties that:

"The Publisher agrees to furnish an en bloc subscription for the Journal to the members of the American Association of Orthodontists at a subscription rate of Five Dollars (\$5.00) per member per year. Said en bloc subscription shall be paid from the Treasury of the American Association of Orthodontists to the C. V. Mosby Company on or before March 15th of each calendar year. In the event any member of the American Association of Orthodontists desires a bound volume of the proceedings of the aforesaid organization such may be obtained from the C. V. Mosby Company at cost, provided two hundred (200) or more orders are received for this bound volume after due notification on the part of the Publishers. It is further agreed that the costs of illustrations for any one manuscript will not exceed Fifty-Dollars (\$50.00) *and the matter of salary of the Editor is to be negotiated personally between the Publishers and the Editor.*"

Signed: J. C. MOSBY, V. P.,
C. V. Mosby Company

Signed: W. A. MURRAY, President,
The American Association of
Orthodontists.

Signed: BROOKS BELL, Chairman,
PUBLICATIONS COMMITTEE,
The American Association of
Orthodontists.

There is no need of entering into a lengthy analysis of the agreement. When the Association must secure the approval of the Mosby Company before the names of members nominated by their sectional societies can be presented to the Board of Directors for election to the Editorial Board, and the Editor-in-Chief must be selected jointly by the Editorial Board and the Publishers under a provision by which the Editor becomes the salaried employee of the C. V. Mosby Company, there can be no question as to who controls the publication.

The fact that the Mosby Company-approved-Editorial Board is made responsible for the policy and conduct of the Orthodontic Section of the Journal is evidence that what authority the Association may think it has is restricted to a certain portion of the periodical. At no place in the agreement with the Mosby Company is the Board given the right to say what shall be published in the other section of the Journal.

To secure the exclusive publication rights of the proceedings of the American Association of Orthodontists "the publisher agrees to furnish an en bloc subscription for the Journal to the members of the American Association of Orthodontists at a subscription rate of five dollars (\$5.00) per member per year." This agreement went into effect May 1, 1940. However, in the December 15, 1943, issue of *Standard Rate and Data Service* there is a sworn statement by the C. V. Mosby Company announcing the subscription price of the *American Journal of Orthodontics and Oral Surgery* as \$8.50 per year and the circulation "Total net paid (6 months' average) 6191 (Includes 716 non-deductible assn subscriptions)." Such a sworn statement by the C. V. Mosby Company would indicate the Association was paying the Company \$6,086 per year for 716 subscriptions to the Journal as mentioned in the last published report of the Committee on Journalism.

Since the above was written there has been received from a member of the American Association of Orthodontists a statement from the Secretary-Treasurer of the Association that the amount paid the

Mosby Company for Journal subscriptions for the year 1943 was \$3,590. The discrepancy between the Mosby Company's published statement in *Standard Rate and Data Service* and their agreement with the Association has not as yet been explained.

The facts which have been presented are not new to those who have criticized the statements in the last published report of the Committee on Journalism as to the present professional status of the *American Journal of Orthodontics and Oral Surgery*, and who are not disposed to recognize the right of members of a profession to take exception to any act or policy which in their opinion is detrimental to, or does not uphold, ethical professional standards.

It is hard to believe that one of the older specialty organizations, with its high professional requirements for membership, would permit a commercial company to have a voice in part of its proceedings and would accept and publicize the company owned and controlled journal as its official organ of publication. Included in each issue of this periodical, and made a part of it, is a Mosby-Company-created-Oral Surgery Section which is not affiliated with, or controlled by, any professional dental organization, and whose editors are also answerable to the company.

Censorship of advertising in the Journal, excluding that which pertains to orthodontics, is left in the hands of the publishing company. As a consequence products unacceptable to the Council on Dental Therapeutics of the American Dental Association are constantly being advertised in the periodical. With the American Association of Orthodontists supplying the material and prestige with which to create a journal it is indeed regrettable that they should assume such an indifferent, unprofessional attitude toward the work being accomplished by the Council under the supervision of the American Dental Association.

It should make no difference as to who are the publishers of the orthodontic material provided they act only as a publishing house and have no rights or control over the policy or conduct of the

Journal. This should be entirely in the hands of the specialty of orthodontics in America.

A professional journal is not private property to be operated for profit like any other business—its value is not measured by its size or circulation but by its service to the public through the profession.

DENTAL JOURNALISM

The following articles have been prepared by the authors, upon solicitation of the editor of the JOURNAL, with the thought in mind that in this way we might crystallize our thinking of the past several years, thus stating succinctly what the condition was in the past, what it is in the present, and what we may hope for the future. Ownership of journals has changed decidedly during the last quarter century, so that at present, with but few exceptions, professional influence is the dominating influence. In this series it is planned also that another activity may be clearly seen—the Indexing of our Literature. It is hoped that this will present to our readers a clear picture of what may be in store for dentists today and tomorrow. (Ed.)

WHY DO WE HAVE DENTAL JOURNALS?

WILLARD C. FLEMING, D.D.S.¹

San Francisco

Why is it that questions beginning with “What” are relatively easy to answer, whereas questions beginning with “Why” are generally difficult to answer? It must be that “what” questions are usually answered objectively, while the answers to “why” questions introduce the problem of values. Values, involving matters of opinion, are relative and ever-changing, never static. For example, “What is the *Journal of the American Dental Association*, the *Journal of Dental Education*, or the *Journal of the American College of Dentists*, or the journal of any professional organization?” The answers are comparatively easy and generally acceptable. They are periodical publications, each with a certain describable format, containing certain specified types of articles, et cetera. However, when the questions are asked “Why is the journal of any professional organization,” or “Why do we have dental journals?”—these questions are not as easily answered.

Dental journalism is an important part of our dental profession; it constitutes a living, dynamic part of our literature. In fact, dental literature holds equal rank with our dental organizations and formal educational programs. Do away with our literature and we are no

¹Dean, College of Dentistry, University of California.

longer a profession. That is one reason *why* we have, and must continue to have, dental journals.

Our journals speak *for* the profession as well as *to* the profession. It is through our journals that we see reflected the activities of dentistry. The journals of thirty or forty years ago were filled with techniques of treatment, discussions of focal infection and so forth. Today we see the reports of the Council on Dental Health, articles on dental health education, dentistry in the field of public health, the application of the basic sciences to our dental diseases, and so on. No better mirror is needed than our journals to reflect what the profession is doing and thinking. This is another reason *why* we have dental journals.

The greatest value our journals have (remember we are discussing values) is when they speak *to* the profession. Then the journal is a means of education, bringing the thoughts and experiences of men and groups of men to the profession at large. The lone investigator, the Council on Dental Therapeutics, or an editor, makes use of the journal just as a teacher makes use of the lecture, the blackboard, or the motion picture. All of these are aids in education. Each has its place, and each its limitations. Journalism is a medium of education, and now we have a third answer as to *why* we have journals.

