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Number 2

THE JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS

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AMERICAN COLLEGE OF DENTISTS

Organized: Boston, Aug. 20 and 22, 1920. Of the present active members, A. D. Black, J. V. Conzett and H. E. Friesell were among the four organizers; H. L. Banzhaf, J. P. Buckley, H. J. Burkhart, Julio Endelman, T. B. Hartzell, M. M. House, C. N. Johnson, E. A. Johnson, A. L. Midgley, F. B. Noyes, R. H. Volland, and C. E. Woodbury were among the additional founders.

Convocations have been held on this schedule: Chicago, Jan. 26, '21; Milwaukee, Aug. 13 and 18, '21; Montreal, Jan. 25, '22; Los Angeles, July 16 and 19, '22; Omaha, Jan. 23, '23; Cleveland, Sept. 12, '23; Chicago, Mar. 5, '24; Dallas, Nov. 12, '24; Louisville, Sept. 22, '25; Philadelphia, Aug. 22, '26; Chicago, Jan. 26, '27; Detroit, Oct. 23, '27; Minneapolis, Aug. 19, '28; Chicago, Mar. 24, '29; Washington, D. C., Oct. 6, '29; Denver, July 20, '30; Memphis, Oct. 18, '31; Buffalo, Sept. 11, '32; Chicago, Aug. 6, '33. Next convocation: St. Paul, Aug. 5, 1934.

Objects (quotation from the booklet containing the list of members, as of Jan., 1931): "The American College of Dentists . . . [aims] to exemplify the highest conception of professional and social responsibility of dentists as servants of the public health; to honor those who make notable contributions to the science and literature of dentistry; to stimulate the younger members of the profession to strive earnestly for such excellence as may admit them to fellowship with their most distinguished colleagues."

Total present membership: 446. Total number of deceased members: 66. Members have been elected in each year since organization.

Classes of members (each member receives the title of Fellow—"F.A.C.D."): (1) "The active members shall consist of dentists and others who have made notable contributions to dentistry, or who have done graduate or educational work of a character approved by the College." (2) "Any person who, through eminent service, has promoted the advancement of dentistry, or furthered its public appreciation, may be elected to honorary membership."—Constitution, Article III.

Nomination and election of members. "Any member of the College may nominate candidates for membership."—By-laws, Sec. A. "After a nominee for membership has received the approval of a four-fifths vote of the Board of Censors, he may be elected by a majority vote of the Board of Regents."—Constitution, Art. III.

Forfeiture of membership. Membership in the College shall be "automatically forfeited" by members who "(a) give courses of instruction in dentistry under any auspices other than those of a dental society, dental school, or other recognized professional or educational agency; or (b) give courses of instruction in dentistry in a privately owned undergraduate or postgraduate dental school, or in a school that is associated with an independent hospital or dispensary but not an organic part of it; or (c) exact exorbitant fees for courses of instruction in dentistry under any auspices." ...—Constitution, Art. III.

STANDING COMMITTEES, 1933-1934: Dental Prosthetic Service.--W. H. Wright, Chairman; A. H. Paterson, C. H. Schuyler, W. H. Grant, C. F. Harper.

Editorial Medal Award.-W. C. Graham, Chairman; F. T. West, C. W. Stuart, J. A. McClung, R. S. Vinsant.

Education and Research.—J. B. Robinson, Chairman; A. D. Black, L. M. Waugh, A. W. Bryan, H. L. Banzhaf.

Endowments.-J. V. Conzett, Chairman; Herbert C. Miller, Abram Hoffman, D. U. Cameron, A. H. Merritt.

Hospital Dental Service.—Howard C. Miller, Chairman; J. E. Gurley, E. A. Charbonnel, C. T. Messner, Leo Stern.

Journalism.—B. B. Palmer, Chairman; E. B. Spalding, J. T. O'Rourke, F. A. Delabarre, Leland Barrett, J. C. Black, E. A. Johnson, E. G. Meisel, H. O. Lineberger. Legislation.—W. A. McCready, Chairman; G. S. Vann, W. O. Talbot, B. L. Brun,

 W. F. Walz. *Relations.*—A. R. McDowell, *Chairman;* T. J. Hill, T. A. Hardgrove, H. G. Fisher, R. L. Sprau.

Socio-economics.—C. E. Rudolph, Chairman; J. H. Cadmus, M. W. Prince, W. R. Davis, G. W. Wilson, Maurice William, Louis Brach.

REPORT OF THE COMMISSION ON JOURNALISM

SECOND PART¹

BISSELL B. PALMER, D.D.S., Chairman New York City

J. Continuance of investigation of relationships between dental editors and commercial projects and corporations. [The preceding issue of this Journal ended with the first paragraph of this section.—Ed.]

In the issue of the New York Journal of Dentistry for May 1933 there appeared an editorial by its editor bitterly denouncing the Council. The editorial was marked by inaccurate and distorted statements, sarcasm, and intemperate expression. The Commission on Journalism, having taken a position in its report for 1932 (p. 53) in support of constructive editorial leadership, was deeply chagrined by the publication of this destructive editorial in a journal owned by a dental society. The present report is not the place for an analysis of the editorial in question. However, the Commission, having undertaken a study of commercial relationships in dental journalism, is naturally interested in the past or present relationship of every dental editor to any commercial project. This interest would naturally be accentuated in the case of an editor whose writings might indicate an editorial bias against a Council authorized by the American Dental Association to protect the public against fraud and deceit in the therapeutic field. The foregoing circumstances, and the aforementioned editor's appearance on a radio program advertising another dentifrice not "accepted" by the Council on Dental Therapeutics-followed by the initial appearance of a two-page advertisement of the latter dentifrice in the New York Journal of Dentistry-prompted the Commission to present to the said editor the questions summarized below, the answers to which it was believed would constructively indicate the degree of confidence that might appropriately be accorded to his editorials.

Q: "Is it true that either alone or in association with others you originated,

¹ Continuation from the preceding issue (pp. 22-32).

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or at one time controlled, the formula for 'Calsodent'?" A: The circumstances are already known to the Commission.

Q: "Have you ever owned the patent on 'Calsodent' formula, either alone or in association with others?" A: The circumstances are already known to the Commission.

Q: "If so, was ownership of that formula transferred or assigned to the Calsodent Company for a consideration? If so, and if that consideration was stock representing a participating ownership in the Calsodent Corporation, is that stock registered in your name at the present time?" A: "The patent was assigned to the Calsodent Company without consideration of any kind. Neither I nor any member of my family has received any profit or material benefit from Calsodent, nor do we hold any stock by which any future profit might accrue."

Q: "If you have ever owned stock or an option on stock in the Calsodent Corporation, and if such stock is not at the present time registered in your name, has ownership or control of that stock since passed directly or indirectly to any member of your family?" A: See reply to previous question.

Q: "Please make your answer more complete by giving the approximate date on which you or any member of your family last owned any stock in the Calsodent (O-don-tex) Company, if there ever was such an ownership." A: "Ownership of Calsodent stock passed out of the hands of my family prior to January 1, 1933."

Q: "Have you ever participated in clinics or lecture sessions sponsored by the Calsodent Company?" A: No answer.

Q: "Is it a fact that you participated in a radio program sponsored by the Worcester Salt Company in advertising their dentifrice, and were introduced to the radio audience as Editor of the New York Journal of Dentistry?" A: No answer.

Q: "If so, would you care to state whether you were compensated for your services, directly or indirectly?" A: No answer.

It has since been authentically reported to the Commission that the Editor appeared on the broadcasting program of the Worcester Salt Company, over Radio Station WJZ, on April 8, 1933. The Commission congratulates the Board of Directors of the First District Dental Society for the Board's most commendable action in passing the following resolution on June 5, 1933:

"Resolved, that it is the recorded opinion of the Board of Directors of the First District Dental Society that it considers the action of members of this Society in appearing upon the broadcasting programs of dentifrice manu-

REPORT OF COMMISSION ON JOURNALISM

facturers as undignified, objectionable, and in violation of the spirit, if not the letter, of the Code of Ethics. Furthermore, that the Board of Directors stands prepared in the future to enforce its expressed disapproval by Ethics Committee action against any member who lends himself, or herself, to any commercial program sponsoring dental preparations or products used in dentistry by the general public, unless such consent has been specifically granted by the Committee on Public Dental Information of the Society in writing, this last being incorporated to meet any unusual and unpredictable situation which might develop in the future."

This situation may be summarized as follows: (a) The Editor was at one time affiliated with the Calsodent (O-don tex) Company. (b) At present (June, 1933) neither he nor any member of his family has a financial interest in the Calsodent Company, ownership of Calsodent stock having "passed out of the hands of [his] family prior to January 1, 1933." (c) He was one of a group of three New York City dentists, mutual friends, who were originally identified with the Calsodent (O-don-tex) Company. One of these dentists subsequently became vice-president of the corporation. (d) The Council on Dental Therapeutics of the American Dental Association found Calsodent unsuitable for listing as an accepted product for several reasons, and publicly mentioned the Editor as having assigned a patent on a dentifrice formula to the Calsodent Company. (e) The U. S. Government found that Calsodent was misbranded, in violation of the Food and Drug Act, and that the claims made for it were "false and fraudulent." (f) The Editor has published an unfair, unwarranted, and acrimonious attack on the Council on Dental Therapeutics.

