American College of Dentists

Objects: The American College of Dentists "was established to promote the ideals of the dental profession; to advance the standards of 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.

Announcements

Next Meeting, Board of Regents: Miami, November 6, 1954.
Next Convocation: Miami, Sunday, November 7, 1954.

Research

The American College of Dentists inaugurated plans to promote research in dentistry and set apart funds for that purpose at its annual meeting in 1937. [J. Am. Col. Den., 4, 100; Sept. and 256 Dec. 1937.] During the years following plans were carried out resulting in extensive researches within dental schools and to some extent, elsewhere. Grants in support of and awards for achievement (William John Gies, Grants and Awards) have been provided. In addition to these, Teaching Fellowships, Grants to Research Workers for travel expense, and Emergency Funds for loss through disaster have been established. A standing committee of the International Association for Dental Research will actively co-operate with the College in carrying out these plans. For application or further information apply to the secretary of the College—Dr. Otto W. Brandhorst, 4221 Lindell Blvd., St. Louis, Mo. (See J. Am. Col. Den. 5, 115; 1938 (Sept.); The William J. Gies Dental Research Fellowship and Awards for Achievement in Dental Research.)
JOURNAL
American College of Dentists

Board of Editors (1953-1954)

Officers and Regents of the College, Ex-Officio

JOHN E. GURLEY, San Francisco, Editor
ALFRED E. SEYLER, Detroit, Assistant Editor

Contributing Editors

J. MARTIN FLEMING, (1958) Raleigh, N. C.
WILBUR McL. DAVIS (1957) Orlando, Fla.
G. FRED HALE (1956) Raleigh, N. C.
DONALD W. GULLETT (1955) Toronto, Canada
CONTENTS

Editorial ............................................................................................................. 243

American College of Dentists

Reports of Committees
Necrology, Henry A. Merchant, D.D.S., Chairman ................................. 248
By-Laws, James H. Ferguson, Jr., D.D.S., Chairman ......................... 271
Preventive Service, Carl L. Sebelius, D.D.S., Chairman ...................... 273
Prosthetic Service, C. A. Nelson, D.D.S., Chairman ............................. 276

Tri-State Section (Concluded from June Journal)

Reports of Committees
Oral Surgery, Russell L. Moore, D.D.S. ...................................................... 288
Preventive Service, Carl L. Sebelius, D.D.S. ............................................ 288
Prosthetic Service, J. Guilford Sharp, D.D.S. .......................................... 291
Public Relations, C. N. Williams, D.D.S. .................................................. 297
Socio-Economics, W. R. Levy, D.D.S. ....................................................... 298
Student Recruitment, Chas. C. Chumbley, D.D.S. ................................. 300
Minutes, Board of Regents, Chicago, Feb. 7, 1954, Otto W. Brandhorst, D.D.S., Chairman ................................................................. 301

American Association for the Advancement of Science (Proceedings N2, Sub-Section Nd, Dentistry) ......................................................... 303

Book Announcements .................................................................................... 318
WORDS

What's in a word? Achievement or retreat; duty or defeat; beauty and power or bereavement.

“Did” is a word of achievement.
“Won’t” is a word of retreat.
“Might” is a word of bereavement.
“Can’t” is a word of defeat.
“Ought” is a word of duty.
“Try” is a word for each hour.
“Will” is a word of beauty.
“Can” is a word of power.

Author Unknown
Reference was made recently\(^1\) to the reorganization of the College with some regard to committee structure. Many committees that today have actually served their period of usefulness were once required, and are therefore due to be discontinued or retired or replaced by new ones. It was indicated in that same editorial that the March issue of the Journal would carry an announcement of the new committees. A survey of the inside back cover will indicate to those who have followed the work of the College in any detail, the changes that have been made, and especially if one goes back over the years he will note that for a long period of time some committees which have performed their duties or fulfilled assigned tasks have not been continued. This is as it should be, for work initiated today requiring a certain approach must grow, and new work thus developed must require a new approach. This does not mean that a committee has entirely served its purpose or period of usefulness, for it can generally be said that while all committees have performed their functions well, some may merge into the new field and carry on to greater heights, on a different basis requiring different action. For example, in the early 1900's it became evident that a revolution within the dental educational field was necessary. The word revolution is used advisedly, recognizing two methods of progress: one through evolution and one through revolution. Generally speaking, the evolutionary method is the method of choice, that is, a gradual change from one point to another or one level to another as may be required. But occasionally the time comes when direct action is necessary and a revolution becomes the method of choice.

During the years from 1908 to 1928 approximately, dentistry was in a state of revolution and the dental educational program was changed completely. Since 1928, as will be required for years to come, dental education will follow the evolutionary method. But this works so quietly that sometimes even interested people do not realize what is going on. The revolution during the 20 year period pre-

\(^1\) J. Am. Col. Den., 20, 205; 1953 (Dec).
ceding 1928 was so complete and so thorough that it will be many years before such a method is again required.

Thinking in terms of committee structure over the years, one finds many that have performed their duties and some that have gradually molded into other committees, not with a wholly different function but with a somewhat different approach to the same function. Illustrative of this point, the editor received an inquiry from the Dean of a dental school recently in which was asked: “When did the concept of prevention in medicine and dentistry first come to light?” The answer given was this: “Prevention had its beginning right at the time of treatment of the first pain or discomfort, for treatment was initiated with the intent of stopping, and the hope of preventing recurrence.”

With the passing of the years the concept has grown and the idea of prevention has followed along evolutionary lines until now dentistry is ready to take more positive steps in that direction. Another illustrative example may be that of the committee on Hospital Service, and related fields. We see changes that have taken place here so that today the educational council of the American Dental Association is giving attention to that phase. The committee on Journalism has seen both revolutionary and evolutionary changes—the work of today has the same objective but the approach is vastly different. The basic idea in the reorganization of the dental curriculum was the introduction of more and better-taught science in dental schools. This had already been accomplished in medical schools. So the predental curriculum was set up. A quarter of a century has passed and students have advanced in knowledge so that today much of the difficulty encountered in the early days, including not only the lack of knowledge on the part of the dentist by virtue of his lack of education, but his inability to counsel well with his medical confreres has been eliminated. During these years and with all these changes better studying facilities on university campuses have been developed where medical and dental students are thrown together. Here a new condition has grown up.

In 1938 or thereabouts a committee was appointed by the President and Regents of the College whose function it should be to develop research and medical-dental relationships. A fund of $25,000 was set apart to be used in the initiation of research in various schools or localities where such could be carried on. The entire fund may not
have been used but research was not only initiated but spurred on to a high degree of activity. Today we have more research reports than we have space for publication. No school is qualified without some subject of research under consideration and no teacher is qualified who has not become the master of his work to the extent that he can speak as of his own authority. This research of the teacher may be in the test tube or it may be in searching the literature, but in any case the result is original research.

This committee has served through a period of 14 to 16 years, almost the longest period of service of any committee. They have done a magnificent job among clinicians of both professions in establishing a better relationship but now that that relationship is quite well established, attention needs to be turned to an investigation of further developments along that line. It will be noted that the name has been changed to Health Relationship. Really one new committee was developed in this change, that of Health Service and if that be not enough, include the Preventive Service committee. Then read the note on a proposed survey of preventive measures. This will show the reader at once the evolutionary changes that have taken place both in purpose and in name. It is at this point that honor should be paid to him who served as chairman of the former committee, thus paving the way for new purpose and concomitantly, the new approach.

Such growth and such change demand that a new look be taken at deeper and more significant change which brings this about. Always the present is the outgrowth of the past and the future is at the same time predetermined. Actually man has but little control over his affairs—he must be smart enough to give some guidance and watch for the solution to show up. Actually, university relationships, changes in student understanding and attitude, and professional attainment bring these changes upon us.

Beginning in 1946, the University of California held its first All-University Faculty Conference, this year, 1954, being the ninth. During these conferences attention has been directed naturally toward University affairs and University functions, among which came the question of what constitutes the University family; what are its different schools or colleges; what is the position of the professional schools.

In 1948 scholarship was stressed as "the common bond uniting all in the University". At the seventh conference in 1952 special attention was given to "professional and vocational education", at which time the professional schools were declared integral parts of the University. Four objectives were cited as to the professional curriculum:

"(1) to provide the student with the necessary professional training so that he may successfully make a beginning in his chosen profession;

"(2) to provide him with the basis for an understanding of the place of his profession in, and its relation to, society;

"(3) to prepare the student for intellectual, political and cultural citizenship and leadership;

"(4) to instill in the student a respect and desire for knowledge and truth which shall continue throughout his lifetime."^4

It was recognized during this period of study that a "widely-recognized pitfall of any education organized in this manner is overemphasis of techniques and slighting of underlying nonprofessional principles". This leaves the dental profession to consider some of its objectives and methods of meeting these objectives, among which is that of committee functions and changing functions; a better understanding of the philosophy of the principles involved; and the possible development of professional relationships. One point to be made is that the things that have been done among adults of the present generation have now been transferred to the youth or the undergraduates of the oncoming generation who by virtue of the educational process must have a better correlation of their scientific and technical training and a broader concept of their relation to other professions and the different duties imposed upon each.

Men have for a long time talked about the term Health Professions. There should now be a real concept of what is meant by that term and that dentistry is really one of the Health Professions. But it is well also to know that change is constant and inevitable—that what one generation learned as adults or youngsters is learned today by still younger youngsters and so it will continue throughout time.

Referring again to the University of California All-University Faculty Conference, a list of eight points is delineated to be attained

^3 Ninth All-University Faculty Conference (University of California), April 29 to May 1, 1954. P. 20.

^4 Italics not in the original.
in undergraduate education, and which fit into and answer dental requirements:

"1. The precise use and understanding of language,
2. An interest in and an appreciation of ideas,
3. Social and moral attitudes congenial to the liberal tradition,
4. An appreciation of our culture, of the individual in relation to it, and an awareness of cultural variety throughout the world,
5. An understanding of the religious heritage of the West, and an awareness of religious variety throughout the world,
6. The ability to distinguish between conviction and intolerance, between judgment and dogmatism,
7. The ability to govern one's behavior without intolerance, and
8. The ability to recognize human excellence and perhaps to contribute to distinguished attainment."

Now it may be clearly seen, the dental curriculum has been revamped; the period of undergraduate study has been lengthened and filled; relationships with other vocations and enterprises of men have been changed by virtue of mutual studies; and on the whole, a fuller and more abundant life for men of both the medical and dental professions is upon us. This has been brought about by the total efforts of all committees, but especially in this instance the finishing touch has been put on as a result of research and interprofessional relationships.