Journals in themselves are neither good nor bad any more than blackboards are good or bad. They are simply means by which the profession expresses itself and mirrors its growth and current interests. The educational features of our journals are largely shaped by the editors and editorial boards. This educational activity is effective or ineffective according to the use of this medium of education by these men. The editor who skillfully uses the journal for the instruction and exposition of his readers is the counterpart of the teacher who skillfully uses the blackboard or any other appropriate educational device. Both are using their own thoughts and the ideas of others to present a clear picture of the subject in hand.

The qualities and abilities of the good editor and the good teacher are much the same. They are intelligent, have leadership, courage,

and a willingness to work. They are subject to the same frailties, such as lapses of memory, hobby riding, and occasional "tilting at windmills."

When we consider the magnitude of this twofold objective of dental journalism, on one hand recording the activities and advancement of the profession, and on the other assuming the responsibilities of educational leadership, it is little wonder that occasionally there is need for re-evaluation and constructive criticism. The wonder of it is that our editors, largely overworked volunteers from the profession, have done the splendid job they have during the years. Some kind of providence, or a means of natural selection of editors, must be responsible. We simply could not be that lucky.

Several answers have been given to the question "Why do we have dental journals?" In brief, we have dental journals because they are an important part of our dental literature, which in turn is essential to our status as a profession. Dental literature has a value as a mirror to reflect our interests and activities to a critical world. It is a medium of education of great value when properly used by its editors.

DENTAL JOURNALISM TWENTY-FIVE YEARS AGO

HENRY M. LEICESTER, Ph.D.¹

San Francisco

Twenty-five years ago, dental journalism was in the midst of a revolution. The readers of that time probably did not realize the fact, but the old methods and principles were changing, and the newer concepts of the place which dental journals should hold in the professional lives of dentists were beginning to emerge. In the light of our present knowledge it is of interest to look back and see the significance of the changes which were taking place.

Almost since its inception, dental literature had been in the hands of the dental supply houses and other groups, whose primary interest was in the advertising value of the journals they published, and to

¹Librarian, College of Physicians and Surgeons—A School of Dentistry.

whom the quality of the published material was of secondary importance. The aim was to appeal to the greatest number of uncritical readers, and since the number of men trained to evaluate professional articles properly was far smaller than today, no true leadership could be expected from the publishers of the various journals.

A nucleus of truly professional publications had existed along with the trade journals even from the earliest times, in the publication of the transactions of the various state dental societies. These often contained papers of great merit and value. However, such publications were usually annuals, and had very limited circulations, so that their influence on the profession at large was slight.

During the decade which preceded 1920, the more vigorous state and district dental societies had realized the lack of a professional literature of high quality, and were beginning to publish bulletins of their own. Thus, by 1920-1921, no fewer than twenty such bulletins had appeared, of which six began publication during these same two years. The list of journals covered by the Index of Dental Literature for this period therefore shows a slight preponderance of non-proprietary over proprietary journals.

However, this does not give a true picture of the conditions that prevailed. An actual examination of the journals themselves shows that nearly all of the state bulletins at this time contained little more than program announcements and a few news items. Therefore, although the rise of the local non-proprietary journals held much promise for the future, they had no influence on the professional or scientific thinking of the practitioners of the time.

The more important articles appeared in a very limited number of journals. Of the ten most important, two were non-proprietary, eight were proprietary. The leading journal was the *Dental Cosmos*, and the *Journal of the American Dental Association* (or National Dental Association as it was then called) was only beginning to raise its standards and become a serious competitor to the *Cosmos*. The other proprietary journals varied in age and prestige, but all published essentially the same type of article, chiefly technical recipes

and procedures. They had almost no appreciation of the fundamental basis of dentistry, either as a science or a profession. Many of the authors lacked any critical training, and the editors made no effort to develop a demand for a higher standard among their readers. Thus, it is not surprising that most of the literature of a quarter of a century ago represents merely personal opinion and prejudice, with little or no basis in properly presented fact.

There remains for consideration, however, the other non-proprietary journal of the period. This was the *Journal of Dental Research*, only three years old in 1921. From its beginning this journal had established standards as high as those of any other scientific journal in the country. Although the number of men qualified to write with these standards, and the audience which they reached was small, the journal did not relax its requirements. The critical outlook and broad vision of its editor, Dr. Gies, gradually exerted a widening influence among other editors which was destined to do more for dental journalism during the following years than any other single factor.

Thus, in 1921 the two forces which were to remold the literature of dentistry were already present, but were still separated, and only in their earliest phases. The dental societies were taking over the control of their publications and freeing them from the hands of men whose only interest was immediate circulation. At the same time the journal which was to set the standards of long range value was beginning to make its influence felt. In the twenty-five years which have elapsed since this significant period the union of these two forces has done much to produce a dental literature of which the profession can be proud.

JOURNALISM TODAY AND WHY

E. FRANK INSKIPP, B.S., D.D.S.¹

San Francisco

Opinions mellow with the years. The aggressiveness of youth, with its enthusiasm for immediate progress without study, is replaced with the recognition that there are others in this world of ours, and that they have to be lived with. An old gentleman of my acquaintance, once a glamorous figure selling dentistry from a wagon top on the street corner of western cities, today envies the professional standing of those whose ethics adapted themselves to the changing world wherein dentistry was coming of age.

It is true that dentistry is a young profession, despite the fact that someone has been caring, or is alleged to have been caring for teeth since humans developed them. But contrary to others, it has had to grow faster, to make up for the time lost before the "commencement," to take its place among the learned professions, and to justify the degrees granted those privileged to practice. The world is smaller, changes are more rapid and the youth of the last few years have had to assume responsibilities which they should not have assumed for another decade, if at all. Professions seem to be in a like position. We must recognize trends before they are upon us, and guide these trends in the best interests of those we serve.

But, in the acceptance of these many changes, however much they may evidence progress, we must not forget, nor lose sight of the values of the things we now no longer consider acceptable. So in dental journalism.

In the early years, we found our teachers practicing dentistry in a manner which, by today's standard, would not be acceptable. Their means of acquiring a clientele would violate most principles of present day ethics. Yet they contributed much to our progress.

¹Assistant Clinical Professor, Operative Dentistry, College of Physicians and Surgeons—A School of Dentistry; Managing Editor, *J. Calif. S. D. A.*; Editor (Alumni) *Contact Point*.

Those same men, today, would be among our leaders, and they would be so conducting themselves by this decade's standards, that their ethics would be unquestioned. So with our early manufacturers and trade houses. They provided us with some of our first literature, our first journals; we owe them much for this contribution.² They served two purposes in so doing, of course; the recognized literature of a growing profession, and the placing of their products before their readers. In articles on technical subjects of a few decades ago, seldom appeared one which did not state which wax should be used in impression technique; whose alloy should be used to obtain desired results; the desired drug needed in each treatment. And, in many cases it was the only one available and generally acceptable.