The Commission concludes that (1) *if* the editorial under discussion was not actuated by a spirit of revenge against the Council on Dental Therapeutics for its action in criticizing Calsodent, and in publicly mentioning the Editor's name in connection with the product, it seems unfortunate that the bitter tone of the editorial, coupled with other circumstances, should have created suspicions of such a motivation. (2) It seems constructive to emphasize that one of the liabilities inherent in even remote relationships of dental editors to commercial projects is the inevitable embarrassment to the editors of having their writings subjected to unusual scrutiny for indications of selfish motives. (3) Dental organizations should closely study the personal

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history of their prospective editors, with particular reference to the existence of any previous commercial affiliations, so that possible future embarrassment for the societies would be avoided.

K. General comment. Despite the existence of various temporary factors that tend to distort the view of present trends in dental journalism, the Commission is convinced, from numerous definite evidences, that dentistry is rapidly becoming conscious of the problems identified with the publication of its literature. Faith in the vision of the profession, and confidence in the profession's unswerving determination to be content with nothing less than the deserved highest esteem of the public and of other professions, prompt the Commission to predict that the solution of the problems of dental journalism will occur almost simultaneously with the advent of general professional consciousness of them. Your Commission continues to dedicate itself to the proposition that no labor will seem too heavy, and no opposition too discouraging, if the efforts of the Commission hasten the processes of dentistry's journalistic evolution.

II. SUMMARY OF IMPORTANT CHANGES IN DENTAL PERIODICALS:

JANUARY 1932 TO MARCH 1934²

Since January 1, 1932, numerous changes have occurred in dental journalism. The Commission is gratified by the fact that a number of these changes appear to have been stimulated by the recommendations in its report for 1932. Some changes have transpired as a result of the natural evolution of dental journalism; others have been produced by irresistible forces always present during periods of national economic stress. The following periodicals have been discontinued: American Dental Surgeon—Jan. 1932; Bulletin (Alabama Dental Association)³—April 1933; Economics, Dental—July 1933; Firefly, Dental—May 1931; International Dental Review—August 1931; Kentucky State Dental Association Bulletin⁴—October 1932; Los Angeles County Dental Society, Bulletin⁵—December 1933; Mouth

² Delay in publishing this section of the Commission's report for 1933 made it possible to include changes that occurred before March 1, 1934.

³ A program-number was published in March, 1934.

⁴ A preconvention-number was published in March, 1934. A program-number went to press late in April, 1934.

⁵ Discontinued as a bulletin, but has a section in the Journal of the Southern California State Dental Association.

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Health News—April 1933; Roster, Dental—Feb. 1932; Stomatologic Record—June 1932; Stomatology, American Journal of—April 1931. New or previously unlisted periodicals are indicated below:

Name	Address	init: publico	ial ation
Amer. College of Dentists, Journal	632 West 168th St., New York	Jan. 1	1934
Bulletin, Tufts Dental Club, N. Y.	385 Ft. Washington Ave., New York	Sep. 1	1933
Bull. Dental Society, State of N. Y.	471 Linwood Ave., Buffalo, N. Y.	Nov. 1	1933
Detroit Dental Bulletin	660 Fisher Bldg., Detroit, Mich.	Oct. 1	1933
Eastern Dental Society, Bulletin	2211 W. Lehigh Ave., Phila., Pa.	Oct. 1	1932
Family Dentist	9 East 40th St., New York	Nov. 1	1933
Georgetown Dental Journal	Georgetown Univ., Washington, D. C.	May 1	1933
Laboratory Technician	Associated Dental Laboratories, Inc. 220 West 42nd St., New York	Nov. 1	1927
Maryland State Dental Association, Journal of; Clarence J. Grieves Library Foundation	Baltimore College of Dental Sur- gery, University of Maryland, Baltimore, Md.	Apr. 1	1932
Newark Dental Club [Bulletin]	60 Branford Place, Newark, N. J.	Mar. 1	1923
N. Y. Academy of Dentistry, Journal	115 East 61st St., New York	Mar. 1	1934
Northern District Dental Society of Bronx County, Bulletin of	400 East 144th St., New York	Sep. 1	1933
Oregon State Den. Society, Journal	Medical Den. Bldg., Portland, Ore.	Jan. 1	1932
Progressive Dentistry	Weinbaum Dental Supply Co., 220 West 42nd St., New York	Mar. 1	1933
Queens Co. Dental Society, Bulletin	92-32 Union Hall St., Jamaica, L. I.	Jan. 1	934
Review of Dentistry for Children	2002 Eaton Tower, Detroit, Mich.	Nov. 1	1933
Review of Orthodontia ⁶	17 Park Ave., New York	Jan. 1	1933
Ritter Counselor	Ritter Dental Mfg. Co., Inc. Rochester, N. Y.	Jan. 1	933
San Diego Co. Dental Society Bulletin	First National Bldg., San Diego, Calif.	Apr. 1	1931
Southern California State Dental Association, Journal of	609 South Grand Ave., Los Angeles, Calif.	Jan. 1	1934
Standard Dental Topics	185 N. Wabash Ave., Chicago, Ill.	Nov. 1	931
Westchester Den. Society, Bulletin	2 Hudson St., Yonkers, N. Y.	Oct. 1	922

Changes in the titles of dental journals are noted immediately below:

From	To
American Dental Association Bulletin	American Dental Events Bulletin
Assistants Association, Dental, of Northern	Assistants Association, Dental, of Essex
New Jersey, Bulletin of	County, Bulletin of
Dixie Dentist	Dental Delegate
Georgia State Dental Society, Bulletin of	Georgia Dental Association, Journal of
Hudson County Dental Society, Bulletin of	Hudson County Dental Society Bulletin
Indiana State Dental Association, Bulletin	Indiana State Dental Association, Journal

⁶ Irregular; published only two issues—none since September-October, 1933.

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From

Kansas State Dental Association, Bulletin Minnesota State Dental Assoc., Journal Orthodontia, Oral Surgery and Radiog-

raphy, International Journal of Pacific Dental Gazette

Review, Dental

To Kansas State Dental Association, Journal North-West Dentistry

Orthodontia and Dentistry for Children, International Journal of

Pacific Dental Gazette and Journal of the Southern California Dental Association⁷ Review, Columbia Dental

Other changes or notations of interest: Alpha Omegon no longer carries advertisements. American Dental Events Bulletin: issued annually three weeks before American Dental Association meeting. Angle Orthodontist will publish articles from any reliable orthodontic source; is not limited to publication of Angle School contributions. Bulletin, Dental (Army Dental School): published quarterly; now printed and bound. Connecticut State Dental Association Bulletin: formerly published three times a year; now issued semi-annually. Digest, Dental: under new ownership of Oral Hygiene Publications, Inc., January 1932. Harvard Dental Record: advertising rates reduced. Indiana State Dental Association, Journal of: now limited to sixteen pages. Kansas State Dental Association, Journal of: changed from quarterly to monthly, January 1933. Minnesota State Dental Association, Journal of: converted into regional journal entitled North-West Dentistry, April 1933: now official organ of Minnesota and North Dakota State Dental Associations. Missouri State Dental Association. Bulletin of: formerly published by Official Bulletin Publishing Company of Chicago; now published in Missouri-the Association responsible for any deficit. Mouth Health Quarterly: subscription price reduced from \$4.00 to \$1.50. New Jersey State Dental Journal: publishes proceedings of state dental society; formerly published in Dental Cosmos; editorial and other departments established. New York Journal of Dentistry: in April, 1933, revoked policy of accepting only advertisements of dentifrices and therapeutic products "accepted" by Council on Dental Therapeutics of American Dental Association. Northwest Journal of Dentistry: January 1, 1932, ceased to be official organ of Oregon State Dental Association; H. C. Browne Company then selected, own editor and modified general make-up and appearance of periodical. Pacific Coast Society of

⁷ In January, 1934, resumed its original name: *Pacific Dental Gazette*. The Southern California State Dental Association now publishes its own Journal—see record above.

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Orthodontists, Bulletin of: now published in mimeographed form. Pacific Dental Gazette: February 1933 became Pacific Dental Gazette and Journal of the Southern California State Dental Association; in December 1933, the Gazette announced its discontinuance; in January 1934, Gazette appeared in a new form, distributed gratis, and frankly self-classified as a "trade journal."7 (Journal of the Southern California State Dental Association now owned and published by that Association.) Research, Dental, Journal of: ownership transferred to International Association for Dental Research, beginning with issue for June 1934. Review, Columbia Dental: taken over in March 1932 by joint organization of students, alumni, and faculty. Second District Dental Society [N. Y.], Bulletin of: gradually being converted into periodical of journal type. Temple University, Dental Review of: beginning in 1932, subsidized by University. Texas Dental Journal: temporarily suspended, June 1933; ownership transferred to Texas State Dental Society; published monthly since October, 1933.

BEGINNING OF THE AMERICAN COLLEGE OF DENTISTS

J. V. CONZETT, D.Sc., D.D.S., F.A.C.D.

National Board of Dental Examiners, Dubuque, Iowa

The establishment of the American College of Surgeons led me to covet such an organization for dentistry; when I was elected president of the American Dental Association, I began to plan for it. In the spring of 1920, I called a meeting of the leading men of several dental organizations to meet with me in Cedar Rapids, Iowa, to coöperate in the development of that plan. That meeting was held in the parlor of Dr. William Finn's residence, where we had been invited by Mrs. Finn to take dinner with them. Drs. Friesell, Black, and I discussed the matter, and there decided to ask twenty-five leaders in dentistry to meet with us in Boston, and become the founders of the projected College. That meeting was held as recorded in Dr. Friesell's paper in the last issue of this *Journal.*¹ The men there named became the Founders. Officers were elected and various committees appointed to perform several necessary tasks—one on constitution and by-laws; one on the best place and plan of incorporation; one on a proper certif-

¹ Friesell: Journal of the American College of Dentists, 1934, 1, p. 2; Jan.