What has been accomplished in the University of California has been similarly brought about in other schools. This University is just now concluding a six months' survey of the curriculum. What may be the total final finding is not wholly known, but one thing seems sure: the attitude of both ‘teacher and taught’ will be brought to the fore and the profession and the public will benefit. The answer will be found in man himself. Man's business is to make men out of each other—the professional man will take care of himself.

AMERICAN COLLEGE OF DENTISTS

REPORTS OF COMMITTEES

1. Necrology .................................................. 248
2. By-laws ..................................................... 271
3. Preventive Service ......................................... 273
4. Prosthetic Service ......................................... 276

1. NECROLOGY

HENRY A. MERCHANT, Omaha, Chairman

Today, we come together again in a solemn moment—to reflect in memory the lives of those of our colleagues, whose Fellowship has made this great Fraternity richer and more proficient, in service to humanity and to the dental profession.

The goals to which they aspired—the ideals in which they steadfastly believed—the inspiration which they imparted to their Fellows—stand as the Rock of Ages, indestructible against the adverse winds of infidelity—faithlessness and lack of character. Without doubt, they would have voiced their requests in the words of an unknown author:

"Lord, let me not die until I've done for Thee
   My earthly work, whatever it may be.
   Call me not hence with mission unfulfilled;
   Let me not leave my space of ground untilled;
   Impress this truth upon me that not one
   Can do my portion that I leave undone."

(Author unknown)

True, strong ties of friendship are severed. True, also, we miss them—but as we dry our tears we look up resolutely to the monuments of character and determination for higher standards which are their legacy to us.

We cannot here pay adequate tribute to each one for his unselfish devotion to his profession and his home, nor can we evaluate his

1 These reports were submitted to the Board of Regents in annual session, Cleveland, Sept. 28, 1953.

2 Other members of this committee are: E. S. Arnold, D. W. Brock, Willard Ogle and John Steen.
allegiance to his church or his contribution to society in his own community. We do, however, take consolation in the fact that each was a child of Almighty God. “In His image created He them” is an assurance that our hour of loss links us with eternity and assures us the continuity of our lives.

We take consolation, also, in the Scriptural Counsel that not even a sparrow falls without our Heavenly Father’s notice. “Fear ye not therefore, for ye are of more value than many sparrows.” Matt. 10:31.

The flowers here today eloquently express our feelings of sympathy and love. May our heavenly Father grant consolation to those families, who have lost most and may the promised Comforter be sent in unlimited measure and cause each to feel that our loss is Heaven’s gain.

Faith

“Lord, give me faith!—to live from day to day,
With tranquil heart to do my simple part,
And, with my hand in thine, just go Thy way.

Lord, give me faith!—to trust, if not to know;
With quiet mind in all things Thee to find,
And, child-like, go where Thou wouldst have me go.

Lord, give me faith!—to leave it all to Thee,
The future is Thy gift, I would not lift
The veil Thy love has hung ’twixt it and me.”

(John Oxenhem, 1892–1941)

Mr. President, Fellows of the College: I move this report be accepted and that a copy be forwarded by the Secretary to the nearest of kin to each deceased Fellow.
JOSEPH P. ARNOLD
Houston, Tex.
1880-1953
Graduated from University of Maryland in 1900
Fellowship conferred in 1937

FRANK P. BARNARD
1871-1953
Graduated from Harvard Dental School in 1897
Fellowship conferred in 1935
Edward C. Berwick
Austin, Tex.
1881–1953
Graduated from Vanderbilt University in 1904
Fellowship conferred in 1946

Wilson N. Burford
Columbia, Mo.
1913–1953
Graduated from St. Louis University School of Dentistry in 1938
Fellowship conferred in 1950
Dan U. Cameron
Chicago, Ill.
1873-1952
Graduated from Philadelphia Dental College in 1897
Fellowship conferred in 1926

Charles F. Chandler
Montgomery, Ala.
—1953
Graduated from Baltimore College of Dental Surgery in 1896
Fellowship conferred in 1923
LOUIS D. CORIELL
Baltimore, Md.
1878–1953
Graduated from Baltimore College of
Dental Surgery in 1899
Fellowship conferred in 1922

GEORGE W. DICK
Sumter, S. C.
1864–1952
Graduated from University of Pennsyl-
vania, School of Dentistry in 1885
Fellowship conferred in 1927
Thomas S. Eader
Frederick, Md.
1860–1952
Graduated from Baltimore College of
Dental Surgery in 1882
Fellowship conferred in 1938

Beverly M. Epes
U. S. Army
1894–1953
Graduated from Atlanta Dental College
in 1915
Fellowship conferred in 1943
John G. Frisch  
Madison, Wis.  
1889–1952  
Graduated from Marquette University  
School of Dentistry in 1922  
Fellowship conferred in 1948

Reed H. Gerard  
Carmel, Calif.  
1894–1952  
Graduated from Western Dental College  
in 1917  
Fellowship conferred in 1950
ALBERT A. HARRINGTON
Newark, N. J.
1888-1953
Graduated from Baltimore College of Dental Surgery in 1910
Fellowship conferred in 1937

SIDNEY B. HOSKIN
Portland, Ore.
1890-1952
Graduated from North Pacific Dental College in 1916
Fellowship conferred in 1943
REPORTS OF COMMITTEES

GEORGE C. JERNIGAN
Rector, Ark.
1884-1952
Graduated from St. Louis University School of Dentistry in 1913
Fellowship conferred in 1950

E. FRANK INSKIPP
San Francisco, Calif.
1903-1953
Graduated from College of Physicians and Surgeons, in 1931
Fellowship conferred in 1938
Edward Kennedy
New York, N. Y.
1899-1952
Fellowship conferred in 1923

Edwin C. Kronman
1899-1952
U. S. Navy
Graduated from New York College of Dental and Oral Surgery in 1921
Fellowship conferred in 1950
WILLIAM F. LASBY
Minneapolis, Minn.
1876-1953
Graduated from University of Minnesota
in 1903
Fellowship conferred in 1928

GEORGE W. LUNDBERG
St. Paul, Minn.
1896-1952
Graduated from University of Minnesota
in 1923
Fellowship conferred in 1943
CLARE K. MADDEN
Greenwich, Conn.
1899–1953
Graduated from Univ. of Michigan in 1923
Fellowship conferred in 1951

JAMES H. MAYCOCK
1896–1953
Graduated from University of Louisville,
School of Dentistry in 1925
Fellowship conferred in 1937
REPORTS OF COMMITTEES

Edward L. Mayer
St. Louis, Mo.
1882-1953
Graduated from Washington University
School of Dentistry in 1908
Fellowship conferred in 1938

John V. Mershon
1867-1953
Graduated from Pennsylvania College of
Dental Surgery in 1889
Fellowship conferred in 1940
HARRY A. MESJIAN
1899-1953
Graduated from Thomas W. Evans Institute of Dental Surgery in 1921
Fellowship conferred in 1950

W. RAY MONTGOMERY
Buffalo, N. Y.
1879-1953
Graduated from University of Buffalo in 1903
Fellowship conferred in 1945
Michael J. Moran
Deming, New Mexico
1903–1953
Graduated from Indiana Dental College
in 1903
Fellowship conferred in 1934

Waldo H. Mork
New York, N. Y.
1882–1953
Graduated from New York College of Dentistry in 1903
Fellowship conferred in 1926
WALTER A. RATH
Washington, D. C.
1893-1953
Graduated from New York University,
College of Dentistry in 1920
Fellowship conferred in 1951

ALFRED E. ROWLETT
Leicester, England
1876-1953
Graduated from Royal College of Dental
Surgery in 1899
Fellowship conferred in 1948
EDWARD H. SMITH
Libertyville, Ill.
1953
Graduated from Northwestern University, School of Dentistry in 1894
Fellowship conferred in 1929

ROWE SMITH
Texarkana, Ark.
1901–1952
Graduated from Vanderbilt University, School of Dentistry in 1923
Fellowship conferred in 1951
GRACE ROGERS SPALDING
Birmingham, Mich.
1881–1953
Graduated from University of Michigan in 1904
Fellowship conferred in 1950

HENRY SPENADEL
New York, N. Y.
1876–1953
Graduated from New York University College of Dentistry in 1904
Fellowship conferred in 1952
WILLIAM A. SQUIRES
New York, N. Y.
1884–1953
Graduated from Northwestern University Dental School in 1907
Fellowship conferred in 1938

WILLIAM O. TALBOT
Ft. Worth, Tex.
1873–1952
Graduated from Northwestern University Dental School in 1889
Fellowship conferred in 1928
LAWRENCE E. VAN KIRK
1895-1953
Graduated from University of Pittsburgh
School of Dentistry in 1919
Fellowship conferred in 1929

JAMES M. WALLS
St. Paul, Minn.
1870-1953
Graduated from University of Minnesota,
School of Dentistry in 1894
Fellowship conferred in 1934
WILBERT J. WHITEMAN
Detroit, Mich.
1880-1952
Graduated from Detroit College of Medicine and Dentistry, in 1901
Fellowship conferred in 1938

STYLES W. WHERRY
Ogden, Utah
1874-1953
Graduated from Kansas City Western Dental School in 1899
Fellowship conferred in 1933
Orrlie D. Wilson
Owensboro, Ky.
1881-1953
Graduated from University of Louisville, School of Dentistry in 1904
Fellowship conferred in 1945

Charles E. Woodbury
Alhambra, Calif.
1887-1952
Graduated from Ohio State University, College of Dentistry in 1887
Fellowship conferred in 1921
2. BY-LAWS

JAMES H. FERGUSON, JR., Baltimore, Chairman

As a matter of explanation it might be well to state that this committee was originally appointed by President Pierson to make a study of the increased problems in the central office. In evaluating conditions we found the secretary’s duties had increased to such proportions that in the line of progress it was found advisable to recommend certain changes. This survey was made during the St. Louis meeting last year. We found that Dr. Brandhorst was carrying on in an office space that was entirely inadequate for an organization the size of ours. For a number of years he has been giving several hours a day from Monday through Friday to College administrative work. He has been putting in about five hours on Saturday and frequently carrying on many of his duties from his home during the evenings.

We realize as does every member of the College that our secretary has served us for more than fifteen years in a highly efficient manner and with great devotion to the highest ideals of the College. He has done so without compensation. The committee felt that because of the magnitude of the work we have grown to the point of not only needing to enlarge our central office headquarters but to consider the employment of a full time paid secretary. We so advised the Board of Regents and further recommended that Dr. Brandhorst be asked to assume the responsibilities on a full time basis.