Today the bureau of standards gives us many manufacturers' products under a single classification. A casting gold for a specific purpose may be purchased from several manufacturers. The Council on Dental Therapeutics of the American Dental Association likewise provides us with a long list of accepted drugs, many duplicating the work of others.

In fairness to these trade houses and to itself, dental journalism must therefore conform to the fundamental principle of professional ethics and control its literature so that its story can be told in honesty and yet leave the manufacturer's field open in the field of advertising. It is a healthier situation when the trade house journal and the organization journal is separate and can be recognized as such; when a publication apparently representing the dental profession is once used for trade purposes, it is difficult to break these ties once they are established.³

Today, then, there are two recognized types of journals in the dental field, the non-proprietary, wherein the organizations of dentistry seek to educate their members without prejudice or favoritism; and the proprietary, in which the manufacturers, separately or

²The Status of Dental Journalism in the United States, 1932, p. 7.

³*Ibid.*, p. 37.

jointly, carry the story of their products to the profession, who can be guided by these, and by the reports of other agencies at their command.

These two groups will always be, but they will be accepted on their own merit, doing the job for which they are today fitted. There will, of course, be a relationship between the two. Accepted* products will continue to seek advertising in journals of dentistry; manufacturers will continue to quote from the professional literature. The present day dentists' control of their literature is due in no small part to the group of men whose interest and activities resulted in the report on Dental Journalism which culminated four years of study (1928-1931, incl.)⁴ Allied with this group is the earlier committees of the American Dental Association and an early research worker, Doctor William J. Gies, whose active interest became evident in 1909.⁵ The code of requirements and standards for non-proprietary journals, as approved by the American Association of Dental Editors, first in 1932, was another step leading to the status of our literature today.⁶

The division was one which had to come, it is a significant example of our professional adulthood. Perhaps we still look very, very young; but we have grown up.

DENTAL JOURNALISM—ITS FUTURE

E. G. MEISEL, D.D.S.¹

Pittsburgh

The preparation of this article is begun under a severe handicap because its author is neither a journalist nor a seer. In the absence of these two qualifications, he can only advance an opinion, a hopeful opinion, that is—about a future which may develop along lines indicated by present signs and trends.

*E.g.: by the Council on Dental Therapeutics of the A.D.A.

⁴*Ibid.*, p. 3.

⁵Palmer, B. B.: *Paying Through the Teeth*, Vanguard Press, 1935, p. 241.

⁶*Ibid.*, p. 257.

¹Past President of the College.

Much has been said and written about Dental Journalism in the past, which now is history and is susceptible to examination and analysis. Predicting the future is a hazardous enterprise at best but attempting to forecast the activities, mental processes and brain children of future journalists is more than hazardous. It spotlights the hapless author who then is exposed to shots from all directions. But, on to the survey and then the prescription.

A scrutiny of dental journals shows that the quality has progressively improved in the last decade. Betterment is noted in the general format as well as in the selection and arrangement of material. Use of new type has increased the reading attributes, and cuts are definitely sharper and clearer. Finer discrimination in the selection of material and introduction of color have greatly improved the appearance and the value of the advertising sections which in turn enhances the value of the entire publication.

New dignity and importance have been acquired by the state journals, evidenced by the increased number now published and distributed. Perhaps no other single factor is so prominently concerned as a girder in a growing profession as is the literature of that profession. The activities, the business, the growth of the profession may be scanned by following the reports commonly carried in the journals of the state societies.

They reflect the life current of the profession in its daily tasks and its aspirations. Because of the responsibility they carry these journals should be nurtured and supported so that they may continue to grow and perform their responsible function more and more effectively.

The American Association of Dental Editors must be given much credit for its part in the steady growth and improvement of the state journals. The benefits secured from frank discussion of mutual problems, the interchange of experiences and the free giving of valuable advice have been manifest to anyone in touch with that group. The influence of the Association will continue to be a factor in the future development and expansion of dental journalism—an

influence for the welfare of dentistry. The profession owes a debt of gratitude to the leaders who conceived and organized this Association which is such an important force in the development of dental journalism.

The recent conflict opened the door for much scientific exploration and research which at the present time is being presented largely by means of journalism to the medical and dental associations and to the public in general. This practice looms as a bright picture for the dental journalists. Returned veterans, who at the present time are for the most part adjusting themselves to civilian practices, have already expressed a desire to utilize the journals. Many articles have appeared in past issues and many more are undoubtedly in the making. It will be of great value and interest to record the experiences of these men. An aperture for introduction is already in our hands and available, as in the past, to acquaint these new practitioners with ourselves and reap the benefits they have given us.

Another favorable factor is the training offered to dental students in journalism via courses in technical composition. Most schools have adopted such a plan as a part of their curriculum. The experience encountered in editing, by serving on staffs of the college yearbooks, newspapers, and various journals, will certainly produce some dental society editors in the future.

It has been stated repeatedly that dentists do not read their journals; that the wrappers are seldom removed from them; that they do not respond to testing experiments on reader interest, and so forth. That condition, if it ever was true, has been or is being corrected rapidly. Very few dentists these days fail to scan the literature available in order to keep abreast of the times and many men study their journals from cover to cover. It may be true that results of reader interest tests have not been encouraging because dentists do tend to ignore them.

The *Journal of the American Dental Association* must be commended for the fine example of progressive improvement in the last decade.

It requires little foresight to predict that this fine journal will really embrace many opportunities to expand its service as rapidly as the changing postwar conditions will permit. Along with its expansion will also undoubtedly come further adventure into the field of specialty journals like the splendid *Journal of Oral Surgery*.

So a hopeful opinion is advanced: That dental journalism in the future will continue its rapid forward progress; that the mentioned trends will be criteria for this opinion; that modern dentistry will continue to be publicised by our successors, as capably as it is today.

ADVERTISING AND DENTAL JOURNALISM

JOHN J. HOLLISTER, *Chicago*¹

Advertising is an accepted part of our economic life. The issue, therefore, is not whether we shall carry advertisements in our dental journals but on what terms we shall carry advertisements.

ORIGIN OF ADVERTISING

Before launching into a discussion of the relation of advertisements to dental publications it might be well to define the term and examine its origins in our American life. Advertising might well be stated to be a mass method of selling. It is not, as many might suspect, a modern device, although, admittedly, its phenomenal development belongs to the twentieth century. It was the introduction of new forms of power—steam and electricity—that made advertising necessary. With these new forms of power man's productive ability skyrocketed, necessitating the development of markets to absorb the mountains of goods that could be produced. Advertising was, of course, the answer. Without markets mass production was meaningless. Viewed in this light advertising becomes an essential and integral part of our machinery of distribution.