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J. V. CONZETT

icate; one on appropriate regalia. These committees reported at a meeting held in Chicago, January 26, 1921, during the progress of the mid-winter meeting of the Chicago Dental Society. The constitution there submitted and adopted provided for the election of five Regents to conduct the business of the College. At that meeting after considerable discussion, the organization was unanimously named: American College of Dentists. The constitution and by-laws called for the appointment of a Board of Censors, to be named by the Board of Regents and to be a secret body. No one was to know the personnel of the Board of Censors so that no one would be able to exert any influence on its members in favor of any candidate that might be submitted for their approval. It was also decided that instead of the method of application, fellowship should be bestowed by the College on its own initiative for scholarship and merit, and not for personal or political reasons. Any member of the College could nominate a candidate for fellowship; the nomination would go to the Board of Censors and be held inviolate by them until they had decided upon the merit of the nomination; when, if approved, they would recommend to the Board of Regents the bestowal of fellowship upon the nominee. Thereupon the candidate would be informed by the Secretary; and, if he wished to consummate his fellowship, it would be bestowed upon him at the forthcoming convocation of the College.

The first convocation of the College was held in Milwaukee, August 13, 1921, during the progress there of the meeting of the American Dental Association, when fellowship was conferred upon the first class to be inducted. At this time the College decided to become incorporated. The committee on incorporation having reported that Illinois provided the best conditions for such a body as the College, the incorporation was consummated in that state. The colors of the College were made jointly the dental color-lilac-and American rose. The committee on regalia reported in favor of a cap and gown decorated with these colors; this report was adopted. It was also ordered that each Fellow be empowered to use the title, "Fellow of the American College of Dentists," or the letters F.A.C.D., following his name. The committee on certificate reported, and the College adopted, a beautiful design that had been submitted after much research and study. The writer is very proud of the fact that the first certificate was given to him and now adorns his office.

A NEW UNDERGRADUATE CURRICULUM IN DENTISTRY

During the next year (1921-'22), the activities of the organization were devoted chiefly to careful selection of men deemed worthy of Fellowship, and to formulation of the principles upon which the permanence of the organization depended. The second convocation was held in Los Angeles, July 16, 1922, during the progress there of the meeting of the American Dental Association, where a large class was inducted into Fellowship. Dr. Friesell was elected President; Dr. Midgley, Secretary.

A NEW UNDERGRADUATE CURRICULUM IN DENTISTRY

L. E. BLAUCH, PH.D.

Executive Secretary, Curriculum Survey Committee, American Association of Dental Schools

The American Association of Dental Schools is bringing to completion a four-year curriculum study, the major outcomes of which are a suggested undergraduate curriculum in dentistry, and a statement of general principles and plans on which dental educators can coöperate in mutual understanding. The need for a thorough study of the dental curriculum had become apparent several years ago. In the development of dental education a variety of curriculum plans had been evolved. One group of dental schools had three-year curriculums based on two years of pre-professional education in college; another group had four-year curriculums based on one year of education in college; a third group had four-year curriculums based on two years of study in college. This disagreement had become a source of considerable embarrassment. The general plan of the curriculum was the subject of much discussion by the American Association of Dental Schools, beginning in 1924. This discussion was greatly stimulated by the Carnegie Foundation's Bulletin on Dental Education in 1926, in which Dr. William J. Gies, who prepared it, suggested that attention should be directed to the content of the dental curriculum, and emphasized the need for improving dental teaching and dental research. Finally, in 1930, in response to the Association's representations, the Carnegie Corporation appropriated \$20,000 to support a study designed (1) to discover the modern requirements of dental health-service, and, (2) using these requirements, to outline a curriculum that would serve as a basis for adequately preparing men and women to engage in the general practice of dentistry. An additional grant of \$10,000 was later made by the Carnegie Corporation for the support of the Survey.

The American Association of Dental Schools appointed a committee of five deans of dental schools to have general charge of the Survey. As finally constituted the committee consists of Wallace Seccombe, University of Toronto, *Chairman;* John T. O'Rourke, University of Louisville, *Secretary;* Arthur D. Black, Northwestern University; H. Edmund Friesell, University of Pittsburgh; Harry M. Semans, Ohio State University. This committee selected as its educational advisors two well recognized educationists, Floyd W. Reeves of the University of Chicago, and W. W. Charters of Ohio State University. Also it appointed the writer its executive secretary to devote his entire time to the Survey, and established an office at the Northwestern University Dental School. The Committee has carried on an extensive study, aided by subcommittees of a total of forty dental teachers. More than a hundred dental teachers assisted in reviewing the proposed courses.

The American Association of Dental Schools, at its annual meeting in Chicago, March 19-21, 1934, devoted the major portion of its program to a consideration of the Committee's report. The recommendations, which were adopted, are summarized below: (1) that the objectives of dental education include competency in the practice of dentistry as a health service, effective coöperation of dentists with persons engaged in allied fields of service, continuation of study by dental students after graduation, and coöperation of dentists in community life; (2) that two years of education in the liberal arts and sciences be required for admission to the dental schools, this preliminary education to include a minimum of six semester hours in general chemistry and six semester hours in biological science; (3) that the dental curriculum be a four-year course; (4) that the curriculum submitted by the Committee be adopted as a guide to the member schools of the Association; (5) that definite provision be made for extra-class study; (6) that dental education be continued and further developed as an autonomous field of professional education; (7) that provision be made for a medium for publishing articles on the problems of dental education; (8) that

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the member schools be urged further to develop library facilities and use them effectively in their instruction; and (9) that the Committee be continued for the purpose of making further studies and securing funds therefor, the studies to deal with methods of instruction, graduate instruction and the training of dental teachers, the training and certification of specialists, student personnel, and visual aids to instruction. The Association also adopted resolutions (1) stating that the members appreciate the great importance of the Survey and the outstanding contribution it has made to dental education and its various relationships, and (2) expressing its thanks to the Carnegie Corporation for its interest in dental education and its generous support of the Dental Curriculum Survey.

The action of the Association in adopting the recommendations of the Curriculum Survey Committee does not make the recommendations mandatory; it merely makes them a statement of approved principles and plans for the guidance of the dental schools, and of persons and organizations concerned with the problems of dental education. The enthusiastic reception of the report by the dental teachers is a clear indication of their great interest in the problems of dental education. Also, it is a sign that much progress is being made in training men and women for the practice of dentistry. Dental education is putting its house in order, and is doing this in a most creditable manner. The final report of the Survey, now being prepared, will be published by the American Association of Dental Schools sometime during the coming summer.

CORRESPONDENCE AND COMMENT¹

"Has oral surgery been transferred from dentistry and made a specialty of medical practice; if so, when and by whom? The Annual Report of the Acting Dean of the School of Dental and Oral Surgery of Columbia University for the year ending June 30, 1933, contains the following comment (pamphlet edition, p. 7): "Oral surgery, of course, is already recognized as a specialty of medical practice. It is primarily surgery, rather than dentistry, however, and the preparation for it should be on the basis of other surgical specialties, i.e., graduation from medicine, a hospital experience, and a sufficiently prolonged graduate training in the sciences and clinical aspects of the field in order that the oral surgeon may in fact be fully qualified to meet the responsibilities which may be placed upon him" [italic mine]" -(1). Referred to oral surgeons for comment in a succeeding issue.- [Ed.]

¹ All members of the College are invited to submit discussions for publication. Owing to present limitations of space, contributions for this department should be brief and direct.

AMERICAN COLLEGE OF DENTISTS

PROCEEDINGS OF THE SECOND MEETING WITH THE AMERICAN ASSOCI-ATION FOR THE ADVANCEMENT OF SCIENCE¹

BOSTON, MASS., DECEMBER 29, 1933

COMPILED BY WILLIAM J. GIES, PH.D., Sc.D., LL.D.

Assistant-Secretary of the American College of Dentists, School of Medicine, Columbia University, New York City

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I. QUOTATION FROM A GENERAL REPORT ON THE PROCEEDINGS OF SECTION N (MEDICAL SCIENCES) OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, AT THE BOSTON MEETING²

Albert L. Midgley, D.M.D., Sc.D., Secretary, American College of Dentists

"The dental profession was represented actively in the affairs of the American Association this year for the second time. The joint sessions of the American College of Dentists with Section N included also in the morning the American Pharmaceutical Association; this constituted the first joint meeting of national organizations representing dentistry and pharmacy. Various constructive influences of the American Dental Association's Council on Dental Therapeutics were indicated. The session presented practical suggestions for coöperation among dentists and pharmacists for scientific advancement in the professional work of each group, and for the protection of the public and the professions against the use of ineffective or worthless remedial agents. The afternoon and evening ses-

¹ A preliminary statement was published on page 19 of the issue of this *Journal* for January, 1934. The *active* program committee for the American College of Dentists were: L. M. S. Miner, chairman; F. H. Cushman, F. A. Delabarre, W. H. Grant, and E. A. Johnson, all of Boston. Twelve additional members of the College constituted the *honorary* program committee.