In our approach to the central office changes we felt that any recommendations must be evaluated on a long range scale. In other words, if the future growth and activities of the College are to be planned constructively it should be done with a view of making financial arrangements to take care of our needs for at least a decade. With that in mind it was found necessary to make certain recommendations with regard to dues and the entrance fee.

Pursuant to these recommendations to the Board of Regents by this committee, President Pierson deemed it feasible to establish the the committee as one of Constitution and By-laws to function at

---

1 Other members of this committee are: W. N. Hodgkin, B. F. Thielen, and Harry S. Thomson, Ex-officio.
this meeting. On that premise we make the following recommendations to amend our by-laws:

SECTION B: OFFICERS

It is proposed to amend Section B, paragraph 1, which now reads:

"1. Election of Officers. The President, the President-elect, the Vice-president, the Secretary, the Treasurer, and the Historian, shall be elected by the College at annual meetings, to serve for one year or until their successors are elected and installed."

Strike therefrom the words "The Secretary" and "the Historian" and add thereto following the word "installed", the following statement:

"The Secretary, the Editor and the Historian, shall be selected by the Board of Regents for such periods and on such terms as the Board of Regents may determine, for the proper administration of the Central Office, the proper conduct of the Journal and the recording of historical data of the College. The Secretary, the Editor and the Historian, shall be ex-officio members of the Board of Regents, but without vote."

Section B-1: Officers will then read:

1. Election of Officers. The President, President-elect, the Vice-President and the Treasurer shall be elected by the College, at annual meetings, to serve for one year or until their successors are elected and installed.

The Secretary, the Editor and the Historian shall be selected by the Board of Regents for such periods and on such terms as the Board of Regents may determine for the proper administration of the Central Office, the proper conduct of the Journal and the recording of historical data of the College. The Secretary, the Editor and the Historian shall be ex-officio members of the Board of Regents but without vote.

It is proposed to amend Section B, Division 5, (f), Duties of Officers, by striking out the words "in addition to serving as a member of the Board of Regents", so that the division will read as follows:

"The Historian shall prepare historical documents relating to the dental profession and the College, as directed by the Board of Regents."

It is proposed to amend Section F, Financial, by changing the
initiation fee to $200.00 and the annual dues to $15.00, Division 1 and 2, then to read as follows:

Section F, Div. 1 & 2, Financial:
1. Initiation Fee: The initiation fee shall be $200.00.
2. Annual Dues: The annual dues shall be $15.00.

3. PREVENTIVE SERVICE

(Proposed Survey of Dentists’ Relations to Preventive Measures)

CARL L. SEBELIUS, D.D.S., Nashville, Chairman

In last year’s report of the Committee on Preventive Service, an effort was made to define “Preventive Dentistry,” and to recognize the difference between a preventive measure and a control technic. In the report there were certain questions asked such as, “Why do so few dentists practice preventive dentistry and how can the members of the American College of Dentists encourage and assist in the promotion of a more comprehensive practice of preventive dentistry?” An observation was also made to the effect that it would be most interesting to know why only a few dentists chart decayed, missing and filled teeth as a dental caries index, use caries susceptibility tests, allow sufficient time for a conference on diet control and tooth-brushing, as well as to make every effort to assist each patient to develop scientific oral health knowledge and habits. At the conclusion of the report, it was stated that the committee felt that there should be a discussion and a study made of blocks which keep some people from the attainment of optimum oral health and some dentists from practicing preventive measures. It was suggested that the study be made by a social research group and that carefully-thought-out test questions be used subject to the technic of a public opinion poll.

During the past year, the committee has explored several possible ways of following through on the suggestions made last year. The members of the committee sought council and advice from two sources. Dr. Easlick discussed at length the possibilities of a survey of dentists’ relations to preventive dentistry, as well as a survey of

1 Other members of this committee are: F. A. Arnold, Jr., W. J. Felton, R. J. Bowman, R. A. Downs, and K. A. Easlick.
public attitudes to preventive measures, with Dr. Charles Metzner of the University of Michigan School of Public Health. Dr. Metzner has had considerable experience with the survey technics used by the Michigan Survey Research Center. Three other members of the committee had discussions with Dr. Andie Knutson, Division of Public Health Methods, and Dr. Nancy Starbuck Meltzer, Division of Dental Public Health of the U. S. Public Health Service. Both have Ph.D. degrees and are specialists in the type of study suggested. All the individuals contacted felt that such a survey as suggested had merit and if the survey was made that personal interviews would be the method of choice.

During the conference with members of the Division of Dental Public Health, it would found that a study was being planned to determine some of the reasons why the public does not take advantage of the preventive dental measures available to them. It seemed logical to the committee that if the proposed survey of the dentists’ relations to preventive measures could be coordinated with the study of the attitudes of the public, data of more value could be compiled. The members of the committee meeting in Chicago on February 7, 1953, agreed that a cooperative survey would be of value. It was suggested to the Board of Regents that if they considered the project a worthy one, the committee would explore further the possibilities of such a survey, the costs involved and other essential data. The Board of Regents asked that the committee continue along these lines.

Further, conferences were held in Washington with Dr. Thomas L. Hagan, Director of the Division of Dental Public Health, and in March a preliminary study proposal for the American College of Dentists was ready for study. To determine the factors affecting the use of preventive practices among the dental profession, it was suggested that the dentists in general practice in the states of Pennsylvania, Maryland, West Virginia and Virginia be sampled. These states were selected due to their accessibility to Washington. There also were outlined in detail factors which would affect the size of the sample, the suggested sample, the preventive practices desirable, as well as the specific and personal data needed. The estimated expense of such a study was placed at approximately $28,000. The Board of Regents was asked what financial support might be forthcoming from the College.
In May, news was received from Dr. Brandhorst that the Board of Regents had voted an allotment of $2,500 for the fact-finding survey if additional necessary funds could be obtained from other sources to make it possible to conduct the project in a creditable way. The Director of the Division of Dental Public Health stated that he hoped a cooperative survey might be conducted and staff members of the Division prepared a test questionnaire so that an analysis of dentists' relations to preventive measures could be made. In June, Doctors Downs, Pelton and the chairman discussed the schedule with Doctors Hagan and Meltzer. The various portions of the definition of preventive dentistry as prepared by the Preventive Service Committee were included in the 75 survey questions. Dr. Meltzer tested the questionnaire to a limited degree by interviewing dentists working in the U. S. Public Health Service clinic in Washington. She plans to sample an additional group of Washington dentists before the final questionnaire is completed.

The questionnaire was then sent to the President, President-elect, and Secretary of the American College of Dentists, as well as to all members of the committee, for suggestions and comments. By July 15, it appeared that clearance of administrative details, the schedule, the sample selection and budgetary and administrative problems would soon be made so that the College and the U. S. Public Health Service might be co-contractors of the survey with the $2,500 commitment being used to assist in the payment of interviewers.

The survey is an interesting one, scientifically prepared by individuals especially trained in public survey methods. Objectives have been established and specific questions have been prepared to meet each of these objectives. For instance, one of the objectives of the questionnaire is, "Does the respondent perceive the measures as contributing to possible professional goals?" Under the objective are listed two specifications needed to meet the objective with 12 questions asked. As stated previously 75 questions are asked of each dentist and it appears to the members of the committee that members of the American College of Dentists will be most interested in seeing such a survey carried to completion so that some of the questions in regard to the dentists' relation to preventive measures can be answered. Some of the preventive measures to be considered in the survey are: Does the dentist use a recall system, give prophylaxes, x-rays, teach methods of toothbrushing, recommend diet control, fill
deciduous teeth, do topical fluoride treatments, perform biopsies, treat fractured incisors, is he concerned about tissue tone and occlusal equilibration, use laboratory tests for caries activity, promote water fluoridation, show interest in community health groups, act as a consultant to community groups, promote a referral program and work with teachers?

In summary, the proposed program progressed most satisfactorily in all respects until several weeks ago when the chairman was informed that the U. S. Public Health Service would probably not be in a position to participate in the program as originally planned.

It is therefore hoped that the survey can be conducted as planned and that the decision of the U. S. Public Health Service to stop participation in the project will be changed since the members of the committee feel that the survey is a most important one. The Secretary of the College has written the Surgeon General to learn the reasons why such a decision was made and to see if the decision might be changed. The members of the committee do hope that the project can be completed with the cooperation of the members of the College and that the answers obtained may be such that they may be used to advantage as plans are made to provide preventive measures to all.

4. PROSTHETIC SERVICE

C. A. NELSON, D.D.S., Amery, Chairman

The purpose of this report is to present a documental survey of the events that have transpired since the last meeting of the College in the attempts being made by the profession to alleviate the existing strained relationship between the profession and the laboratory craft in certain areas of the country. The object of our report is to present facts showing definitely that the principle and plan of accreditation is the only mechanics for creating an honorable, ethical and moral relationship between the profession and the craft. This principle will fully satisfy our obligation to preserve the cultural ideals and the heritage vested in us. It will also fulfil our obligations to society.

Since the 1952 annual meeting of the American College of Dentists

1 Other members of this committee are: L. H. Dodd, C. M. Flood, S. D. Robinson, and E. M. Eaton.
a third plan of accreditation has been presented to the dental profession by the State of New York for consideration.

The three types of accreditation proposals are:

1. Laboratory accreditation by the dental profession. (American Dental Association Plan)
2. Laboratory accreditation by the Laboratory Association. (Ohio self-accreditation plan)
3. The so called “Mutual Accreditation Plan” with the support financial and moral, of the New York Dental Society.

NEW YORK

The proposed “Mutual Accreditation Plan” followed joint meetings of the New York State Dental Council on Laboratory relations and the Dental Laboratory Association of the State of New York. The New York State Dental Society approved the original plan of the American Dental Association in 1949 and the society has been working under that plan up to the present.

In order to understand the disrupting situation which the new mutual accreditation plan in New York has caused, a brief explanation of the committee's set-up is necessary. Each of the ten district dental societies has a laboratory relations committees and the chairmen of these district laboratory relations committees is a member of the New York State Council on Dental Trades and Laboratory Relations. The report of the Council on Dental Trades and Laboratory Relations was approved by the Board of Governors and they authorized the committee to go ahead with negotiations with the laboratory industry. A sub-committee of five dental members from the State Council on Laboratory Relations was appointed to negotiate with a similar committee of five laboratory representatives of the Dental Laboratory Association of the State of New York. The chairman of this joint committee was a sixth dentist but without a vote.

On December 8, 1952, the New York State Dental Society authorized the Council on Laboratory Relations to go ahead with negotiations with the stipulation that none of the “New Propositions” presented were to be considered “agreements” but were to serve merely as a “mechanism” for carrying on negotiations with the State Laboratory Association.