Advertising has many forms of expression—radio, mail, billboards, newspapers, periodical publications, exhibits, personal detail,

¹Business Manager, American Dental Association.

to mention a few. All have the same objective—to move goods. It is no different in dentistry. Manufacturers use the same media to sell the dentist or the public via the dentist, and our dental publications have been in the forefront of these media.

IMPACT ON DENTAL JOURNALISM

What has been the impact of advertising on dental journalism? Good? Bad? A mixture of the two? Let's look at the credit side of the ledger. First, advertising has made possible the launching of many publications and thereby has impelled the circulation of scientific knowledge and discoveries. Second, it has been the means by which the profession has been kept informed of new and better materials and equipment and thereby improved the quality of dentistry and the comfort of both operator and patient. On the debit side advertising has urged dentists to use unsafe and worthless products by putting forth false and misleading claims or omitting to mention undesirable features. It has encouraged the public to self-medication and thereby a postponement of needed treatment. These, then, are the virtues and sins of advertising. But they should not be viewed as inherent in advertising. Rather, they are inherent in the people who direct advertising. The difficulty lies not in its use but its abuse.

IDEAL ADVERTISING

The ideal is for all commercial messages to serve a useful and constructive purpose—the welfare of the public and the profession. Certainly sound business knows by this time that the welfare of commerce is finally determined by the welfare of the people it seeks to serve. In the long run business cannot prosper through misleading, deceptive and fraudulent practices. It must serve constructively or it will fail. To be sure there are many opportunists whose objective is exploitation rather than service, but the means exist or can be found to deal with them. They are, happily, in the minority

and should not find it easy to resist the pressure of enlightened business and professional opinion.

Some have been inclined to view advertising as a necessary evil. This school of thought justifies the acceptance of advertisements on the ground of expediency. It pays the freight, so to speak, and therefore must be tolerated. Good advertising needs no apology. It serves a useful, constructive purpose and is carefully scanned by the progressive dentist. In fact, advertising is to a dental magazine what the commercial exhibit is to a dental meeting. Those who attend meetings know that the commercial exhibit is far from the least popular feature of the meeting. The parallel is both logical and conclusive.

PLACEMENT IN THE MAGAZINE

If the analogy is valid that magazine advertising and commercial exhibits have comparable roles in their respective spheres and this writer believes it is, then it follows that each fulfills its own mission when given ample opportunity for expression. Dental societies have long recognized the desirability of giving prominent space to commercial exhibits at dental meetings. In fact, some societies have gone so far as to make the commercial exhibits the meeting's "center of gravity." Whether this is good policy may be debatable, but so far as is known there has been little, if any, criticism of the policy. In journalism, however, there appears to be an abiding fear that advertising will encroach upon text or editorial matter. This seems to stem from the notion that advertising, even honest advertising, is in some vague way disreputable and should, like the family dimwit, be kept out of sight as much as possible. Perhaps this had its origin in the early years of advertising when the law was silent on fraudulent claims and ethics was unknown. There is no reason today, however, why advertising which meets minimum standards of propriety and decency should not be accorded some prominence. There are many valid arguments for segregation of text and advertisements, but this does not mean that *all* advertisements must be placed in the

back of the publication—it only means that text and advertisements ought not to be interspersed. A sensible solution is to place approximately 25 per cent of the advertisements before text and the remaining 75 per cent after text. This accomplishes several worthwhile objectives. First, it announces to the reader that this magazine contains advertisements; second, it gives the magazine a “lift,” particularly if color is used, thereby adding to its attractiveness; third, it gives the magazine balance; and, fourth, it helps to foster good relations with the dental trade.

CONCLUSION

Advertising is an integral part of our economic machine and, when properly used, exerts a beneficial influence upon dental health and the practice of dentistry. Abuse of advertising can be reduced substantially by the establishment of sound standards—a reform that is long overdue. A reasonable portion of any magazine’s advertising may appear before text.

EDITORIAL

FORWARD STEP BY DENTISTS¹

HOWARD DITTRICK, M.D.²

Rocky River, Ohio

In the *Journal of the American College of Dentists* for December, 1944, there is published a Report of the Committee on Journalism of that organization. It should be read by every member of the profession. The report concerns the management of dental journals, as between lay and professional control. The question is raised, “Can ethical standards be upheld when the periodical is under complete domination and when the interests of the advertiser must be the major consideration?” This condition applies equally to all professional publications. Physicians need only glance through their

¹Current Researches in Anesthesia and Analgesia, Vol. 24, No. 5, Sept.-Oct., 1945. International Anesthesia Research Society, 318 Hotel Westlake, Rocky River, Ohio.

²Signed by the author and published with his consent.

second class mail to realize how seriously this problem affects the journals of the medical profession as well.

In this second class mail we find many publications containing brief abstracts of articles appearing in the current literature. The cover is attractive, and articles are selected from a broad field of specialties. The printed matter may be copiously interspersed with advertisements. Unfortunately the cooperation between author and publisher that is present in ethical journals is not evident. Purposeful selection of abstracted material may lead to erroneous conclusions.

Regarding selection of abstracts and of quoted investigative work in these throw-away medical digests, is this selection dictated too heavily by advertiser interest? Any publisher knows full well the relation of advertisement receipts to publication costs. County medical societies may not alone finance their official publications, but support other organization activities from funds derived from advertisements. Some larger medical journals as well must receive a substantial income from this source. Advertisers' accounts can be retained only when sales are favorably influenced in return for this particular avenue of expenditure. But it is also true that the advertiser must reach his potential market. He can choose as between publications, but advertise he must. In the type of journal under discussion here, much printed matter is commercial in intent, while other timely informative excerpts may be examples of skillful journalistic sabotage. If sales of an advertised product are slow, a favorable article discovered in the literature, irrespective of an obscure source, is broadcast as a stimulus.

This situation is reflected not infrequently in the field of anesthesia. Pharmacologic research is constantly producing new anesthesia and sedative agents. For proper evaluation of such reports the integrity of both author and publication presenting new thought must be considered.

"Organized dentistry must accept professional responsibility for the publication of all dental literature," says this considered Report

of the Committee on Journalism of the American College of Dentists. This organization is waging a worthy "campaign to eliminate the evils of commercialism in the publication of dental journals. It is our contention, supported by indisputable documentary proof, that where commercial considerations are the prime interest of the publisher, the profession is exploited and degraded."

Publications of the medical profession are no less a responsibility of organized medicine.

THE NEED OF A CURRENT INDEX TO DENTAL SERIAL PUBLICATIONS
INCLUDING ALLIED FIELDS

ALICE M. McCANN, A.B., Cert. in Lib. Sc.¹

Pittsburgh

The need of a current index to dental serial publications covering world literature pertinent to dentistry and allied fields, is a very real one. The half of knowledge is to know where to obtain knowledge.