² Simpson and Midgley: Science, 1934, 79, p. 116; Feb. 2.

sions, held jointly with Section N, were devoted to dental subjects in fields where responsibilities of medical practice and dental practice overlap, and where the scientific methods and objectives are practically the same for both medicine and dentistry. The science of dentistry is being actively developed by an increasing number of investigators, many of whom, in universities, are actively identified with the development of the medical sciences. The dental programs have reflected this scientific evolution. The dental sessions were notable also as offering a stimulus to increasing realization of the interdependence among the health-service professions. It is becoming increasingly obvious that, in the regions where the scientific interests of these professions overlap but have been relatively neglected, important developments await more active coöperation among the leading workers in each group, which such sessions as those in affiliation with Section N are promoting in the public interest and to the scientific advantage of all concerned."

II. INDEX OF NAMES OF PARTICIPANTS, AND SEQUENCE NUMERALS OF THE CORRESPONDING ABSTRACTS ON THE SUCCEEDING PAGES

Baker, 7; Beust, 13; Cook, 3; Daley, 17; Dixon, 16; Ellison, 9; Gies, 20; Gordon, 4; Healy, 5; James, 14; King, 8; Logan, 2; Macdonald, 11; MacGilvra, 9; Matthews, 18; McCarthy, 19; Oartel, 15; Rioch, 10; Schour, 6; Smith, 4; Swanson, 12; Van Kirk, 12; Wolf, 15; Youngken, 1.

III. FIRST SESSION:³ MORNING; ABSTRACTS 1-4

1. INVESTIGATION OF VIBURNUMS AND THEIR MEDICAL ASPECTS. Heber W. Youngken, A.M., Ph.D., Phm.M., Massachusetts College of Pharmacy, Boston, Mass. Root and stem barks of Viburnum prunifolium, lentago, rufidulum, cassinoides, nudum, and opulus americanum, and specimens of each plant collected in the field by the author, were botanically verified and carefully described by him as a basis for accurate chemical, pharmacodynamic, and clinical work. Dr. J. C. Munch, working with preparations from some of the root and stem barks, reported they are mildly sedative to isolated uteri of dogs, cats, guinea pigs, and rabbits, and cause transient fall in blood pressure.

³ Joint session with Section N and the American Pharmaceutical Association—the first between national dental and pharmaceutical societies; convened at the Boston Medical Library. *Chairman*: John C. Krantz, Jr., Ph.D., Second Vice-president of the American Pharmaceutical Association.

Prof. F. J. Amrhein found that root bark of V. cassinoides contained 0.05 percent of alkaloids; stem bark, 0.06 percent. Root bark contained more valerianic acid than stem bark. Commercial V. prunifolium root-bark has been adulterated with, and substituted by, stem bark of the same plant, as well as with barks of other species of Viburnum. V. cassinoides has been the chief and usually entire source of commercial "Shonny Haw Bark," which has been substituted by bark of black chokeberry, Aronia malanocarpa var. grandifoliaknown to collectors as "Buck Shonny Haw." Similar adulterations and substitutions were discussed. All fresh medicinal Viburnum barks have a valeric odor. In some instances this odor is not evident after drying and long storage, but can be developed by triturating pieces in a mortar with phosphoric acid or hydrochloric acid.

2. DETERMINATION OF MAGNESIUM BY ALKALIMETRIC TITRATION. Milan A. Logan, Ph.D., Forsyth Dental Infirmary and Harvard Medical School, Boston, Mass. 8-Hydroxyquinoline, with which Mg forms an insoluble salt, is a useful reagent for alkalimetric determination of Mg in biological materials. On heating, Mg is converted into magnesium oxide, which is measured by means of acid and alkali of known concentration. Addition of citrate prevents simultaneous precipitation of interfering substances in biological materials. With this procedure, it was found that, in relation to Ca, the Mg of dentin is two to three times more abundant than Mg of enamel or bone. Mg of dentin or enamel in carious human teeth is essentially equal to that of normal dog teeth. The Na + K of bone or teeth is several times the amount in any other tissue. The CO₂ of dentin or enamel is equal to 70 percent of that of bone; of dentin from human carious teeth, is higher than that of normal dentin of the dog. The high proportion in bone of bases other than Ca and Mg indicates that a concentration of all the salts in blood plasma is involved in the formation of calcified structures.

3. SCIENTIFIC ASPECTS OF PHARMACOPCEIAL REVISION. E. Fullerton Cook, Ph.M., Chairman of the Committee of Revision of the U.S. Pharmacopceia, XI (1930–1940), Philadelphia, Pa. The author reviewed the objectives of the Pharmacopceia, and its scope and application in the standardization of medicines within the United States; and presented a detailed account of many recent scientific investigations leading to better drug standardization by the various subcommittees of the Committee of Revision. Recent developments for control of vitamins A and D have been placed under pharmacopœial supervision. Extensive coöperation from scientists associated with universities, and from representatives of Health and Food and Drug Administration Departments of the Government and of the Bureau of Standards, and also contributions from scientific divisions of manufacturing houses, have given a unique position to this long-established standard for medicines.

4. DENTISTRY AND PHARMACY IN THERAPEUTIC PROGRESS.⁴ Harold S. Smith, D.D.S., F.A.C.D., and Samuel M. Gordon, Ph.D., Chairman and Secretary, respectively, Council on Dental Therapeutics, American Dental Association, Chicago, Ill. "Wide-spread use of proprietary remedies that violate rational practice of pharmacy and therapeutics is causing grave concern to thinking members of the pharmaceutical profession. These abuses are, in a measure, responsible for the degradation of the pharmacy from a strictly professional medium concerned with the study and preparation of drugs to the now common general-drug-soda-beer-andvariety store whose only reason for existence is purely commercial. This has been a source of irritation to those who see pharmacy as a profession no less respectable than other professions, whose aims and ideals are based on service. It is gratifying to know that some scientific pharmacies are operated according to the best traditions of that profession, and that fortunately they are increasing throughout the country. Such pharmacies deserve encouragement from all members of the healing professions, and also from all pharmacists who hold their calling high. This support, which should be more than moral, presupposes an active campaign by pharmacy, if prescriptions are to be written and filled. The specialty manufacturer uses every tool known to advertising to persuade the prescriber to use the specialty against the official product. Pharmacy should do its part in inducing the healing professions to restrict their prescriptions to official products. Pharmacists belonging to this worthy class have much useful information to place at the disposal of the dental profession. An incident will serve to illustrate. Sometime ago there appeared in a dental journal a suggested method for the treatment of Vincent infection with "bismuth tartrate emulsion," presumably prepared by a pharmacist. To one with a knowledge of the Pharmacopoeia or the National Formulary, it was evident

⁴ This paper is represented here by direct quotations. It will be published in its entirety in the Journal of the American Dental Association for June, 1934.—[Ed.]

that bismuth tartrate was not described. A competent pharmacist would have advised the writer of the aforementioned article that the drug was non-existent in an official sense, and might have suggested an equivalent preparation in terms of an official drug, or an acceptable non-official drug. Thus there would have been prevented not only the addition, to therapeutic literature, of an unnecessary preparation, but also the flood of inquiries concerning the source of such a preparation. The properly informed pharmacist can suggest official preparations in lieu of a fad.

"The efforts of some pharmaceutical educators are encouraging. Shortly after the work of the Council was started, Dean Schicks, of Rutgers University College of Pharmacy, became acquainted with the circumstance that pharmacists were overlooking a fruitful field of coöperation with the dental profession. Study showed that many drugs and pharmaceutical preparations are employed in the practice of dental therapeutics in the office, and by the patient at home. The failure of the pharmacist to make known his ability to serve dentists, coupled with the assaults of some unprincipled proprietary-medicine firms, has left an open field for other agencies to offer what the pharmacist is best equipped and trained to provide. Since representatives of dental supply-houses and pharmaceutical firms find it profitable to detail dentists frequently, why should not pharmacists follow the same plan to increase their usefulness.

"To develop closer relationships between the professions of pharmacy and dentistry, several suggestions are offered. The pharmacist should concern himself with the purity and quality of his drugs, and with accurate compounding of prescriptions. He should recommend to the dentist and physician that they increase their use of drugs official in the Pharmacopoeia and National Formulary and in the recognized non-official books of standards, since these are the drugs for which the dental, medical and pharmaceutical professions have determined the therapeutic usefulness; and he should discourage the use of fraudulent and secret remedies. The fact that the "U.S.P." drugs are used with so little advertising, in contrast with the millions of dollars spent in promoting the sale of proprietary drugs, is testimony to the worthwhileness of such a campaign. Thinking pharmacists will recognize that they cannot properly serve the interests of public health, or the maintenance of high professional ideals and standards, if pharmacy condones counter prescribing, and does not speak openly against products that are marketed contrary to the interests of the public. It is true that pharmacy has spoken against this evil in general terms, but one wonders if the time has not come to substitute the specific and practical for the general and futile. Conversely, no thinking member of the dental profession can lend himself and his profession to the schemes of exploiters of nostrums and unscientific pharmaceutical preparations. He can not, through testimonials for such products or through reference to such in contributions to dental literature, give endorsement to drugs or preparations for which adequate scientific evidence of their usefulness is not available. Periodicals of dental organizations fail to meet their moral and high professional responsibilities to the public, and to their profession, if they advertise such preparations. Pharmaceutical periodicals should do no less.