Three joint meetings were held with the Laboratory Association:
an exploratory meeting on November 16, 1952 and two negotiating meetings held on January 10–11, 1950 and March 1, 1953. These meetings were supposed to be on a negotiative basis only, and none of the considerations discussed were to be published before it was approved or adopted by the dental society of the State of New York. The Mutual Accreditation Plan will not be considered until their December 1953 meeting.

In spite of the above agreement as early as January 1953 the “Dental Laboratory Review” published the following notice, “New York Agrees on Mutual Accreditation Plan.” The article reads as follows:

“Agreement with the Dental Society of the State of New York on a “mutual accreditation” plan of recognition for dental laboratories is announced by the Dental Laboratory Association of the State of New York.”

“Because of particularly difficult problems faced in the concentrated population area and the vigor with which the New York Association has attacked the problem of gaining recognition in a satisfactory form, this achievement can be hailed as an outstanding event in the presently accelerated movement toward agreements between dental and laboratory groups throughout the country. The Association will suspend all its efforts toward legislation and work only in support of such bills as those on which its aid may be sought by the Society.”

“An important feature of the plan, insisted upon by the Association, is that recognition is to be based on educational standards. This means courses will be set up as part of the program, details of which are the subject of meeting of the joint committee of Society and Association representatives January 10 and 11.”

In New York circles this article has been branded a “misinterpretation of facts” by the laboratory interests. No official proposal for a “Formal Educational System” for the future training of processing-laboratory technicians was submitted to the dental members present at the explanatory meeting on November 16, 1952 as claimed in the laboratory publications.

Contradictory statements of spokesmen for the Laboratory Association creates suspicion in the minds of the profession. Mr. Leonard Darvin, Managing Editor of the Dental Laboratory News, (New York), published in the March, 1953 issue, the following statement in the Laboratory Association Official Journal:

“It is not my purpose at this time to discuss the pros and cons of legislation

² Dental Laboratory News; March, 1953 (New York).
which would provide for the licensing or registration of dental technicians and laboratories, except to state, at the outset, that until such law is enacted, the legal, as well as the economic and professional status of our craft, will remain indefinite and unjust.” (Emphasis not in original.)

The laboratory situation in New York is at present, in a most confused state. The State Society of New York approved the accreditation plan of the American Dental Association in principle in 1949 and is in operation in several district societies. The “Mutual Accreditation Plan” was proposed to suit metropolitan conditions. The negotiating committee entered upon their assignment in good faith but many have been outsmarted by the laboratory leaders. Some believe that during the negotiations too many concessions were made in the spirit of appeasement. The educational feature, not presented in the presence of the dental representatives and which the laboratory representatives claim they insisted upon may become a tool in future “psychological” warfare for licensure or registration. In all the turmoil no progress has been made in profession-laboratory relations. The more deviations from the simplified plan and principle of accreditation of the American Dental Association the greater the dangers to the profession. The profession of dentistry should not capitulate to the wishes of a few but powerful leaders of the laboratory craft. The ethical laboratories who honestly work with the profession can still be relied upon as our mutual friend and will abide by our program.

ILLINOIS

Our report of 1952 carried the account of the complexing situation following the decision of Judge John F. Haas of Superior Court, which held invalid a 1945 Amendment to the Illinois Dental Practice Act, which prohibited dental laboratories from selling directly to the public and required them to sell through dentists.

Following is the current report from a member of our committee from Illinois:³

³The testimony of witnesses in the suit of the Chicago Dental Society against the illegal laboratories is all in and attorneys for the Chicago Dental Society are now studying pertinent facts brought forth in said testimony.

In addition to this, the Master in Chancery is also studying the
testimony and the attorneys for the defense are seeking to set aside the suit on the grounds of insufficient evidence. This has not been acted upon.

In addition to above information, it might be stated that there may be a change of venue to the court of Judge Fisher and it is the opinion of these concerned, the latter is a much more capable jurist than Judge Haas.

On June 25 the Ad Interim Committee of the Illinois State Dental Society held a meeting in Chicago and in addition to the Ad Interim Committee, officers of the Illinois State and Chicago Dental Society were in attendance, the Chairman of the Public Policy and Prosthetic Dental Service Committee of the Illinois State Dental Society and Mr. Bernard Conway, Secretary of the A.D.A. Laboratory and Trades Relations Committee. During this meeting the following resolution was proposed:

“WHEREAS, the Prosthetic Dental Service Committee has made a considerable study of the advantages of a program of accreditation of commercial dental laboratories and,

WHEREAS, the Prosthetic Dental Service Committee agrees that a program of accreditation of commercial dental laboratories appears to be the most desirable and acceptable method for improving relations between the dental laboratory craft and the dental profession, therefore be it

RESOLVED, that the President appoint a special committee to explore the possibility of establishing a program of accreditation of commercial dental laboratories at the state level, that the committee be prepared to work jointly toward this objective with an appropriate committee of the State Laboratory Association should the latter group desire to join in a cooperative effort.”

The resolution was unanimously adopted. Dr. Mahony then appointed the following committee to carry out the above resolution:

Robert J. Pollock, Chairman Robert L. Kreiner
Lloyd H. Dodd Joseph T. Brophy
James C. Donelan

In addition, this committee should explore the possibility of education, administration, ethics, finance, and work authorizations to be incorporated in any suggested accreditation plan. The committee was instructed to have a report on their study by August 25, 1953.”
WASHINGTON

"House Bill No. 92 has its first reading on January 23, 1953 before the thirty-second regular session in the House of Representatives. It was a bill to license dental technicians and creating a Washington State Dental Technicians board. The dental technicians would be designated as "registered dental technicians". The Board of Washington State Dental Technicians was to be selected from fifteen names to be suggested by, or who are, members of the Washington State Dental Laboratory Association. Only a licensed dental technician should own or operate a dental laboratory.

No person, other than a licensed dental technician, shall make, produce, reproduce, construct, furnish, supply, alter or repair any prosthetic denture, bridge, appliance or thing to be used in, upon or in connection with any human tooth, jaw or associated structure or tissue, or in the treatment or any condition thereof, except a duly licensed dentist or a duly licensed physician.

The proposed bill died in Committee on Medicine, Dentistry, and Drugs. The Laboratory Association had been advised that the Washington State Dental Society vigorously opposed any attempts on licensure on their part. Relations between the Laboratory Association and the State Society cooled off and for a time there was no mutual cooperation. After the annual meeting of the Laboratory Association in June was an about face with new officers at the helm. The new secretary of the Laboratory Association expressed the hope of more honest cooperation and mutual friendliness for the new year and the other officers have promised that they will not press for any form of licensure in the immediate future. They know their mistakes and much work is needed to repair their fences.

Representatives from the Laboratory Association of Washington, Oregon, Idaho, Montana and British Columbia attended the annual meeting and organized an Annual Conference—the object of this annual conference to be mutual helpfulness, information and concerted legislative action."

OREGON

"At the last session of the Oregon State legislature, the Oregon dental code was revised to include a prescription clause. This is now the law in Oregon.

4 Personal communication.
5 Personal communication.
As you probably know, the interest of the law is to prevent direct service of a dental technician or dental laboratory to the patient. It is my personal opinion that this new law will not accomplish any more than the old law which provides a penalty for any one other than a dentist who serves the patient direct. As I see the problem, it is a matter of enforcement in each case.

Licensure for the dental technician is not necessary or desirable because he does not assume responsibility to the public. He is responsible only to the dentist. Therefore, it is not in the public interest that he be licensed and thereby be given a monopoly. But, if he be required to do his work only on prescription he is put in the same category as the pharmacist and then may justly ask for licensure.

Because of interstate commerce laws, state prescriptions laws will not be effective for those cases which the dental technician produces for out of state dentists.”

**TRI-STATE SECTION**

The Prosthetic Dental Service Committee of the Tri-State Section of the American College of Dentists is working on the problem of bootleg dentistry in their area and their findings will undoubtedly apply to the other sections as well.

**NORTH CAROLINA**

The North Carolina State Society was the first state to approve the plan of accreditation of the American Dental Association and put it into operation. The mutual relationship that has developed and now exists is commendable.

**ALABAMA**

Intense efforts are being made in Alabama to improve existing relationships. The aspiration and problems of ethical dental laboratories and the obligations of dentists and dental societies to give a helping hand has been exemplified in a statement in the Bulletin of the Alabama State Dental Association by the Association’s Prosthetic Service Committee which states “Is a price rise of laboratories justified at this time? The committee feels that the increase not only is justified but is belated in arriving.” The co-operation of the Laboratory Association with the dental society seems to be paying off.
CALIFORNIA

The Southern California Dental Society has had an accreditation program in effect for a long time. Now the Prosthetic Dental Service Committee of the California State Dental Association is asking assistance in providing specific information about accreditation plans in other states. Their questionnaire requests requirement specifically on fourteen (14) items of the Revised A. D. A. Accreditation Plan for Dental Laboratories.

CANADA

From time to time reference is made to "An Act Respecting Dental Technicians" in Canada. Some laboratory leaders point to that legislation as an argument for like legislation in the United States. However legislation for professions, court procedures, the selection of judges, the enforcement of laws and the public reaction to laws and their enforcement is different in Canada than in the United States. The old legend that "the Mounties get their man," still has a far reaching effect regarding respect for law. Fewer laws are passed in Canada but when passed they are enforced. We have too many laws, not enough and sometimes very little enforcement. The election of our judiciary and law enforcement is sometimes enmeshed in politics. Legal actions are expensive and many times discouraging. After one bad mess many members of the State Boards of Dental Examiners have had enough.

The following letter from the Secretary of the Canadian Dental Associations reveals pertinent differences between Canada and the United States:

The Canadian Dental Association  
L'Association Dentaire Canadienne

234 St. George St.,  
Toronto 5, Canada

November 17th, 1952

Dr. Clarence A. Nelson,  
Amery,  
Wisconsin,  
U.S.A.

Dear Dr. Nelson:

At the request of our Dr. Harry S. Thomson, you will find enclosed copy of the Act Respecting Dental Technicians for the province of Ontario.
This legislation was passed in April 1946. You will note that it establishes a board for technicians known as the Governing Board of Dental Technicians. Organized dentistry has a very definite place under this legislation. For your information the Royal College of Dental Surgeons of Ontario is the licensing body for Ontario. Owing to basic differences in the legislation respecting professions in Canada and the United States, the part played by the licensing board in each province is not always very well understood in the United States. Members of the dental boards in Canada are elected by the dentists themselves, whereas in the United States the members of state boards are appointed. This makes considerable difference in the way dental matters are carried on in this country. The main result is that the dental board in each province is looked upon as being a small legislature in respect to dental matters and practically everything respecting dentistry is more or less controlled by this body. I know that the situation is very different in the various states.