Although the term *serial* is commonly used throughout the library profession, it is used infrequently by other professional groups. It has been classified as any publication, whether issued at regular or irregular intervals, with some scheme for consecutive numbering, and intended to be continued indefinitely. In the indexing of dental and medical literature, the United States and Germany have supplied by far the best indexes both for their respective countries and of allied literature.

The value and importance of serial publications to the professions of the healing arts cannot be underestimated. It would be impossible to keep abreast of the times without them, hence the need for indices, abstracts and reviews of the highest standard, which include bibliographical techniques that conform to correct usage, intelligent subject headings composed of established scientific nomenclature

¹Librarian and Lecturer in Dental Bibliography, College of Dentistry, University of Pittsburgh and a member of the Committee on Library and Indexing Service, American Dental Association.

that is changed from time to time to conform to the new developments. Without these aids to serial reading which includes periodicals, newspapers, government documents, publications of learned and other societies, reports of institutions, annuals, directories, year-books, reviews, et cetera, the student, teacher and research worker would be greatly handicapped, for it is agreed that a research worker cannot advance a new theory or embark upon an experimental study until the existing literature has been thoroughly explored. A systematic examination of the abstracts and indexes of the current literature should become a regular habit of the practitioner and student. No more appropriate quotation could be used to illustrate this point than a paragraph written many years ago by Oliver Wendell Holmes²: "A great portion of the best writing and reading—literary, scientific, professional, miscellaneous—comes to us now, at stated intervals, in paper covers. The writer appears, as it were, in his shirt sleeves. As soon as he has delivered his message the book-binder puts a coat on his back, and he joins the forlorn brotherhood of 'back volumes,' than which, so long as they are unindexed, nothing can be more exasperating. Who wants a lock without a key, a ship without a rudder, a binnacle without a compass, a check without a signature, a greenback without a goldback behind it? Arranged, bound, indexed, all these at once become accessible and valuable."³

The Latin verb *indicare* means to point out. That is the general purpose of an index. Among reference books, Dr. Wyer⁴ calls indexes "A small group, but of an importance out of proportion to its numerical strength." Unfortunately, this importance, though recognized by librarians, has failed to impress itself on students and sometimes on members of the faculty. It has been said that readers see indexes; they know that such things exist, yet they seldom examine them. Indexes, general or otherwise, appear to the reader

²Shores, Louis: Basic reference books, 2nd ed.; American Library Association, Chicago, 1939, p. 186.

³*Ibid.*, p. 472.

⁴*Ibid.*, pp. 161-2, 164, and 213.

to have a familiar dull background along with prefaces, forewords, footnotes, appendices and bibliographies—a faintly confusing liturgy of the book trade.

There are five cardinal points for index evaluation. These deal with the nature of (a) the material indexed, (b) period covered, (c) completeness, (d) bibliographical information given, and (e) arrangement. To this could be added scope and promptness of issuance. As a rule, the dictionary type of index is the most useful and efficient when the analysis of content is full, the selection of subject headings is intelligent and of high caliber, and the format is attractive. Intelligent subject heading selection calls for a knowledge both of the subject and the reader.

The present Index to Dental Periodical Literature in the English Language, published by the American Dental Association, would be used much more extensively by allied groups if its scope could be expanded to include world literature, as is being done by allied professions. It would be a much more efficient reference tool for related subjects would be contained in one volume, which more than offsets the criticism that duplicate indexing is being done. By increasing its scope the cost of production would be reduced by its greater sale value. At the present time, the Quarterly Cumulative Index Medicus is indexing scientific dental literature with the exception of operative and prosthetic procedures. Biological Abstracts, sponsored by the Union of American Biological Societies, is making a distinct contribution to the dental profession by abstracting all of the scientific articles pertaining to the mouth and teeth and publishing them in sections A, B, C, G and H. These sections are published monthly January to May; bimonthly, June to September; monthly, October and November; semi-monthly in December.

Now that the war is over, and the professional schools are returning to the prewar curriculum, the Committee on Library and Indexing Service should soon be able to accomplish a few of the projects it has had under consideration but which had to be deferred because of World War II. With the professional schools filled to overflow-

ing with our youth who had to set aside their personal ambitions to fight for the allied cause, it only seems fair that every effort should be made to give them the best reference tools to aid them in their studies. And with the return of dentists in the service to civilian practice, the calls for graduate and post-graduate work will be heavy and the need for good indexes will be increased.

We who have the privilege of helping these young people to prepare to practice their chosen profession should stimulate the concept of not just a political *one world*, but a professional and intellectual *one world*.

COUNCIL ON DENTAL EDUCATION—AMERICAN DENTAL ASSOCIATION

In lieu of the Journal Forum conducted by Dr. Harlan H. Homer, secretary of the Council on Dental Education of the American Dental Association, the following series of proposals is submitted. Although published elsewhere,¹ they are deemed of sufficient importance to bring in this way, and even again, to the attention of JOURNAL readers. Each one is a timely subject and should be carefully considered by the profession. (Ed.)

I. REQUIREMENTS FOR THE APPROVAL OF HOSPITAL DENTAL INTERNSHIPS AND RESIDENCIES²

I. HOSPITAL DENTAL INTERNSHIPS

1. *Definition*

A hospital dental internship is a form of professional education beyond the undergraduate level which offers special opportunity for clinical experience and advanced training in dental science and practice. The dental graduate who accepts a dental internship is regularly appointed to the house staff of a general or special hospital approved for the treatment of bed-confined patients and ambulatory dispensary patients. The dental intern resides in the hospital and works and studies under the supervision of the hospital staff. The internship is a full-time service, usually for a period of one year.

2. *Purpose*

The fundamental purpose of the hospital dental internship is to broaden the graduate's clinical experience by affording him opportunities for viewing

¹*J.A.D.A.*, 33, . . . ; 1946.

²Approved by the Council on Dental Education, February 26, 1946.

and following throughout their clinical progress, those conditions not usually common to the clinic of the dental school and especially to enlarge his knowledge of oral and systemic relations in health and disease.