"Local and state dental societies similarly fail to meet such obligations if they include in their commercial exhibits this type of preparation. In the past, instances have occurred where undesirable products were included in both the advertising copy and exhibits of dental organizations on the basis of revenue obtainable, while at the same time the truly scientific members of the same organizations refused to use or prescribe these articles. It is realized that such undesirable practices as those just mentioned are becoming less frequent, and that the future status will, in a large degree, be dependent on organized dentistry's educational efforts in this direction."...

IV. SECOND SESSION:⁵ AFTERNOON; ABSTRACTS 5-12

5. DEGENERATIVE VASCULAR DISEASES AND THEIR RELATIONSHIP TO DENTAL PROBLEMS. James C. Healy, M.D., Dental School, Tufts College, Boston, Mass. Differential counts of leucocytes in blood obtained from gingivae revealed eosinophilia in fifteen cases of acute gingivitis and in twenty-two of periodontoclasia. The proportion of eosinophilia varied from 6 to 18 percent in all cases. This local gingival eosinophilia was interpreted as an allergic phenomenon. The diagnosis was established by skin testing with food, animal emanation, and bacterial proteins; by testing with autogenous urinary proteose; and by means of therapeutic effects of elimination diets. Improvement was obtained by dietary or contact control where the cause could be determined. Attempts at non-specific desensitization were moderately successful.

6. RAT INCISOR AS INDEX OF CALCIUM METABOLISM. Isaac Schour, D.D.S., Ph.D., Dental School, University of Illinois, Chicago, Ill. The rat incisor, like the nail of man, grows continuously, but three

⁵ Joint session with Section N; convened at the Boston Medical Library. *Chairman:* Leroy M. S. Miner, D.M.D., M.D., Sc.D., F.A.C.D., Dean of the Dental School, Harvard University.

times as fast. Enamel and dentin are laid down in layers, which move forward as they are formed and calcified, and record rate of growth, and register changes in calcium metabolism, just as the rings in a tree indicate seasonal growth, alternate periods of rainfall and drought, etc. Erdheim, studying effects of removal of the parathyroid glands in the rat, found that incisors fractured easily because the dentin was imperfectly calcified, and that incisor dentin acted as an automatic and continuous recorder of changes in calcium metabolism. The first of the author's three investigations in this relation showed that one excessive dose of ergosterol, or of 40 units of parathyroid hormone, resulted in a deficiently calcified dentin layer, followed by a well or excessively calcified layer. The undercalcified dentin layer was formed during the time when (as shown by analysis) the blood content of Ca rose; the well-calcified dentin layer, when that content returned to normal. These results indicated that vitamin D acts through the parathyroid mechanism, and that the parathyroid hormone is influential by controlling a fraction of the blood Ca. The second research showed that multiple injections of parathyroid hormone caused an acute primary reaction characterized by a deficiently calcified layer; a secondary reaction, by excessively calcified dentin layer. The third study showed that both enamel and dentin responded delicately to injection of sodium fluoride, which Smith found is causative of mottled enamel. Each injection produced a layer, in enamel, characterized by defective cement substance and enamel rods; in dentin, pairs of layers were formed similar to those observed in the first and second studies. These findings help to clarify physiologic and pathologic effects of ergosterol, parathyroid hormone, and sodium fluoride; confirm Erdheim's statement regarding delicacy of the reaction of dentin; and yield new evidence for a somewhat similar reactivity in enamel. Both enamel and dentin of rat incisors may be used as convenient and delicate indicators of substances that affect Ca metabolism, for they respond with clock-like accuracy.

In the foregoing studies, the author had the collaboration of (1) Dr. A. W. Ham, University of Toronto; (2) Drs. W. F. Tweedy and F. A. McJunkin, Loyola University Medical School; and (3) Dr. Margaret C. Smith, University of Arizona.

7. BACK TO JOHN HUNTER-A MODERN APPLICATION OF MADDER-

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FIG. 2



FIG. 5



FIG. 3

FIG. 4

FIG. 3 FIG. 4 FIG. 4 FIG. 4. Madder-stained fetus. Madder, introduced into digestive tract of pregnant animal, absorbed with dyeing them red (dark). FIG. 2. Embryo stained to study bone-growth. By ceasing madder feeding to mother at definite time, then continuing with normal diet until birth of young, embryonic bones at early stage of development were printed upon same bones at birth. (Unstained bone developed after cessation of madder feeding shows light.) By this method, bone growth was studied before birth as Hunter studied it after birth. Tot. 3. Effect of diets upon calcification, using madder-carrying salts as index. Each animal given exact amount of madder per unit of weight, only variable being diet. Animals: A, fed whole-wheat flour only; B corn meal; C, normal laboratory diet. Skeletons: A, most intensely stained; B, not so much; C, least of all. Reason for differences unknown; probably amount of madder-carrying salts. To determine whether variation in deposition of madder-carrying salts in bone could be brought about without introduction of an agent into body variations in diet or artificial bone stimulation), hatch of madder-fed chickens used: one group matured in ark; the other, in sun rays (all other conditions being equal). A, leg-bone from non-sunlight group; B, similar bother, indicating greater deposit of madder-carrying salts. Dentin of right inferior central incisor of madder-fed rat irritated dentine on madder-carrying salts. Dentin of right inferior central incisor of madder-fed rat irritated by frequently cutting off end of tooth: more deeply stained than left incisor. Deeper work for a probably due to surcharge of madder-carrying salts in secondary deposit of dentin for protection of vitality.

FEEDING TO STUDY OF LIVING BONE. Lawrence W. Baker,⁶ D.M.D., Harvard University Dental School, Boston, Mass. By modification of Schulser's clearing method, bone and tooth structures may be rendered transparent, and results of madder staining studied under better conditions than any hitherto because bone and tooth structure can be converted into "natural test tubes," and what has taken place within living bone can be seen. Thus, after the pulp of a central incisor of a madder-fed rat is irritated by exposing the dentin and when the specimen is cleared, one can see into the tooth structure and find that it is stained deeper than its fellow (fig. 5). This intensified staining appears to indicate that the dentin, because of irritation, becomes surcharged with madder-carrying salts brought there for calcification of the secondary dentin to protect vitality. Thus a sympathetic nervous mechanism appears to control the deposition of Ca and P salts in repair of the dentin when injured or diseased. There is possibly a similar sympathetic-nerve control over calcification of bone fractures. After clearing the skeletons of madder-fed animals having experimental fractures, the entire skeleton is seen to be more deeply stained than that of the control animal because of influx of madder-carrying salts necessary for repair of the injured bone.

One of the most debated problems in orthodontia relates to the nature of bone changes when the collapsed upper dental arch of a child is widened. To determine whether such change takes place only in the alveolar process, or along the principal suture between the bones of the vault of the mouth, the upper arch of an adult laboratory animal was enlarged by means of an orthodontic appliance, and madder staining used as index of growth. The stain seemed to show that new bone was formed not only in the areas in question, but also in all bones of the face, including internal structures of the nasal cavity and certain portions of the orbits.

The legends under the accompanying illustrations indicate the nature of our studies. Dr. M. J. Shear, Biochemist to the United

⁶ John Hunter found that, by adding madder to the food of *young* animals for a time and then allowing them to subsist until maturity on a diet free from madder, the stage of development of the *growing* bones was clearly printed in red on fully developed bones in the same animal. Our study, an application of this method of vital staining, was aided by a grant from the Milton Fund.

States Cancer Research Commission, has made valued suggestions. Drs. G. B. Wislocki and Reid Hunt, of the Medical School, not only gave freely of their knowledge, but also granted the use of their laboratories. Dr. Hunt generously allowed his technician, Mr. H. W. George, to give much assistance.

8. CYTOLOGICAL STUDIES OF TEETH BY USE OF VITAL STAINING. Lester S. King, M.D., Harvard University Medical School, Boston, Mass. Unusual reparative changes in a rat's injured incisor, studied with vital staining, were described. The chief features were absence of inflammation, proliferation of odontoblasts, increased storage of trypan blue, fibroblastic lining of dentin fragments, and an unusual formation suggesting early regeneration of enamel.

9. PALINAESTHESIA: EFFECT OF RECALL ACID AS MEANS OF RECOV-ERY AND RESTORATION TO SENSIBILITY. Walter V. MacGilvra, D.D.S., Harvard University Dental School, and Alfred Ellison, M.D., South Bend, Ind. This preliminary report is based on a study of prompt reversal of general anesthesia following intravenous injection of minute doses of HCl to anesthetized animals, as first observed by Moorman.⁷ Since learning of this medication, and verifying it by further animal experimentation, the authors anticipated the possibility of its use to resuscitate human beings who might have become dangerously over-anesthetized. Such an emergency arose at Memorial Hospital, Worcester, Mass., in July 1933. The patient was given HCl intravenously for the specific purpose of changing an anesthetic state. We believe it was the first instance in which it has been tried on man, and with complete success. This patient had an unusual reaction to a commonly repeated dose of Avertin. No reflection on this agent is implied, since our personal series with it embraces over 2000 cases with gratifying results. Following operation, the patient rapidly approached a state of anesthesia so profound that he was moribund. When obviously in extremis and heroic measures were clearly imperative, 5.4 cc. of 0.1 N HCl were administered intravenously over a period of 25 minutes. Respiration increased promptly; reflexes began to appear 8 minutes after injection was started. The patient, fully awake in 40 minutes, was completely restored. No un-

7 Moorman: Science News Letter, 1934, 25, p. 19; Jan. 13.

toward sequelae followed this first effort to recall, by this method, a patient from a dangerous anesthetic state.