You will note at the top of page 5 of this Act that the governing board of technicians cannot pass any regulation without first receiving the approval of the Royal College of Dental Surgeons of Ontario. In section 2 of this Act, it is indicated that there are five members to be appointed by the Lieutenant-Governor-in-Council in forming the technicians board. While it is not stated, there is an understanding with the legislature that the Royal College of Dental Surgeons of Ontario has something to say as to who is to be appointed to this board and as a matter of fact do appoint at least one of their own numbers as a member.

During my attendance at various meetings in the United States this matter of legislation for technicians has been under discussion on many occasions. I fully realize that there is strenuous objection to such legislation with organized dentistry in the United States. Some of this objection is based upon differences which exist between legal matters in U.S. and those in Canada. We did not particularly favor this legislation but I must admit that since it has been in operation we have had no reason to find fault with it.

Yours sincerely,
(signed)
Don W. Gullett, D.D.S.,
Secretary,
Canadian Dental Association

In order to make a further factual statement of the Canadian situation we wanted to know if judges were appointed or elected and the length of their terms of office. These questions were covered in the following letter.

The Canadian Dental Association
L'Association Dentaire Canadienne

234 St. George St.,
Toronto 5, Canada
March 12th, 1953
Dear Dr. Nelson:

The question you raise in your letter of March 10th is one which is undoubtedly a fundamental difference in all court procedures in Canada as compared to those in the United States. In my opinion this point is discussed to a greater extent than any other one in respect to the comparison of the administration of justice in the two countries.

All judges in Canada are appointed. Judges in what are known here as the magistrates' criminal courts are appointed by the provincial legislatures. This court is the lowest criminal court. All other judges for the different courts are appointed by the federal government. The term of office is for life.

I know that the criticism is often given that such appointments can be political, with no opportunity for change. In my humble opinion I do not think this criticism is logical in view of what actually happens. Fairly recently, two men of my more or less personal acquaintance have been appointed Supreme Court judges to the Supreme Court of Canada and both these men have been known for years as being members of the opposition party. Of course the accusation can easily be made that political appointments are made and undoubtedly this happens but experience has shown that a man once appointed as a judge no longer takes any part in politics. I think that most Canadians are of the opinion that they like the system of appointing judges which exists in Canada better than the system in the United States. Of course we like a lot of other things better as they are done in the United States.

Yours sincerely,

Don. W. Gullett, D.D.S,
Secretary,
Canadian Dental Association

A number of State Components of the National Association of Dental Laboratories have taken the initiative in negotiations for Accreditation Programs with Component Dental Societies.

“PRESCRIPTION” VS. “WORK AUTHORIZATIONS”

The term “work authorization” is a more accurate designation of the transaction between the dental practitioner and the dental laboratory and obviates any confusion with pharmaceutical prescriptions.

*Personal communication.*
Amendments to State Dental Laws

During the 1953 sessions of the various state legislatures the following amendments for strengthening the enforcement provisions of the Dental Practice Acts were reported by Idaho, Rhode Island, and Washington.

Idaho: The State Dental Practice Act was clarified to specify the repair and relining of dentures. Also, a “work authorization” clause was added to the law.

Rhode Island: A provision was added to the Dental Practice act permitting the Board of Dental Examiners to apply for injunctions to suppress the illegal practice of dentistry.

Washington: Defeat of an attempt to license and register dental laboratory technicians. An amendment was enacted to expand the “work authorization” requirements to include the repair of dentures.

SUMMARY

The principle of accreditation was approved by the American Dental Association in 1944. The plan of accreditation was approved by the American Dental Association in 1946. Since that time accreditation has been cussed and discussed by both the profession and the craft. Many states have strengthened their Dental Practice Acts in an attempt to safeguard the profession in their control of dental prosthesis. Attempts at licensure for dental laboratory technicians had failed during the year. In only one state has there been serious contention on the part of the laboratory association to take over the control of accreditation. Some state laboratory associations are requesting constituent dental societies to set up a program of accreditation. There now seems to be a very definite swing on the part of the profession and the dental laboratory craft toward accreditation as has been shown in this report. Currently, this is particularly true in New York, Illinois and California.

As the rendering of dental prosthetic service is the function of the dental profession to the public only, we recommend that any accreditation plan be directed and controlled by the profession, with the cooperation of the dental laboratory craft. The profession must remain in the driver’s seat in order to safeguard the public welfare. We recommend further, that the Fellows of the American College of
Dentists take a keen interest in guiding the profession accordingly, so as to preserve the present unified practice of dentistry.

The first Prosthetic Dental Committee serving our profession was created in 1933. Now there are forty-four Prosthetic Dental service Committees or Committees on Dental Trades and Laboratory Relations from the constituent societies of the American Dental Association. This shows the progress that has been made in awakening the profession throughout the United States to the Prosthetic Problem.
THE AMERICAN COLLEGE OF DENTISTS
TRI-STATE SECTION
REPORTS OF COMMITTEES
Concluded from the June Journal

1. ORAL SURGERY
RUSSELL L. MOORE, D.D.S., Dyersberg, Chairman

In the state of Tennessee there have been nine hospitals certified in the dental field, they are as follows:
- Knoxville General Hospital, Knoxville, Tenn.
- Baroness Erlanger Hospital, Chattanooga, Tenn.
- Veterans Hospital, Mountain Home, Tenn.
- Veterans Hospital, Murfreesboro, Tenn.
- Hubbard Hospital, Nashville, Tenn.
- Veterans Hospital #88, Memphis, Tenn.
- West Tenn. Tuberculosis Hospital, Memphis, Tenn.
- John Gaston City and County Hospital, Memphis, Tenn.
- Thayer Veterans Hospital, Nashville, Tenn.

Of these four have been certified in the specialty of oral surgery: Knoxville General, Baroness Erlanger, Hubbard, and John Gaston.

2. PREVENTIVE SERVICE
CARL L. SEBELIUS, D.D.S., Nashville, Chairman

The last three reports of the Committee on Preventive Service have dealt primarily with a discussion of methods for the promotion of water fluoridation and distorted advertising. The report today will deal with many of the same problems but is going to stress the actions taken by the House of Delegates of the American Dental Association in September, 1953, which directly relate to Preventive Dental Services.

The matter of misleading advertising of a dental nature on the radio, television, and in the newspapers is becoming more and more

---

1 Reports of committees submitted at the Memphis Convocation Dec. 12, 1953.
2 Other members of this committee are: Wm. Shannon, John J. Ogden, J. D. Jordan, R. P. Abbot, Dean J. Van Patter.
3 Other members of this committee are: Wm. R. Wright, E. M. Blackburn, F. H. Hall, J. Q. Hall.

288
of concern to every dentist in this country. The claims made by some of the concerns that advertise their product, be it a protective toothpaste, chewing gum, or mouth wash, must be most annoying to every member of the dental profession. The same reaction must be felt when a dentist reads an advertisement stating it has been conclusively demonstrated that there is no relation between the consumption of carbonated beverages and dental caries or that fluoridation is immoral.

In an effort to improve such conditions as those just stated, and also that the profession of dentistry might take a definite stand, the Councils on Dental Therapeutics, Dental Research and Dental Health made some far-reaching recommendations in the form of carefully prepared resolutions to the House of Delegates of the American Dental Association last September. The resolutions passed, which are of special interest to the Preventive Service Committee, related to advertising, the sale of sugar products in school, and fluoridation.

The House of Delegates condemned distorted advertising of dentifrices, mouth washes, chewing gum, and other products as "detrimental to public health," and placed the Association on record to "call attention of the public in the strongest possible terms to the serious danger to health which arises out of the present flood of inaccurate and untruthful claims in advertising for dentifrices and other dental products." The resolution also pointed out that many of these advertising claims are based on inadequate scientific evidence and are detrimental to public health since they tend to discourage well recognized and accepted dental procedures, such as proper toothbrushing and the avoidance of excessive sugar consumption. The resolution also included opposition to the practice of actors posing as dentists to promote commercial products.

The delegates also struck hard at sugar as a cause of dental decay and unanimously recommended that the sale of sweetened drinks and candy be banned in the schools of the nation. It was pointed out that "convincing evidence has been accumulated over many years concerning the hazards to dental health resulting from the consumption of sugar." It stressed "the responsibility of the manufacturers of sweetened beverages and confections for devising suitable methods to eliminate the dental health hazards associated with the consumption of their products." The action on the resolution came simul-
taneously with a report issued by the Councils on Dental Health and Dental Therapeutics in the October issue of the Journal of the American Dental Association which declared that a significant relationship between sweets and dental caries has been firmly established by dental research that began as early as 1867.4

Again by unanimous action, the House of Delegates restated its recommendation that fluoridation be adopted in all local communities when recommended by state and local health authorities. The action was taken after a report from the American Dental Association Councils on Dental Health, Dental Research and Dental Therapeutics reported that on their continued evaluation of evidence relating to fluoridation declared: “All additional scientific findings have served to substantiate further effectiveness and safety of fluoridation under properly controlled conditions. This evidence continues to demonstrate that fluoridation will have no untoward effect on general health and will significantly improve health through the reduction of dental decay.” The report took sharp issue with those opposing fluoridation, charging that the opponents were using “false, misleading and emotional charges against fluoridation based on undocumented and unscientific supporting material.”

There are dentists in the tri-state area who are not convinced that fluoridation of water is a worthy project for their sponsorship. They seemingly place more credence upon unsigned materials placed in their hands by those opposing fluoridation, letters to editors of trade dental magazines and on their own dogmatism. These individuals feel that what they are doing is absolutely right and that the evidence gathered by national health organizations, including the American Dental Association, does not present the true picture. It is hoped that all members of the section will do whatever they can to contact these dentists and request them to make careful judgment between documented and carefully obtained facts and material which contains no documentation and is based upon opinion and inaccurate and even untruthful statements.

The field of Preventive Medicine has made a mark in the American Way of Life during the past fifty years. The life span has been increased by twenty years and many of the dreaded diseases of mankind have been controlled. At this time when the birth rate has

4 See J.A.D.A.: 47, 387; 1953 (October).
been increased to four million children a year approximately, careful thought must be given to the need for putting into effect all preventive dental measures at our command. This problem may be attacked in part by obtaining more supportive evidence from the practicing dentist and the public as to their attitude toward preventive dental practice. This information may give a lead so that the profession may attack the problem more scientifically and have a more direct and positive approach to the motivation of the public to accept, want and demand the best oral health obtainable.