3. *Training*

The Council will expect the training program to be arranged so that the dental intern, by the end of his year of service, will have increased his knowledge and experience in at least the following fields:

- (1) In the recognition of oral manifestations of systemic diseases.
- (2) In the recognition of abnormalities and diseased conditions in the oral cavity and associated parts requiring surgical or medical treatment and in making a complete diagnosis of those diseases and disorders usually treated by the dentist in his private practice.
- (3) In the evaluation of the patient's physical ability to undergo anesthesia, general or local, for oral surgery.
- (4) In the employment of surgical judgment in regard to the time for and extent of oral surgery safest for the patient.
- (5) In the correlation of surgical and other types of dental health service.
- (6) In the differentiation of the indications and contra-indications for surgical intervention of the more common abnormalities and diseases involving the oral cavity.
- (7) In the understanding of the value of and indications for hospitalization for oral surgery.
- (8) In the prevention of shock during or following dental operations and in the treatment of the patient when shock occurs.
- (9) In the treatment of the following conditions: (a) hemorrhage associated with the extraction of teeth and wounds occurring in the mouth; (b) abnormalities of the oral cavity, such as irregular or excessive alveolar process, exostosis, and torus palatinus; (c) acute inflammatory conditions arising about the teeth and adjacent tissues; (d) chronic periapical infections and their sequelae; (e) wounds and injuries of the soft tissues of the oral cavity; (f) root fragments and foreign bodies about the alveolar process; (g) injuries to the teeth and alveolar process; (h) fractures of the maxilla and mandible; (i) dislocation, subluxation and other minor disturbances of the temporomandibular articulation; (j) benign tumors and cysts of the jaws

not requiring major resection of the bone; (k) salivary duct calculi; (l) incision and drainage of cellulitis and abscesses of dental origin.

(10) In the use of chemotherapy, antibiotics, and radiation therapy.

(11) In the administration of general and regional anesthesia for major and minor oral surgery.

(12) In the conduct of postoperative treatment in oral surgery.

4. General Scope of Activities

The dental intern will be expected to assist in the care of patients and to have charge of the treatment of some patients under the guidance and supervision of the hospital staff. His experience will include examination and dental care of patients, the taking of case histories and the preparation of diagnostic charts; acting as assistant in the operating room for oral surgical operations; the performance of minor operations under supervision; attendance upon and participation in staff meetings; service in the hospital laboratories; X-ray departments and attendance upon autopsies.

5. Records

The Council suggests that hospitals keep a record of each intern's work. Such information may be supplied to the chief of the dental service by the intern himself on special forms where space is provided for data, such as the period of time covered, the service, the number of patients admitted on service, the number of histories and oral examinations completed by the intern, the number of anesthetics given by him, the number of operations performed by him and the number in which he has assisted, the number of autopsies attended, the hours spent in the laboratories, and the number of lectures, clinics and conferences attended.

6. Status

The Council will expect dental interns to enjoy the same privileges, accommodations and perquisites provided by the hospital for interns in other services. The Council will also expect that hospitals will issue to the dental intern a certificate of accomplishment upon the completion of the internship.

7. Hospitals Eligible for Approval

To be eligible for the training of dental interns, hospitals and sanatoriums coming under the purview of the Council on Medical Education and Hospitals of the American Medical Association must be registered and approved by that agency; and hospitals and sanatoriums not coming under the purview of that agency must be approved by the Committee on Hospital Dental Services of the American Dental Association. In either case, the hospital depart-

ments of dentistry must be approved by the Committee on Hospital Dental Services of the American Dental Association.

8. *Application for Approval*

Hospitals that desire to be approved for dental intern training should apply to the Council on Dental Education of the American Dental Association, 222 East Superior Street, Chicago 11, Illinois.

II. HOSPITAL DENTAL RESIDENCY

1. *Definition*

A dental residency is a progressive and graduated educational experience, under hospital auspices, designed for the dental graduate who has completed a dental internship in an approved hospital, which should give opportunity for proficiency in a specialized field of practice or research and the educational background for continued development in a special field. A sufficiently prolonged and continuous period of full-time training is presupposed.

The Council will approve *straight residencies* and *mixed residencies*. *Straight residencies* are services of one or more years in a specialized field, following approved internships. *Mixed residencies* are general hospital assignments following approved internships. A mixed residency covers more than one but not all of the clinical specialties.

2. *Purpose*

While residencies in general are planned to train dentists for specialties, the Council recognizes that residencies can supply the need in small communities for well trained men who will practice oral surgery, periodontia, prosthodontia, orthodontics and pedodontia in connection with general practice.

3. *Staff*

The Council will expect the hospital to have an organized staff of dentists. The particular specialties in which residents are being trained should be represented on the staff.

In general hospitals, the dental staff should have a definite departmental organization in the branches of dentistry in which straight residencies are offered. The director of each service should be competent in his field. He should assume direct responsibility for the training of residents.

There should be at least monthly clinical-pathologic conferences or other regular staff meetings at which histories and clinical observations in selected cases may be reviewed, particularly when autopsies have confirmed or altered the diagnosis. In addition to meetings of the staff as a whole, it is expected

that departmental conferences will be conducted in which residents may take an active part to the end that the character of the service given by that department to its patients may be recurringly evaluated.

4. *Training Program*

Residencies are designed primarily to meet the requirements for special practice. In all instances, the term of service should be at least twelve months and might be extended to two or more years when suitable facilities are available.

Aside from the daily contact with patients and staff, the assumption of responsibility is the most valuable aspect of residency. Consequently, as ability is demonstrated, an increasing amount of reliance should be placed in the judgment of residents, both in diagnosis and in treatment.

Residents should be given an opportunity to contribute to the effectiveness of the hospital service by some investigative work. This may take the form of research in the hospital laboratories or wards, summaries of dental literature, or the preparation of statistical analyses derived from the hospital record department. Dental residents should engage in teaching activities, particularly in relation to the training of interns and nurses.

The effectiveness of a residency program depends largely upon the quality of dental supervision and teaching. It is important, therefore, that methods of instruction be employed which are best suited to the special field. Emphasis should be placed on chairside and bedside instructions, teaching rounds, departmental meetings or seminars, clinical-pathologic conferences, demonstrations and lectures. The review of dental literature is an essential feature of residency training. Likewise, the study of basic sciences as required should be integrated with the clinical experience.

In the operative divisions it is desirable that facilities be available for anatomic dissection and experimental surgery on animals or on the cadaver.

5. *Records*

It is important that all institutions approved for residencies should keep records of the experience and training of residents.

6. *Status*

The Council will expect dental residents to enjoy the same privileges, accommodations and perquisites provided by the hospital for residents in other services. The Council will also expect that hospitals will issue to the dental resident a certificate of accomplishment upon the completion of a residency.

7. *Hospitals Eligible for Approval*

To be eligible for the training of dental residents, hospitals and sanatoriums coming under the purview of the Council on Medical Education

and Hospitals of the American Medical Association must be registered and approved by that agency; and hospitals and sanatoriums not coming under the purview of that agency must be approved by the Committee on Hospital Dental Services of the American Dental Association. In either case, the hospital departments of dentistry must be approved by the Committee on Hospital Dental Services of the American Dental Association.

8. Application for Approval

Institutions desiring to be approved for residencies should apply to the Council on Dental Education of the American Dental Association, 222 East Superior Street, Chicago 11, Illinois. Application blanks will be furnished and arrangements made for a personal visit of inspection by a member of the Council's staff.