So promising was this result that Dr. L. M. S. Miner's support was sought in further research, and both the Dental and Medical Schools of Harvard University joined in promoting a preliminary investigation. Simultaneously, palinaesthesia was tried on more patients, all of whom were benefited, both by reason of rapid recovery from effects of ether, and by shortening the period of post-ether sickness. The range of possible application of palinaesthesia is very wide. It might be available for recovering cases of alcoholism, asphyxiation. drowning, and severe electric and other forms of shock.

10. NEURAL MECHANISM OF CHEWING. Janet M. Rioch, M.D., Harvard University Medical School, Boston, Mass. In studies on localization of central mechanisms for rhythmic chewing, evidence against a supra-bulbar "chewing center" in guinea-pigs was obtained. Rhythmic chewing in rabbits, as obtained by cortical and subcortical stimulation, with stimuli of variable frequency and intensity, was analyzed. There is a frequency threshold for rhythmic chewing, below which only jaw-opening movements are obtained, at rates identical with rate of stimulation. An upper threshold exists above which inhibition of chewing takes place. Rate of jaw-opening and its latent period are functions of the frequency; rate of jaw-closing is relatively constant. Evidence indicates intracortical inhibitory fibers are present. A theoretical consideration of the neural mechanism of chewing was presented.

11. THE PHYSICIST IN RELATION TO CERTAIN ORAL LESIONS. W. J.Macdonald, M.D., Member of U.S. Board of Dermatology and Syphilology, Boston, Mass. The author discussed a type of oral pathology about which little has been known, and involving incidence of vague irritations in the mouth, going at times to ulceration and frequently to leukoplakia, and including pigmentation of cheeks and tongue, hypertrophy of lingual papillae, discoloration, erosions, and maladjustment of dentures. Careful observers believe (a) that blame in many cases can be laid to chemical burns of the tongue by under- or over-cured dental plates, supercharged with sulphur, and containing excess of mercury as a coloring agent; and (b) that these or even more annoying types of lesion can and do result from a state of chronic galvanism in the oral cavity. Dissimilar metals in the mouth with a potent electrolyte—saliva—constitute an efficient, even though minute, type of galvanic battery. Dissociation of electrons from metals at the positive end of an electromotive series of metals, and their replacement of or deposition upon metallic fillings at the negative end, result not only in defective metallic dentures, but cause more or less oral pathology. Rubber refinement in preparation of plates, and suggestions about unification of metallic dentures and proper vulcanization of plates, were indicated as remedial measures.

12. ELECTIVE LOCALIZATION OF STREPTOCOCCI FROM INFECTED TEETH. William F. Swanson, B.S., D.D.S., M.S., F.A.C.D., and Lawrence E. Van Kirk, A.B., D.D.S., M.S., F.A.C.D., Dental School, University of Pittsburgh, Pittsburgh, Pa. We were able to confirm the findings of former investigators; namely, that in most cases of negative x-ray diagnosis, infected teeth harbored strains of streptococci of varying virulence. To avoid contamination by ordinary oral bacterial flora, we confined our research to organisms in pulp canals and dentinal tubules of infected teeth. Even under this precaution, 95 percent of infected teeth were found to harbor streptococci. In thirty cases, besides producing common types of elective localization, such as arthritis, myositis, endocarditis, and iritis, we were able to obtain localizations in endometritis with abortion, paroxysmal hemoglobinuria, and encephalitis. The streptococci were cultured in medium of low oxygen-tension; rabbits were used.

V. THIRD SESSION:⁸ EVENING; ABSTRACTS 13-20

13. MICROÖRGANISMS OF MATERIA ALBA (TOOTH SLIME OR DENTAL FILM).⁹ Theodore B. Beust, M.D., D.D.S., F.A.C.D., Dental School, University of Louisville, Louisville, Ky. The germ content of an unbrushed mouth has been computed to number one trillion, six hundred billion individuals. Many wholesome foods, such as clabber, sauerkraut, and young fermented beverages, when taken into the mouth, introduce countless numbers of microörganisms. In health,

⁸ Joint session with Section N; convened at the Hotel Kenmore (preceded by a dinner). *Chairman:* Bissell B. Palmer, D.D.S., F.A.C.D., President of the American College of Dentists.

⁹ Supported, in part, by a grant from the Research Commission of the American Dental Association.

the mouth does not present favorable environment for germs of these types, and they speedily disappear. The author's discussions were restricted to varieties of microbes that live *exclusively* in dental film. This flora presents problems of interest to hygienists, botanists, zoologists, and chemists. The largest varieties were seen over two centuries ago. Today, however, little is known of their life histories or relationships. With the aid of improved technic, and photomicrographs, the life cycle of certain complex types in film was demonstrated. An organism, *Leptothrix falciformis*, first described by the author in 1909, was shown to include in its cycle microörganisms that are identical with those supposed to cause Vincent infection. The paper closed with an appeal for further investigation in this virgin field.

14. PYORRHOEA ALVEOLARIS. Frederic James, D.D.S., Dental School, Temple University, Philadelphia, Pa. To the layman, pyorrhea is becoming a problem of increasing seriousness, because much confusion and many absurd statements have been made concerning it through the medium of advertising. Every patient is entitled to a scientific opinion. This can be given only through competent study of each individual case, thorough examination of the oral tissues, and correct interpretation of findings. Any condition allowed to pass untreated for weeks, months or years, must necessarily assume a serious phase sooner or later. The public should seek the advice of the specialist, for pyorrhea can be treated satisfactorily despite absurd statements to the contrary in current advertisements. The statement. "four out of five have pyorrhoea," defrauds the public. Careful cleansing of the mouth, adequate treatment including proper medication, together with thorough coöperation by the patient, assure success. Coöperation between physician and dentist is often essential.

15. EFFECTS OF SHORT ELECTRIC WAVES UPON STREPTOCOCCI FROM INFECTED TEETH. J. S. Oartel, D.D.S., M.S., Dental School, and E. Alfred Wolf, Ph.D., Department of Zoology, University of Pittsburgh, Pittsburgh, Pa. The authors studied effects of short electric waves of high frequency upon streptococci commonly found in infected teeth. A high-frequency machine, constructed by Dr. G. M. McKinley, producing frequencies of 90,000,000 cycles per second (wave length of 3.2 meters), was used for radiation of root fragments, which were then cultured in suitable media. Periods of exposure to the high

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frequency field varied from 5 to 60 minutes. The following effects of short-wave radiation were noted in 73.4 percent of the cultures from radiated fragments: (a) lethal effect in 30.4 percent; (b) retardation of growth, from the radiated specimens; (c) distinct diminution of size in 15.2 percent of radiated organisms; (d) change in grouping of organisms in 15.2 percent; (e) diminution in size and also change in grouping in 10.4 percent; and (f) marked increase in size of radiated organisms in 2.8 percent. Morphological changes persisted through a series of transfers, although retardation of growth was gradually reduced. In general, effects of radiation increased with length of exposure, although curves expressing this relation show considerable irregularities. When, however, the means of longer time-intervals (0 to 10, 11 to 20, and 30 to 60 minutes) were taken, the resulting curve showed the effects of radiation to be exponential in character.

16. HISTOPATHOLOGICAL CHANGES IN PULP AND DENTIN UNDER DIFFERENT FILLING MATERIALS.¹⁰ Russell A. Dixon, D.D.S., M.S.D., Dental School, Howard University, Washington, D. C. Cavities were prepared in eight teeth of each of five dogs, and fillings of different materials (copper cement, guttapercha, and amalgam) were placed. After periods of 15, 20, 25, 30, and 180 days, the filled teeth were extracted. In every instance, tubular secondary-dentin was deposited at the base of dentinal tubules involved in cavity preparation. Each deposit of secondary dentin was marked by heavy calcification of primary dentin at the site of initial secondary-dentin formation. Fish¹¹ concluded that this area ("barrier") always occurs as a result of peripheral injury, either as a translucent zone of hypercalcified dentin directly under the lesion, or as a calcified scar at the pulp margin. The present findings do not corroborate this view. In cross-sections of this extremely well-calcified portion of dentin, the tubules are seen to be open and the deposit appears to be intertubular, rather than intratubular as implied by Fish. Only walls of the tubules, Newmann's sheaths perhaps, and intertubular substance (dentin matrix) show this intense calcification. There is no evidence that tubules

¹⁰ Research in the Department of Histology, Northwestern University Dental School, in partial fulfillment of the requirements for the Degree of Master of Science in Dentistry, at Northwestern University, June, 1933.

¹¹ Fish: British Dental Journal, 1932, 53, p. 351; Oct.

are sealed off from the pulp by a calcified deposit or scar. Variable amounts of secondary dentin were deposited in different teeth from the same animal, indicating that there may be individual differences in reaction of pulps to external injury. There is evidence that this individual reaction may be influenced by cavity depth, since there were variations in depths of cavities and in amounts of secondary dentin. Free calcific-like deposits often occurred in pulps of teeth filled with amalgam. These deposits may, however, be artefacts (precipitated mercury from fillings), and careful reëxamination will be made. There was extensive degeneration of pulps in all filled teeth; there appeared to be also much congestion of blood vessels. Low grade, chronic inflammation was observed in few instances; therefore the degenerative process occurred in absence of any marked degree of inflammation.