3. PROSTHETIC SERVICE

J. Guilford Sharp, D.D.S., Knoxville, Chairman

Two meetings of the committee have been held allowing considerable discussion among members of the committee. Correspondence with members of the committee, correspondence or interviews, with secretaries of state boards of dental examiners, prosecuting officers including three Attorneys General, selected individuals, laboratory owners and technicians, and Licensing Board for the Healing Arts in Tennessee, has been extensive. Out of it all this report is made.

_Bootleg Dentistry_ is a common term and a common complaint of many dentists, and to some dentists seems to be even more than a simple complaint.

"Bootleg dentistry", in a general way, is a term that may be applied to any act that would constitute the illegal practice of dentistry, but, for purpose of this report, the term "bootleg dentistry" will be construed to be the performance of a prosthetic dental service to the public for compensation by an individual who is unqualified by formal education, examination and license to perform such professional service directly to the public. This service may consist of the simple repair of a denture; the taking of impressions of the mouth with subsequent construction and fitting of dentures or replacements of lost tissues, or, any other act of similar significance.

That bootleg dentistry exists is evidenced by the records of convictions in the courts of law. Case reports of violations during past twenty years in the Tri-State Area are too few to justify listing.

---

8 Other members of the committee are: T. N. McCaleb, H. C. Reese, Roy O. Elam, Sr., George Cone, Douglas Lewis, John C. Boswell.
the various offenses, yet they are in sufficient number to indicate the existence of infractions of the dental laws. Undoubtedly, many instances of violation of the law involving bootleg dentistry are never prosecuted for one reason or another:—possibly, through lack of sufficient evidence; reluctance of witnesses to testify; failure of the Grand Jury to indict, or other reasons.

In a sense, bootleg dentistry might be construed to resemble dental caries in that the ideal remedy in either case is prevention, but, instances still remain where prevention seems to be unlikely and corrective measures must be instituted.

In a study of any problem it becomes desirable to understand all angles or sides of any given issue before a solution can be accomplished. From one angle of this problem a question arises—What is the general attitude of others toward the existence of bootleg dentistry? The lay public, the dentist, the prosecuting officers, the executives who enact the laws, and the suspected violator of the law are concerned with this issue to some degree. What, then, is the general attitude?

The attitude of the public toward bootleg dentistry must be accepted with mixed opinion because there are individuals who seek such services with satisfaction for having received something at reduced cost, or presumed reduced cost. Although these individuals are cooperating in the violation of the law they are not necessarily of the law violating class, neither are they the indigent who can not afford professional services for the indigent receive consideration. "By-pass the profession; get what you can for nothing," seems to be their slogan. This group usually accepts sub-standard quality with some measure of satisfaction, at the same time their ego is being enhanced.

The attitude of the prosecutors, or those having to do with the disposition of infractions of the law involving bootleg dentistry, must also be accepted with mixed opinion. Some are little inclined to prosecute or even censure because of the construed insignificance involved, or, perhaps they may agree with a so called patient's opinion that 'dentists charge too much'. For similar reasons possibly, it is sometimes difficult to obtain an indictment. Then, too, there is the attitude of the legislative body which permits, by the enactment of laws, the practice of dentistry by a selected technician in some restricted area. This is mentioned but has little or no connection with bootleg dentistry other than an attitude is expressed.
The attitude of the average practicing dentist is too well known to be deserving of much comment. Most dentists dislike to appear in court proceedings, dislike to testify or take part in legal action. They are reluctant to secure evidence because of the time required and the undesirability of becoming involved in matters of this kind. Many dentists, however, are apathetic to any of dentistry’s problems, and some even encourage or participate in such illegal practices.

Most technicians maintain proper relationships with the public, confine their work within accepted limits, and even discourage the apathetic dentist from encouraging them to participate in dental bootlegging. On the other hand, there are the few who openly defy legal limitations of their privilege, possibly, for personal gain, or, possibly, to stimulate movement for divorcement of prosthetic dental service from the unified practice of dentistry. To sum up the attitudes of those concerned with the problem of bootleg dentistry it may be stated that a mixed opinion exists: some favorable, some, unfavorable and some, indifferent.

Two questions are posed:

1. What can be done to improve the attitude of those who condone illegal practice? One answer to this question may be expressed in an excerpt from a letter, dated July 2, 1953, from Cecil B. Tucker, M.D. Technical Secretary, Licensing Board for the Healing Arts (Tenn.), and I quote: “Undertake an educational program directed at laymen to raise their opinion of dentistry and to point out the pitfalls of seeking cheap dental care. When speaking of laymen I am including those persons connected with the courts. It appears that many individuals believe that the prices asked by dentists for prosthetic services are too high. As a result, they are in sympathy with the illegal practitioners. Any action taken against the illegal practitioner is considered to represent professional jealousy on the part of the dental profession.” Another letter, dated November 3, 1953, from Reuben R. Rhoades, D.D.S., Secretary-Treasurer, Missouri Dental Board, states, and I quote: “Missouri has continued with the accredited dental laboratory plan, even after it was discontinued by the National Association, keeping a closer and friendlier contact with the laboratories in our state.”

A program of indoctrination upon induction to membership in the local dental society should include the responsibility of the dentist toward bootleg dentistry, and its prevention, through proper relationships with the dental technician and the public. In those
areas where an accreditation plan is not in effect a program designed to improve the understanding and relationship between dentist and dental laboratory technician may be instituted. This program may be of broad scope or planned to fit the needs of the community. A further idea is expressed in an editorial appearing in a laboratory journal for the Southeastern States named, "PROGRESS," June 1953, from which excerpts are quoted:

"Enthusiasm has achieved a new mark during the past several months throughout numerous Southeastern States, between both State Dental Societies and the Dental Laboratory Craft within these States.

More and more both parties are becoming aware that a sound mutual program of understanding and education must exist between them to assure continued advancement in the art of prosthetic dentistry. Also, of vital importance is the combined effort of both groups to eliminate illegal practices, which has reached in some localities alarming proportions. Not only does this practice hinder the ethical practitioner, but also, makes it impossible for the ethical laboratories to secure this work."

The editorial goes on to illustrate some activities:—During the meeting of the Alabama Dental Association, April 9, 10, 11, 1953, financial aid was voted to further educate dental technicians employed by accredited laboratories and to help inform its own members of the advantages in patronizing an accredited laboratory. Programs are in progress in other states.

2. A second angle of this problem presents another question—What is the opinion of those concerned with the existence of bootleg dentistry by the technicians, and its remedy? For a study of such opinions a questionnaire was sent to selected secretaries of state boards of dental examiners, prosecuting officers of the several states, Licensing Board for the Healing Arts (Tenn.), chairmen of prosthetic dental service committees, and selected individuals. The complete questionnaire was not sent to all those contacted but was sent to most of them. Some of the questions included in the questionnaire are as follows:

1. Do you have any suggestions relative to the part the individual dentist, local dental society, or state dental association might take to lessen the number of violations of the dental practice act, and help in the prosecution of infractions thereof?
2. (a) Would a change in the law be advisable? (b) Would heavier penalties be an advantage?

3. Would the addition of a county, or municipal, law prohibiting illegal practice be of benefit in securing evidence that illegal practice exists?

4. (a) Would a law prohibiting the circulation of magazines, or journals, which contained advertisements pertaining to illegal practice be of value? (Example)—A journal, published in Chicago, having subscribers in another state, carries two advertisements directed to the public offering services which, it is believed, would be illegal if performed. (b) Would a law prohibiting newspapers, or classified directories, from publishing advertisements of a similar nature be of value?

5. Is there a solution to the securing of evidence of illegal practice whereby the policing would not have to be done by a practicing dentist?

6. (a) What are the principal problems of detection of evidence, and enforcement of the law? (b) Do you have suggestions for improvement of same?

7. (a) Do you consider the use of the injunction to be of value in handling bootleg dentistry? (b) What is the penalty for violation of the injunction in your state?

Various answers to the questions presented were received. The opinions expressed, in many instances, varied only in the wording while there was some disagreement among them relative to one or two questions. From an analysis of these answers it appears that the dental society, the membership of which constitutes nearly all practicing dentists, is the logical group to undertake a program designed to curb the illegal practice of bootleg dentistry. The individual dentist usually shrinks away from such action unless he is expressly interested in some particular violation. The dental society could institute an educational program planned to improve the attitude of the laymen and the profession, and to develop improved relationships with the dental technician. "... work and meet with the dental laboratories and they will aid you in prosecuting the violators.", is an excerpt from a letter of Dr. R. R. Rhoades which deserves mention. In working with them, some plan of accredi-

*Personal communication.
tation might be developed which will create a desire for the laboratory as well as the profession to assume responsibility for prevention or correction of infractions. If an accreditation plan can be adopted, the names of participating laboratories could be published with appropriate comment in the state journal. Some state associations publish a list of accredited laboratories in each journal issue.

When the prosecution of a violator becomes necessary and local dentists object to securing evidence and court appearance for testimony, the suggestion is offered that funds be made available by the dental society for employment of a full time, part time, or even the occasional use of an investigator for police action as conditions warrant to relieve the practicing dentist of this undesirable task. The mere knowledge that such is being done might be sufficient to deter some prospective violator from further illegal practice.

Violators of dental laws are confronted with varying penalties in the several states: in one state, a person convicted of a felony of practicing bootleg dentistry may be punished by imprisonment in the State Penitentiary for not less than six months nor more than two years, and in addition thereto, shall be fined not any sum less than $200.00 and not more than $1000.00; in other states, while the penalties seem to be adequate they are less severe. In no answer received was a change in the laws advised other than in one instance in which heavier penalties were recommended.

The legal indictment of the violator is viewed with some concern in practically all answers received. I wish to quote from a letter of H. O. Weatherly, D.D.S., Secretary, Arkansas State Board of Dental Examiners, as follows: "The securing of an indictment is a problem anywhere due to (a) reluctance of patient or dentist to testify, (b) attorneys being willing to accept the blame (unethical dentists being supposedly advised that he could do certain things) and (c) evidence must be so overwhelming since it usually would deprive a person of his only means of livelihood." A further illustration is described in a letter of Dr. C. B. Tucker, quote, "We have two dental laboratories here in Nashville that have been taking impressions and making plates. Prior to the passage of the State Licensing Board for the Healing Arts Law the Dental Board was interested and made investigations of these two laboratories. Since Chapter 9 was enacted, this Board has also investigated these cases and presented evidence before the Grand Jury on more than one
occasion. In each instance, the Grand Jury failed to indict the persons involved.” Would not an educational program directed to the laymen be indicated?