2. REQUIREMENTS FOR APPROVAL OF A COURSE OF TRAINING FOR DENTAL TECHNICIANS³

The Council on Dental Education will consider for approval a course of training for dental technicians under the supervision of an approved, or provisionally approved, dental school.

The overall pattern of the course and the stated objectives will be given first consideration. The method and effectiveness of accomplishing the objectives as set forth by the school will be an important factor in determining approval. It is recognized that some subjects may be taught more effectively than others in the same school, that some areas may receive greater emphasis than others, and that the pattern may undergo changes from year to year. Changes, if made on a basis of sound experimentation, will be encouraged.

The subjects of study should be of such selection and so coordinated that the student will acquire technical skills necessary to construct the restorative appliances prescribed by the dentist. In order that he may have an intelligent understanding of the bases of these technical procedures, the student should acquire a working knowledge of the related sciences upon which dental techniques are based.

Physical Plant

Evaluation of the physical plant and equipment will be based upon its adequacy, use and maintenance. Cleanliness, ventilation and lighting of buildings, laboratories, and classrooms, along with other factors which contribute to efficiency, health and reasonable comfort of staff and students will be taken into consideration.

³Adopted by the Council on Dental Education, April 27, 1946.

Library

The library of the dental school normally should contain material adequate for the use of students enrolled in the course for dental technicians. However, there should be no lack of books and periodicals which have special reference to laboratory procedures and laboratory subjects. If desirable the dental school may set aside a separate reading-room for the use of dental technician students.

Organization and Administration

A course for dental technicians may be placed under the same organization and administration as that of the dental school, or may be operated as a separate division under separate administration, provided that it is conducted as an integral part of the dental school and on a similar level of discipline.

The functions of the administrative head, his freedom of action and his executive and professional ability, as well as the faculty organization, appointments, quality of teaching, salaries, and tenure will enter into the evaluation.

The faculty, as such, will be judged upon its ability to train technician students to a degree of knowledge and expertness to qualify them fully to meet the general requirements of the dental profession.

The number of faculty members in relation to the number of technician students, the qualifications of each teacher, and his teaching load will be items for consideration. Evidence that staff members are conducting research projects will be expected.

Financial Provision

The adequacy of financial support allocated to the course will be given careful consideration by the Council. The wisdom with which funds are used in the management of the course will be observed.

Curriculum

For the reason that the training of dental technicians is a new venture in dental education, the Council recommends a flexible but well-balanced curriculum. Correlation of the various subjects is essential to an effective educational program.

The Council will consider the clearly stated objectives and purposes sought in the course, what it is expected will be accomplished for the student, for the dental profession and for the public, and how well the course succeeds in realizing and accomplishing the objectives and purposes. Intelligent curriculum experimentation which fosters growth, development and excellence is encouraged by the Council.

The Council suggests that the following subjects should be included in the course:

- Orientation.
- Complete Denture Construction (technology).
- Partial Denture Construction, fixed and removable (technology).
- Dental Anatomy.
- Dental Materials, including applicable Chemistry and Physics.
- Ethics and Jurisprudence.
- Laboratory Management.
- Gross Anatomy (lecture course).
- Orthodontics (technology).
- Special Appliances (splints, obturators, etc.).
- Ceramics.

Admission

Graduation from an accredited four-year high school course or its equivalent, plus an interest in and an aptitude for the responsibilities of a dental technician, will constitute the requirements for admission to the course. The Council urges schools to adopt a suitable aptitude testing program for applicants to the course for dental technicians.

Length of Course of Study

The course shall be spread over two academic years (4 semesters, or 6 quarters).

Enrollment

The Council recommends that the enrollment in a course for the training of dental technicians should be determined in the light of professional needs.

Certificate

The Council recommends that a Certificate be given at the completion of the course, and that it be issued by the same agency as that which confers the diplomas for the dental school.

The Certificate should be worded so that it cannot possibly be construed to mean, or to infer, that the recipient has had training for the practice of dentistry.

Policy of Dental School Concerning Laboratory Service for Dental Students

The Council recommends that the following policy be adopted by the dental school:

1. That students enrolled in the dental school shall have completed all technology and practice assignments of the dental curriculum and shall have

demonstrated to their instructors their mastery of laboratory procedures before they may be permitted to use the service of students enrolled in the course for dental technicians.

2. That dental schools requiring student technicians to serve dental students shall provide special training for the dental student so that he will have a clear understanding of how to delegate routine technical problems to the student technician, in order to establish the best working relationship and maximum efficiency.

3. That any dental school not having sufficient practical laboratory cases to train its technician students may select an ethical dentist, or dentists, in a cooperative arrangement whereby the student may obtain part of his practical or applied laboratory training in the laboratory of the practicing dentist.

3. APTITUDE TESTING PROGRAM⁴

For more than two years the Council on Dental Education has had under consideration the establishment of a series of mental and manual aptitude tests to be given each year to entering students in the dental schools. A committee of the Council consisting of Dr. Bert L. Hooper, Chairman, Dean of the College of Dentistry of the University of Nebraska; Dr. J. Ben Robinson, Dean of the Baltimore College of Dental Surgery of the University of Maryland, and Dr. John T. O'Rourke, formerly Dean of the School of Dentistry of the University of Louisville and now Director of Graduate Studies in Tufts College Dental School, gave preliminary consideration to the devising of the tests and the introduction of the program.

The American Association of Dental Schools has had a standing committee on aptitude testing for several years. In July, 1944, the Council added the members of the Association's committee to its own committee. The members were Dr. Ray V. Smith, Professor of Prosthetics and Crown and Bridge Technic in the College of Dentistry of the State University of Iowa; Dr. Robert W. McNulty, Dean of the Chicago College of Dental Surgery of Loyola University, and Dr. William E. Hahn, Professor of Anatomy in the Baltimore College of Dental Surgery of the University of Maryland.

This joint committee has had two extended formal meetings and has consulted specialists in the field of testing in different sections of the country. Dr. Shailer A. Peterson, assistant professor of education at the University of Chicago, has served on a part-time basis on the staff of the Council as Director of Educational Measurements and has acted as secretary and adviser

⁴Proposed by the Council on Dental Education.

of the committee in the selection and construction of the tests. The Board of Trustees of the American Dental Association at a meeting on April 13 endorsed the program and appropriated funds for the Council in completing the plans for beginning the use of the tests with the opening of the dental schools in September and October. The tests will be designed for the entering classes but may be used for upper classes as well.