Conclusions: (1) Responding to external irritation, pulp deposits secondary dentin at the base of injured dentinal tubules. (2) That excess of calcium salts at the site of initial deposition of secondary dentin is protective, in the sense that it seals off pulp from further external injury, is doubtful, since the deposit seems to be *inter*tubular rather than *intra*tubular. (3) Effects of various types of fillings upon dentin and pulps can be determined accurately only after more careful studies of the nature and extent of any degenerative change caused by cavity-preparation itself. Such knowledge should be the rational basis for any form of surgical operation upon a tooth, whether extensive, as for a crown, or restricted, as for a simple cavity.

17. VINCENT INFECTION: FINAL REPORT OF A SIX-YEAR INVESTIGA-TION. Francis H. Daley, D.M.D., Dental School, Tufts College, Boston, Mass. Conclusions have been drawn from careful clinical and microscopical studies of mouths of 5446 patients. In a school clinic many patients are below the average type in private practice; are of the poorer classes who, either through financial inability or ignorance, cannot or do not give their mouths necessary hygienic care; and therefore present relatively high percentages of pathological conditions. Etiological factors in Vincent infection are local or direct; remote or indirect. Local factors, all within the mouth, are calcific deposits; partially erupted teeth, with flaps of tissue over them; illfitting crowns and overhanging fillings; broken-down roots; irregularity of teeth; mechanical occupational conditions. The more important indirect factors are blood diseases, diabetes, nephritis, syphilis, acute febrile diseases, tuberculosis, dietary discrepancies and allergies, pregnancy, colonic involvements, occupational diseases, drug idiosyncrasies. Proper diagnosis depends upon clinical and microscopical examinations. Our cases are classified as positive, negative, or potential. Clinical symptoms are listed as reddened and inflamed gingivae, erosion and destruction of gingival crest, ease with which hemorrhage is stimulated, characteristic foul odor of breath, presence of pseudo-membrane, salivation and increase in temperature, pain of varying degrees, malaise. Microscopical diagnosis depends upon these factors: thin, even smear; proper staining; oil-immersion microscope. In active cases, smears have shown fusiform bacillus to average 4-8 μ in length; 0.4-0.8 μ in width. Spirochetes in active cases have averaged $6-12\mu$ in length; $0.3-0.5\mu$ in width. In all active cases both fusiform bacillus and spirochete stain quickly and evenly. In treated cases, and in long-standing ones, length and width of both organisms increase; and there is decrease in ability of each type to absorb stains. In dark-field illumination-tests, the fusiform bacillus is always a refractile non-motile organism; the spirochete, extremely motile. We do not attempt diagnosis by examination under darkfield illumination.

Our conclusions on *local treatment* are based on these factors: the organisms are low-grade, saprophytic, and anaerobic. Treatment must not affect enamel or cementum, nor soft tissues, and must be reasonably pleasant to the patient. Chromic acid is harmful to enamel; ultra-violet therapy is of little or no use; vaccine therapy and most proprietary mouth washes are valueless; neo-arsphenamine is valuable, when used locally; mild oxidizing agents and castile soap are valuable. Regarding *general treatment* we conclude: complete physical examination is necessary, to rule out systemic diseases having oral manifestations. Vitamin-containing foods and fruits should be prescribed. Diet should be studied and balanced. Care must be taken not to upset diets for diabetes and similar diseases, which require strict adherence. Catharsis is indicated. Sleep and general hygiene should be checked up. Most positive cases displayed some systemic factor which, coupled with local factors, produced the lesions;

we have seen many cases in scrupulously clean mouths, diagnosed as Vincent infection, which were oral manifestations of some remote systemic dysfunction. Cases of so-called chronic Vincent infection have almost invariably been associated with a chronic condition elsewhere in the body. *Our treatment* of Vincent infection includes complete physical examination; treatment based on systemic findings; general health treatment as outlined above; use of sodium perborate mouth-wash, and castile soap as a dentifrice locally; removal of local factors as quickly as good judgment permits.

Vincent infection is communicable; general and local resistance determine whether the condition will develop. Personal contact is probably the main factor in transmission. One attack does not confer immunity. Proper oral hygiene safeguards against the disease. All patients discharged as cured should be checked clinically and microscopically for at least one month afterward. Extensive operative procedures, surgical operations, and administration of a general anesthetic are contraindicated during the height of active infection. None of our patients appeared to be "carriers." In many clean and apparently healthy mouths, organisms of the disease were present. Incidence of the angina-type of Vincent infection has become infrequent. The larger percentage of positive cases was among nativeborn patients having sedentary occupations. The greatest general age incidence is within the age-period of 20 to 50; for males, 30 to 40; for females, 20 to 30. The incidence was highest from January to April, inclusive; lowest from May to October, gradually rising to the end of the year; it has dropped approximately 75 percent since 1926-27 (the incidence of clean mouths has been rising steadily since 1926-27). The disease approaches endemic proportions following endemic spread of other diseases, such as influenza. We feel that, with continued education of the public and with a more standardized form of diagnosis and treatment, Vincent infection will never attain serious proportions; and that complete diagnosis, local and general, coupled with rational, physiological treatment, will be controlling factors.

18. MORPHOGENESIS OF MANDIBLE. George P. Matthews, D.M.D., Harvard University Dental School, Boston, Mass. The paper described a study of development of the human mandible, based upon examination of serial sections of human embryos ranging from 10 to

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350 mm. C. R. measurement. Histogenesis of Meckel's cartilage was discussed, and shown by numerous photomicrographs. Early ossification of the mandible, and the manner in which its component parts are built into a correlated whole, was also described. The work essentially substantiates findings of Fawcett and of Low, but added significance is attached to the appearance of the accessory cartilages and the rôle they play in the acquisition of final form. Development of the condyle was illustrated, and particular stress laid upon the morphogenetic interpretation as applied in the study of orthodontia. Ratios of width and length of embryonic mandible to fetal length were given in many stages. Primordia of dental tissues, and their relationship to mandibular form at each particular stage of development, were considered.

19. ETIOLOGY AND PATHOLOGY OF LEUKOPLAKIA BUCCALIS. Francis P. McCarthy, M.D., Dental School, Tufts College, Boston, Mass. In a study of 271 cases of leukoplakia buccalis, the author stressed various grades according to their intensity from both clinical and pathological findings. The etiological factors are occlusal, chronic irritation, tobacco, and lues. Special reference was made to the importance of tobacco among causal factors. Lues is definitely connected with lingual cases; and where there has been preëxisting atrophic glossitis, the clinical picture is pathognomonic of syphilis. It was shown, however, that leukoplakia elsewhere in the mouth is not necessarily related to lues. Detailed description of the pathological histology of the various grades was given, and the relation to development of malignant changes stressed. The edentulous mouth, even with poorly fitting dentures and excessive use of tobacco, does not tend to show involvement of leukoplakia. Oral sepsis, especially in peridental infection, and lack of dental hygiene together with excessive use of tobacco, are contributing factors in the production of leukoplakia. Considerable attention was given to the treatment of this stubborn condition. Use of high-frequency current, and preventive measures, are by far the most effective way of controlling the condition.

20. DENTISTRY IN THE FAMILY OF SCIENCES. William J. Gies, Ph.D., F.A.C.D., School of Medicine, Columbia University, New York City. The author responded to the chairman's invitation to discuss the relation between College and Association. He indicated some

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steps taken to bring about affiliation; alluded to ensuing recognition of dentistry as a science and a profession; referred to the scientific value and significance of the meeting in Atlantic City a year ago and of this one; emphasized the importance of earnest attention to the personal and professional opportunities afforded to dentists by these meetings; drew attention to the value of recurrent joint sessions with groups and organizations in many related fields of science, including social and economic, such as that with the American Pharmaceutical Association in the morning; and urged that dentists, in centers where future meetings of the Association will be held, show their interest, and derive available benefits, by attending the sessions. He also mentioned the fact that all dentists are eligible to membership in the Association, and advised general dental coöperation with this largest and most comprehensive organization for advancement of all the sciences in public appreciation and support.

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DENTISTRY'S SOCIAL POSITION AND RESPONSIBILITIES

It is a proud day for the parents when the child takes his first step. It seems to the father and mother, at times, that the youngster will never be able to stand erect and step out without the aid and guidance of a strong hand. Dentistry, to date, has been on its hands and knees socially, and the range of vision from this posture is too limited in horizon for present-day problems. Unfortunately, assuming the erect posture in the social and economic structure does not seem to have the allure for the profession that getting up and walking has for the child. The process, however, of revamping our mental attitude toward the changing conditions is very analogous, as I see it, to the attitude of the child to the new experience of walking. The natural urge is within each, pushing the foot ahead inch by inch; but inherent disinclination to shift the balance forward, owing chiefly to inexperience, retards the progress. Unhappy experiences in a number of countries relative to social programs have quite naturally been a deterrent factor in progressive thinking and planning in this country, where youthful tolerance on the part of both the public and the profession still obtains, regardless of conditions.

It is all very well for us as dentists to decry the sad happenings in other countries, where there is evidence of political and civil interference in the

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smooth workings of a system of medical care. While we are doing this, however, let us not forget that some lack of appreciation of the social problems on the part of the dentist, or some lack of amount and kind of service people actually received in these countries, really caused the change in dispensation procedures. In order that dentists in this country may obtain a better understanding and appreciation of our social position and responsibilities, the work of the Socio-Economics Committee is in progress. Before a report can be contemplated, all phases of the dental-socialization problem must be studied intensively. Meanwhile it is the duty of every dentist to see that his profession is not exploited by individuals or groups anywhere in this country. The action of one legislative body serves as a precedent for another; and should a law be passed that would be inimical to the best interests of the public and the profession in one state, it might do untold harm in future legislation in all states.