The opinions expressed, with one exception, were unanimously in favor of the use of the injunction in handling these cases. To present the one exception, I again wish to quote Dr. C. B. Tucker relative to the cases mentioned above:—“As a last resort we obtained an injunction against these men and had them up for contempt of court but since the maximum for contempt of court is $25.00 and ten days and since the judges will not imprison anyone for contempt of court these men have continued to practice dentistry as they do not mind paying a small fine. Actually the use of the injunction is not of value and really is just a waste of money.” The opinion of those favoring the injunction includes Attorneys General in three states, secretaries of dental examining boards, and individuals directly concerned with prosthetic dental service to whom this questionnaire was sent.

To many dentists, the problems of prosthetic dental service appear to be relatively unimportant and easily ignored; to others, the existence of such problems is well known, but what to do about them becomes another problem.

While there is yet time, would it not be wise to try to solve each problem, one at a time, until the goal is reached? When this has been accomplished, perhaps bootleg dentistry will no longer be one of the problems of the profession.

*December 12, 1953*

4. PUBLIC RELATIONS

C. N. WILLIAMS, D.D.S., Memphis, Chairman

Your committee feels that some progress has been made in the field of public relations since we met a year ago. There are some things we have not finished yet, but we are still working and feel sure they will be finished in the near future. Namely fluoridation of water supplies in some cities and communities.

Starting in August this year the Executive Secretary of Tennessee State Dental Association (Mr. John Schumaker Jr.) will be working with the Executive Secretary of Tennessee Medical Association

7 Other members of this committee are: J. G. Ball, M. J. Leonard, Fred Child, E. N. Taylor, W. L. McCulley.
(Mr. V. O. Foster), in the promotion of the Medical Association sponsored state wide treatment for Atomic Bomb injuries as a civil defense measure.

The course for 13,000 health personnel was given in five West Tennessee cities, five Middle Tennessee cities and after January first, 1954, will be given in five East Tennessee cities.

The Tennessee State Dental Association has cooperated in every way with the Medical Association in these endeavors. Our Executive Secretary along with a Nashville dentist (Dr. Parker Graham) was asked to sit in on a meeting of the Tennessee Medical foundation. One of the aims of this group and the first one to receive attention was to promote adequate medical and dental care in such marginal areas of Tennessee.

During the month of November this year the Commercial Appeal (Memphis Newspaper) and the Medical Association of Memphis sponsored a forum, entitled, "You and Your Health." Following this the Ninth district Dental Society was invited to participate in a Dental Forum, "You and Your Teeth." Some five or six Memphis Dentists were on the program to talk and answer questions for the public. According to the report by the sponsors it was one of the most satisfactory examples of public relations.

Reports from members of the committee from Arkansas of the Division of Dental Health of the Public Health Council and an outline, of health plan of Department of Public Health were submitted with this report, but are of significant in this Section only.

The committee feels that we are making some progress in public relations, but there is much yet to be done and we hope by next year we can report that some of the projects have been completed.

5. SOCIO-ECONOMICS

W. R. LEVY, D.D.S., Jackson, Chairman*

In our past reports your committee on Socio-Economics has covered many subjects such as office management, financing of dental services through a pre-pay plan with a local bank, costs of operating a dental office including laboratory bills, advantages gained by having two operating rooms over the one operating room and having a competent dental assistant.

* Other members of this committee are: George Cone, J. C. Boswell, W. B. Clotworthy, R. F. Golden.
But, even with two operating rooms set up one should never have such a thing as a full appointment book, never a crowded book, absolutely solid for weeks ahead. You invite a tremendous amount of grief when you do that.

Physicians for many years have what they call office hours, say from 2:00 to 4:00 in the afternoon at which time people would wend their way to the office, and wait their turn where a large number of smaller services could be cared for, such as treatments, dispensing of various items, bandaging and examinations.

Patients can be handled rapidly for these numerous small services. Today we find the dentist with solid appointment books and no place for all these smaller services. He tries to fill them in, and that is where the irritation comes. That is where inefficiency enters, resulting in unhappiness both to patient and dentist.

We suggest that you set up what we would like to call a cushion hour, perhaps from one until two o’clock every day. This is usually a free hour and you may easily receive these people who have called in an emergency. During this hour you may see those whom you have previously told “to drop in when you are down town and I will look after you.” We want people to come in during the cushion hour and they soon learn from one to two is an open hour and they will come at this time.

Your committee believes that it is high time for the dental profession to get some action in regard to claims for proprietary products e.g., tooth pastes and mouth washes. We should also condemn some advertisements in the press and on the radio, and on television by professional actors posing as dentists and research men. Also the profession itself could be aided if by some way or other we could persuade our members to follow the reports of researches and experimentation on many products we use. The Research Commission of the American Dental Association and the Bureau of Standards of the Federal Government report regularly and submit approved lists of materials in the Journal. By this means we can sidetrack all self conducted researches, save ourselves time and money and our patients, time and discomfort. We would also like to suggest that we take affirmative action condemning the policies of the Veterans Administration in giving hospitalization and dental treatment to veterans who have no service connected history. We should help the administrative office in Washington in an effort to reduce
the cost of veterans administration affairs. There are some alcoholics who have been in veterans hospitals as long as 15 years.

We would like finally, to call your attention to an elaborate survey of the results of sweets on American youth which was published in October A. D. A. Journal of this year. It points out the unquestioned damage being done to the teeth of the youth of America by the consumption of various commodities containing large quantities of fermentable sugar. We suggest proper action be taken recognizing this scientific data and that we publicly condemn as injurious, the intake of excess sweets.

6. STUDENT RECRUITMENT

CHAS. C. CHUMBLEY, D.D.S., Nashville, Chairman

Last year the Chairman of the Committee on Education reported the following:

"... The demand for places in our dental schools has been so great that admission committees can select, on a basis of high quality scholarship, a superior student. In 1947, for example, there were 17,621 applications filed in the dental schools by 10,313 applicants, and from these only 2942 were selected. This left a total of 7,371 with nothing to do but seek other lines of endeavor. This is a very healthy sign for dental education from one point of view, but, from another point of view, it is of some concern to dental educators as to the fate of those qualified applicants who were rejected. The frustrations and upset careers of these splendid young men who are unable to gain admission to our schools is a very serious problem. It is most unfortunate that some of our finest young men, possessing some of the highest characteristics of a desirable professional student, must be denied the privilege of entering the profession of their choice...."

Since the condition described above exists now and apparently will exist for a few years to come, the following suggestions are offered:

(1) That dentistry be represented when professional guidance talks are made at the preparatory and high school levels (during the first two years).

*Other members of this committee are: F. P. Bowyer, Jr., J. J. Vaughn, H. E. Hanna.*
(2) That each of us individually should answer any questions and discuss dentistry as a profession with all young people who appear interested.

(3) That each of us urge the finest screening possible for all prospective students. High premium should be placed on steadfastness, moral and psychological qualifications.

MINUTES OF THE BOARD OF REGENTS (abbreviated)
Chicago, Illinois, February 7, 1954

O. W. BRANDHORST, D.D.S., St. Louis, Secretary

The Board of Regents' meeting of February 7, 1954, was called to order at 9:00 a.m., in the Conrad Hilton Hotel, Chicago, Ill., with President Harry S. Thomson presiding. Thirteen members of the Board were present. Minutes of Cleveland meeting were adopted as corrected. The reports of Officers and Regents were received.

The Secretary reported the following deaths since October, 1953:

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homer C. Brown</td>
<td>Columbus, Ohio</td>
<td>Nov. 7, 1953</td>
</tr>
<tr>
<td>Timothy A. Hardgrove</td>
<td>Fond du Lac, Wis.</td>
<td>Dec. 15, 1953</td>
</tr>
<tr>
<td>Louis V. Hayes</td>
<td>New York, N. Y.</td>
<td>Oct. 5, 1953</td>
</tr>
<tr>
<td>Chester W. Johnson</td>
<td>San Francisco, Calif.</td>
<td>Dec. 12, 1953</td>
</tr>
<tr>
<td>Harry B. Johnston</td>
<td>Atlanta, Ga.</td>
<td>Apr. 24, 1953</td>
</tr>
<tr>
<td>Wm. D. McCarty</td>
<td>San Antonio, Tex.</td>
<td>Sept. 28, 1953</td>
</tr>
<tr>
<td>Jas. C. Mortonson</td>
<td>Milwaukee, Wis.</td>
<td>Oct. 24, 1953</td>
</tr>
<tr>
<td>Claude M. Parks</td>
<td>Winston-Salem, N. C.</td>
<td>Dec. 26, 1953</td>
</tr>
<tr>
<td>Frank H. Pratt</td>
<td>Seattle, Wash.</td>
<td>Nov. 15, 1953</td>
</tr>
<tr>
<td>Herbert Bates Small</td>
<td>Burlington, Vt.</td>
<td>July 9, 1953</td>
</tr>
<tr>
<td>Chris S. Van Horn</td>
<td>Bloomsburg, Pa.</td>
<td>Aug. 7, 1953</td>
</tr>
<tr>
<td>Fred F. Whitcomb</td>
<td>Omaha, Neb.</td>
<td>Jan. 9, 1954</td>
</tr>
</tbody>
</table>

The Treasurer's report showed a balance of $12,804.03 in the general fund plus government bonds amounting to $30,000. It also showed a balance of $443.59 plus $3300 in government bonds in the H. Edmund Friesell Endowment Fund.

Reports were received from Dr. Lloyd H. Dodd, Chairman of the Committee on Relations; Dr. Carl L. Sebelius, Chairman of the Preventive Service Committee and (for review) the Medical Dental Relations Committee.
The Sections were asked to make studies in the following areas and report on same to the Secretary:
1. Ways and means of finding financial support for dental education
2. The use of auxiliary (dental) services
3. Study club activities

It was voted to give broader publicity to the availability of Teaching Fellowships under supervision of the Committee on Education.

The Board recessed from 12:00 noon to 2:30 p.m., to participate in the Illinois Section luncheon.

The afternoon session was devoted to a study of the activities of the Sections and problems relating to the committees of the College.

Adjournment, 7:15 p.m.
How tooth decay has been produced or prevented in experimental animals was described today by scientists from six dental research centers. Tooth decay is the most widespread of all chronic diseases in the United States. More than a billion dollars a year is spent in this country on care of the teeth.

Recent findings in basic dental research were discussed in a symposium held at the annual meeting of the American Association for the Advancement of Science, now underway in Boston. The symposium, co-sponsored by the International Association for Dental Research, took place at the Harvard School of Dental Medicine.