The tests will not be employed as a condition of admission but will be instituted with the hope of gathering data over a five-year period which will help to solve the question of who should study dentistry. The tests will be conducted without expense to students or schools. All schools have expressed their purpose to participate in the undertaking. The immediate objectives which the Council and the American Association of Dental Schools will propose have been formulated by the committee as follows:

1. To measure the student's ability to read with understanding the type of material that he will be expected to read in dental school.
2. To measure the student's ability to memorize verbal and visual material.
3. To measure the student's knowledge of both general and scientific word meanings.
4. To measure the student's mental ability.
5. To measure the student's ability to visualize patterns and relations without the necessity of preparing drawings.
6. To measure the student's ability to express himself orally and in writing.
7. To measure the student's ability to use his hands and fingers skillfully and dextrously.

The joint committee of the Council on Dental Education and the American Association of Dental Schools will continue to function in the promotion of the testing program. The inauguration of the program will be under the general supervision of the Secretary of the Council and the organization and conduct of the program will be carried on by the Director of Educational Measurements. Dr. Peterson will serve the Council in this capacity on a full-time basis beginning July 1, 1946. He is a native of Minnesota and earned his bachelor's and master's degrees at the University of Oregon. He earned his degree of Doctor of Philosophy at the University of Minnesota with a major in educational psychology and curriculum construction. He has served on the faculties of the University of Oregon, the University of Minnesota, the South Dakota State College and at present is assistant professor of education and associate in research at the University of Chicago. He is also presently engaged as research consultant of the United States Department of Agriculture. Dr. Peterson's teaching and research interests have

been in the natural sciences, statistics and testing. He has published the results of numerous studies in educational and scientific journals.

4. FRESHMAN ENROLLMENT⁵—SEPTEMBER AND OCTOBER, 1946

Preliminary inquiries made by the Council on Dental Education indicate that the enrollment of Freshmen in the forty dental schools in the United States in September and October, 1946, will be the largest in the last twenty years. For several years before the war a steady increase in enrollment was noticeable. The peak was reached as of October 15, 1942, before the effect of the draft was manifested, when 2,702 Freshmen were enrolled. By reason of the draft, this enrollment of entering students dwindled to 1,201, as of October 15, 1945.

An unexpected number of members of the armed forces were prepared for the study of dentistry in whole or in part before entering the service. The number who have already qualified and the applications pending indicate that all the available places will be filled in the Freshmen classes this fall and that there may be a large number the schools will not be able to accommodate. The capacity of the schools for the instruction of entering students is about 3,000.

BOOK REVIEWS

Simplified Orthodontics: A Study in Anthropology and Physics. By John Heath. Ramsay, Ware Publishing Pty. Ltd., 129 King Street, Melbourne, C. 1, 1945. No price quoted.

The author introduces his monograph with what he calls "Two concepts which establish a new basis of orthodontic treatment: (1) The mandibular dental arch is 'balanced' where it is bound by the muscles internal and external to it. (2) The maxillary dental arch is being 'extruded' from the face by a movement of forces tending to move it mesially." The first of these concepts is not new, and the second, even with the publication of this monograph, remains to be proved.

In spite of comparisons of different skulls taken from publications of Sir Arthur Keith and others, and a comparison of Australian aboriginal skulls with normal dental arches and arches with crowded incisors, this work is essentially a contribution to clinical orthodontics.

⁵Survey made by the Council on Dental Education.

It is a plea for the use of a "multiple-wire arch," consisting of fifteen round steel wires of 0.006 inches diameter, and for the extraction of teeth as a part of orthodontic therapy. He acknowledges the fact that Johnson and Atkinson have preceded him in the substitution of light wires for the heavier rigid type used by many orthodontists. He seems to be the first, however, to use so great a number of arch wires of such fine diameter, and his quantitative appraisal of the amount of force delivered to teeth by fine wires as compared with that delivered by heavier wires is interesting.

The attempt to justify clinical procedures by appeals to the pre-history of man is not unfamiliar in orthodontics. Since the perusal of skeletal material of great antiquity may be seemingly advanced to support whatever variety of clinical procedures one wishes, the reviewer has the temerity to suggest that a "cease and desist" injunction be declared against this type of argument when clinical matters are at issue. It seems far better that the various rationales of orthodontic treatment be required to conform with the facts of human facial growth and development as established through impartial research, and that they stand or fall on the merits of the clinical records which may be produced in their support. In the reviewer's opinion, the advocates of extraction in this country are documenting their arguments with better treated cases than those reported in this monograph.—Wendell L. Wylie, D.D.S., Assoc. Prof. of Orthodontics, Chairman of the Division, College of Dentistry, University of California, San Francisco 22, Calif.

A History of Medicine: By Douglas Guthrie, M.D., F.R.C.S. Ed., F.R.S.E., with an Introduction by Samuel C. Harvey, M.D., F.A.C.S., Wm. H. Carmalt, Professor of Surgery, Yale University School of Medicine. This book is said to be "a skillful portrayal of the progress of medicine with well balanced emphasis on important periods."

This is just what a history is. It is not a chronology of events, neither is it a narrative yet it is the story of medicine in its development from the beginning to the present. Naturally there are periods,

the importance of which should be emphasized, e. g., medicine in the mediaeval era. Again, there are those whose names are among the immortals of the profession and who must be allotted much space. Such men are Galen, Fallopius, Vesalius, Pasteur, Pavlov, Lister, and scores of others. Four lines are devoted to dentistry. The author refers to the "most famous" surgeon of late mediaeval times, Guy de Chauliac (1300-67), author of *Chirurgia Magna*, in which he makes "a noteworthy contribution to dentistry, giving rules for the care and cleansing of the teeth so as to prevent decay, and advising the replacement of lost teeth by other human teeth or by artificial teeth made of bone." Four and one-half pages plus two full-page plates are devoted to the discovery of anesthesia and in which due credit is given to Wells and Morton. This is a story with which dentists are now thoroughly familiar. In reference to one Simpson who had much to do with anesthetics and antiseptics the author says "he showed himself to be ahead of his time." It is true of men that he who goes farthest sees farthest ahead. This is an interesting and an instructive book, published by J. B. Lippincott, Philadelphia, in the U. S. A. Price \$6.00.

Palama Settlement: Annual Report. The twenty-fifth annual report for the calendar year 1945 of this project has only recently come from the press. It is the story of work done and results accomplished by the Strong-Carter Dental Clinic, Honolulu. It carries the story of the clinic, and tables showing the number of each kind of operations and the total as well as the average cost. To those interested in the conduct of clinics it should be of no little value. Address Palama Settlement, 810 Vineyard St., Honolulu, 10, T. H.

Complete Denture Prosthesis (Second Edition): By Rudolph O. Schlosser, D.D.S., F.A.C.D., Professor of Prosthetic Dentistry, Northwestern University Dental School. Second Edition. 466 pages, with 288 illustrations. Philadelphia and London: W. B. Saunders Company, 1946. Price \$5.50. W. B. Saunders Company, Philadelphia.

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