Let us not forget that in the background hovers, at all times, the spectre of inadequate service to many people in this country—the real urge in any community to change this phase of its social order. When we take into consideration the very considerable changes in the attitude of government toward dental care, it would seem high time for dentistry to lend an attentive ear to the growing demand, both within and without the dental profession, and govern its policies accordingly.—C. E. R.

American Association of Dental Schools

On pages 41-43 we present Dr. Blauch's statement of important events at the recent annual meeting of the American Association of Dental Schools, which was attended by representatives of nearly all the schools. The "Curriculum Survey Committee" presented a unanimous report which, after thorough discussion, was adopted by a practically unanimous vote of the official representatives of the schools-about three-fourths of the total number. The report not only included agreements with some prevailing views-for example, that dentistry is health service and that dental education should be continued as an autonomous division of professional education-but also presented the findings (a) that the minimum admission requirement as to preliminary preparation should be two years of acceptable work in an accredited academic college, and (b) that the lengthened professional curriculum (about 4500 hours) should be "a four-year course." Whether a teaching equivalent in three lengthened years, as at Buffalo, would conform with this recommendation, was not indicated. A study of desirable provisions in graduate work for specialists, teachers, and others, was included in the recommendations for early extension of the

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Committee's efforts. It was apparent, at the meeting, that conflicting general opinions were reconciled in the broad purpose to achieve concerted movement forward. The spirit of harmony and of constructive endeavor, in which the Association was founded in 1923 and has hitherto progressed, was the dominant influence in bringing about a result that is fortunate for dental education and useful for the further betterment of oral health-service. Matters of detail and expediency will obviously continue to be subjects of discussion and experiment.

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH

The twelfth general meeting of the International Association for Dental Research was held in Chicago, March 17–18. This important organization, now nearly fourteen years old and steadily growing more useful, is dedicated to the promotion of dental research in all its aspects. This Association consists of 360 of the leading active participants in dental research, in 26 geographic centers ("sections") in 8 nations. It conducts its affairs, through the agency of a Council consisting of representatives of all the sections, in a manner that is strikingly impersonal and notably effective. The spirit of this organization is the spirit of research, which accounts for its pervading altruism and its entire freedom from such selfish or perverse contrivances as often render the official acts of societies unrepresentative, unfortunate, or destructive. The entire issue of the *Journal of Dental Research* for June, 1934, will be devoted to a full account of the Association's proceedings at this meeting.

JOURNAL OF DENTAL RESEARCH

The International Association for Dental Research, at its recent meeting in Chicago, voted to acquire ownership of the *Journal of Dental Research*, which, beginning in June, will be issued as the official publication of the Research Association. This action accords with the developments outlined in our last issue (p. 21). The Regents of the American College of Dentists, appreciating the great importance of the *Journal of Dental Research*, and aiming to give the Research Association effective aid during the current year, have voted a grant of \$1000 for the support of the journal that is devoted primarily to the advancement of research. In return, copies of each issue of the *Journal of Dental Research* in 1934 will be sent to all members of the College who do not receive copies under other auspices. It is to be hoped that many members of the College will assist in maintaining the *Journal of Dental Research* by becoming permanent subscribers.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

A DECLARATION OF INTELLECTUAL FREEDOM

The American Association for the Advancement of Science feels grave concern over persistent and threatening inroads upon intellectual freedom which have been made in recent times in many parts of the world. Our existing liberties have been won through ages of struggle and at enormous cost. If these are lost or seriously impaired there can be no hope of continued progress in science, of justice in government, of international or domestic peace; or even of lasting material well-being. We regard the suppression of independent thought and of its free expression as a major crime against civilization itself. Yet oppression of this sort has been inflicted upon investigators, scholars, teachers and professional men in many ways, whether by governmental action, administrative coercion, or extra-legal violence. We feel it our duty to denounce all such actions as intolerable forms of tyranny. There can be no compromise on this issue, for even the commonwealth of learning can not endure "half slave and half free." By our life and training as scientists and by our heritage as Americans we must stand for freedom. —Adopted by unanimous vote of the Council, at the Boston meeting, Dec. 27, 1933–Jan. 2, 1934: Science, 1934, 79, p. 91; Feb. 2.

AMERICAN ASSOCIATION OF DENTAL SCHOOLS

WHY THE DECREASING NUMBER OF DENTAL STUDENTS?

I am sure that all of you here today are interested in the tabulation sent out recently by Doctor Midgley the Secretary of the Dental Educational Council, showing the registration of students in the [dental] schools in the United States for the current year. It indicates a total attendance of 7160 students. This is the smallest number in attendance at any time over a period of more than twenty years. From the maximum of 13,099 in 1922 we have seen a decrease year by year to the low mark of 7160 in 1934. During this same time there has been a decided increase in the number of students graduating from high schools and preparatory schools of all kinds and registering in institutions of collegiate grade....For several years, the schools of medicine in this country have been unable to accommodate the increasing number of fully prepared applicants who sought an opportunity to enter. Several hundred who failed to gain admission to a medical school in this country have gone abroad each year to study medicine. Schools of dentistry are conspicuous among professional schools and the institutions of higher learning in that they have shown a marked decrease in attendance. We might well consider some of the reasons which we think are responsible for this situation. Undoubtedly the principal ones among them are the higher entrance requirements and the longer course of study. The situation suggests a question: Is the length of time required and the expense incurred in securing a dental degree so great and the resulting returns from practice so limited that dentistry has lost its appeal to many prospective students, and fails to attract into our schools as many students as formerly; or is there some other basic, underlying reason why fewer students are studying dentistry? Graduates in medicine are increasing the number of practitioners several times as fast as the population is increasing, while in dentistry the number of recent graduates scarcely equals the number who have discontinued practice .-- Quotation: Address by President W. F. Lasby, American Association of Dental Schools, Chicago, March 19, 1934.

JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS

Issued quarterly, beginning January, 1934. Subscription price: \$2.00 per volume. Presents the proceedings of the American College of Dentists and such additional papers and comment from responsible sources as may be useful for the promotion of oral health-service and the advancement of the dental profession. Address communications to the executive officer of the editorial board: William J. Gies, 632 West 168th St., New York City.

TRUSTWORTHY JOURNALISM FOR A PROFESSION

Quotations from editorial comment on the Report of the American College of Dentists' Commission on Journalism. . . . The editors and publishers of proprietary journals claim that their journals are published for the good of the dental profession and not with an eye to the promotion of the trade houses and dental products of their owners. The editor of one prominent proprietary dental magazine has gone so far as to assert that his particular publication appears "in the interest of the patient." . . . All periodicals are published primarily for their owners. . . . But what of the underlying motive? A trade-house owner will take care that his products are not slighted and a publishing house owner will not allow his books, or their authors, to be slighted. A journal published by a dental society is likewise published for the benefit of its owners; and who are its owners but members of the dental profession? Such a journal is published for dentists in fact, not merely in dedication. Therein lies the real difference between proprietary and non-proprietary journalism. . . . We recommend that the dental profession give its full support to undergraduate dental publications. . . . The actual management of the [undergraduate] journals should be left in the students' hands, but the more experienced alumni should act in an advisory capacity so that the undergraduates may get the greatest possible amount of journalistic training. Dentistry has a valuable training field here and she should make every effort to cultivate it.-Editorial: Penn Dental Journal, 1934, Jan.

... There is a growing sentiment among those interested in dental journalism to accept the report and the recommendations of the Commission on Journalism of the American College of Dentists, as the only solution of this perplexing problem. May they carry on until one may write of dental journalism as Dr. Morris Fishbein in 1927 wrote concerning medical journalism: "The time has passed when any weekly medical periodical can long survive or gain the support of the American Medical Association if it is devoted to policies that are reactionary, to commercial interests that are without regard for honesty and the interest of the public or to the personal ambitions of promoters or editors. The principles and ethics of medical journalism are as sincere and certain as those of medicine itself."—*Editorial, C. S. F.: Iowa Dental Bulletin, 1934, Feb.*

Quotations from replies by the Chairman of the American College of Dentists' Commission on Journalism to articles in Dental Survey (Oct. 1933) and Dental Digest (Nov. 1933). ... An awakened dental profession will refuse to support proprietary journalism with either money or literary contributions. The day is fast approaching when the proprietary dental journals, as a group, will be generally recognized for what they are—assets for their profit-seeking owners, and liabilities to the dental profession... Any classification of journals that is based upon something other than the ownership of the periodicals, and the proclivities of that ownership and its editorial agencies, is neither applicable nor sound. The entire disagreement may be summarized as being between those who disinterestedly and unselfishly seek for dentistry a fine, highly respected and responsible journalism, such as that possessed by the leading professions, as against those whose primary interest in dental journalism seems to be the exploitation of dentistry and dentists for salaries and corporation dividends, or to maintain and enhance capital investments to these ends.—Journal of the Michigan State Dental Society, 1933, Dec., pp. 283-284.

The exponents of non-proprietary journalism have been encouraged to believe that the evolution of journalism in dentistry would proceed naturally with the development of the profession, and that the trade-house and other proprietary journals, in conformity with this evolution, would gradually disappear just as the private-profit dental schools have disappeared in the evolution of dental education. The greatest service the Dental Editors Club, and the editors of private-profit journals can render the cause of nonproprietary dental journalism, is to continue to help to keep this question before the profession for wide-open discussion.—Bulletin of the Missouri State Dental Association, 1934, Feb., p. 13.

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