Participating scientists represented the University of Alabama, the University of Chicago, Michigan State College, the University of Rochester, the National Institute of Dental Research, Bethesda, Md., and the Harvard School of Dental Medicine.

Two zoologists and a chemist from Michigan State College described how experiments begun in 1937 resulted in the breeding of two strains of rats—one highly resistant to tooth decay, the other highly susceptible. (The caries-resistance is measured by the time required to produce a cavity in a lower molar tooth.) Dr. H. R. Hunt, Dr. Samuel Rosen and Dr. C. A. Hoppert reported that in one strain of rats the average caries time has been reduced from 57 days in the second generation to 35 days in the 25th generation. In another strain, the average caries time has increased from 116 days for the second generation to 505 days for the 17th generation. Almost 10,000 rats have been produced and studied in these experiments. The caries-resistant and the caries-susceptible strains got the same diet—composed principally of ground rice and milk powder. Other "living conditions" were also identical, so that the experimental results are clearly due to hereditary factors.

Diet during the period of tooth development also has an important bearing on decay susceptibility, according to findings described by Professor Reidar F. Sognnaes and Assistant Professor James H. Shaw of the Harvard School of Dental Medicine. In Rhesus monkeys, teeth developed during the consumption of the
foods available in their natural habitat (India) are more resistant to decay than teeth developed during existence on a purified diet, even though the purified diet contained all the known nutritional essentials. Drs. Sognnaes and Shaw also reported that the offspring of rats raised on a diet of natural foods had less tooth decay than the offspring of rats raised on a purified diet. The ash of the natural diet was added to the purified diet, and animals raised on this mixture showed a significant reduction in caries. The preventive effect of this mixture is thought to be the result of one or more minerals or trace elements still to be identified.

Two other Harvard scientists, Professor David Weisberger and Dr. Abraham Schwartz, reported on experiments demonstrating the importance of saliva to healthy teeth. When salivary glands are destroyed or removed, tooth decay becomes rampant.

Dr. Frank J. Orland of the University of Chicago described two experiments which strongly suggest that both microorganisms and food residue must be present in the mouth in order for tooth decay to develop. In one study—a collaborative effort by the Zoller Clinic at the University of Chicago, and the Lobund Institute at the University of Notre Dame—rats raised in special sterile tanks did not develop caries. In the second study, carried out at the Harvard School of Dental Medicine, rats fed by tube directly to the stomach, by-passing the mouth, also remained free of decay.

Other participants in the symposium pointed out that work with laboratory animals of known hereditary and nutritional background and raised on diets of known composition offers real promise for testing the effect of specific food elements, drugs and other agents with possible decay preventing properties.

The secretary of N2—Subsection Nd-Dentistry is Dr. Russell W. Bunting, University of Michigan, School of Dentistry, Ann Arbor, Michigan. It was under his general direction that the excellent foregoing program was planned by Drs. Sognnaes, Zander and Glickman.

All of the sessions were unusually well attended. The local arrangements committee under the chairmanship of Dr. Howard M. Marjerison, Director, Forsyth Dental Infirmary, is to be congratulated on its planning, and the Harvard School of Dental Medicine was an accommodating and gracious host. All of which made the meeting an unusually pleasant and successful one.

**FIRST SESSION: SYMPOSIUM (8:30 A.M.)**

**Reidar F. Sognnaes, L.D.S., Ph.D., Boston, Presiding**

2. **RECENT ANIMAL EXPERIMENTATION IN CARIES RESEARCH**

A. **Methods of Production and Evaluation**

1. **Types of experimental animals and diets used**

Paul H. Keyes, D.D.S., B.S., M.S., Boston

Various species of rats, Syrian hamsters, and monkeys comprise the group of experimental animals most frequently used for dental caries research. During the

---

*Associate in Clinical Dentistry, Harvard School of Dental Medicine.*
past thirty years a wide variety of diets have been employed. They range from those composed of natural food stuffs to those made of highly purified ingredients. Since rations found to be highly cariogenic for one species may be much less, or non-cariogenic for another, care must be employed in selecting the proper diets for any given species if one expects to induce experimental tooth decay. Because of the many factors which may affect susceptibility to dental caries, it becomes apparent that general conclusions as to the cariogenic properties of diets or dietary ingredients, be they applied to animals or human beings, need to be evaluated with caution and reservation.

2. Types of lesions, sequence of development and scoring methods

ERLING F. JOHANSEN, D.M.D., Rochester

On the basis of location and mode of development, several types of carious lesions have been described in the various species of experimental animals under consideration. Although the lesions have many basic features in common their characteristics may vary according to the species. This variation might be due to differences in the dentition which influence the location of susceptible areas and modify the progression of the initiated lesions. The relative susceptibility and the sequence of development of lesions differ between the various species, between groups of animals within the same species and also between individual molars of one particular animal. The comparison of experimental data is rendered difficult by the dissimilar systems employed in the evaluation of carious lesions in different species as well as in any one species.

B. Genetic Factors Involved

H. R. HUNT, Ph.D., C. A. HOPPERT, Ph.D., AND SAMUEL ROSEN, Ph.D.

The anthropological researches of Dr. Morris Steggerda of the Carnegie Institution of Washington suggested to him that there might be inherited (racial) differences between racial groups with respect to resistance to dental caries. Dr. Steggerda suggested that we determine whether there are such inherited difference in albino rats. The rat is used extensively in experimental studies on dental caries so an understanding of the conditions leading to tooth decay in it is essential.

The experiment was begun in 1937. Phenotypic selection, progeny testing, and intensive inbreeding have been used to produce two strains of rats: one highly susceptible to dental caries in the lower molar teeth, and a second strain which is highly resistant to caries. Dental caries is the resultant of many factors, so that it has been necessary to use a standardized ration if the inheritance factor is to be isolated and measured. The well-known Hoppert, Webber and Canniff diet has been used

Coarsely ground hulled rice ......................... 66%

4 Dental Research Fellow, University of Rochester, School of Medicine and Dentistry.
5 Professor, Zoology, Professor, Chemistry, Research Assistant, Zoology, respectively, Michigan State College.
About 9800 rats have been produced and studied to date. The resistance of a rat is measured by the number of days required to produce a carious cavity in a lower molar tooth (caries time). The average caries time for the strain of susceptible rat has decreased from 57 days in the 2nd generation to 35 days in the 25th (the latest) generation. The average caries time for the resistsants has increased from 116 days at the 2nd generation to 505 days for the 17th generation, the latest generation whose record is now complete.

Since the two strains of rats have been fed and housed in precisely the same way, it is clear that the method of breeding has established hereditary differences between the two lines.

It has been necessary to investigate a number of problems in order to demonstrate the inheritance factor. It was found that a high proportion of coarse particles in the rice component of the diet (about 70%) led to the destruction of some of the upper molars in the resistant teeth, with the result that caries was delayed in the opposing lower molars. Experiments on susceptible rats proved that lack of use delays the carious process in lower molars.

Sex is not an important factor in resistance to caries in these rats.

Rats which are 100–150 days old are somewhat more resistant to dental caries than rats 35 days old.

The incidence of caries has been much lower in the upper molar teeth than in the lower molars of both strains, and in both strains there have been more cavities on the right jaw than on the left. The causes for these differences are not clear. The cavities in susceptible animals occur more frequently in the fissures of the lower molars than elsewhere. The inherited difference between the two strains is not specific for the Hoppert, Webber, Canniff diet, but has been demonstrated for a diet that contains 57% of sucrose.

Mechanical fracturing of the lower molars does not appear to be an important causative factor for caries in the susceptible line. Neither does the secretion of the parotid gland seriously affect the caries times of the two strains.

What are the physiological processes responsible for the early appearance of carious cavities in the susceptible animals and for the delay in caries in the resistsants? There are reasons to believe that differences in the bacterial contents of the mouths are at least partially responsible. Lactobacillus acidophilus is found persistently in the mouths of all the susceptible rats, but is a highly inconstant resident in the mouths of resistant animals. The oral flora of the animals is now being studied intensively.

The susceptible line became relatively uniform (probably homozygous) in the early generations of the experiment. Variability within resistant families, on the other hand, has not declined. The reason for this difference between the two lines is not clear, but is an important subject for further study.

Intensive studies on the causes of dental caries in the rat should provide us with an animal which is so well understood that its value in testing agents that might influence caries in man is increased.
C. Developmental Factors

**James H. Shaw, Ph.D. and Reider F. Sognnaes, L.D.S., Ph.D., Boston**

Observations in rodents and monkeys suggest that the early nutritional background of the animals, during the period of tooth development, has a significant influence upon the future caries susceptibility of their teeth. Rhesus monkeys show a much greater resistance to decay in teeth developed during the consumption of the available foods in their natural habitat than in teeth developed during laboratory existence on a purified diet, complete in all known nutritional essentials. A higher caries susceptibility is found in offspring of rats and hamsters raised on purified diets than in those raised on a diet composed of natural foods, even though the diet after tooth eruption is identical.

In a search for the caries-preventive factors involved, the ash of the natural stock diet has been used as the source of minerals in the otherwise purified diet. This provided a significant reduction in caries. This preventive effect of the natural ash mixture could not be attributed to fluorine and is therefore believed to have resulted from one or more minerals or trace elements yet to be determined.

D. Salivary Factors

**David Weisberger, B.S., D.M.D., M.D. and Abraham Schwartz, D.D.S., Boston**

Clinical observations in human beings have revealed extensive dental caries associated with diminished salivary secretion resulting from congenital stenosis of the salivary ducts, from disease of the salivary glands, or from X-radiation.

Experimental observations in rodents have demonstrated that the surgical removal of the major salivary glands results in extensive caries in rodents (total desalivation). Recent investigations have shown furthermore that the degree of caries differs depending upon the kind of gland removed (selective desalivation) and the age at which the glands are removed (periodic desalivation).

Removal of the parotids or the submaxillary glands resulted in caries scores which were significantly greater than for the unoperated controls, but which were significantly less than for the “completely desalivated” animals. Removal of the major sublingual glands or the extraorbital lacrimal resulted in barely significant increases in caries as compared to controls. Elimination of the major salivary glands on one side produced caries scores on that side significantly greater than on the intact side.

Periodic desalivation has shown that removal of the salivary glands at weaning time results in significantly more caries than desalivation at a more mature age. These studies indicate that the parotids are the most important of the salivary
glands in relation to caries resistance of the teeth and suggest that a normal salivary secretion may be of significance at the time of eruption and maturation of the teeth.

E. Oral Environmental Factors

1. Germ-free and tube feeding studies in rats

FRANK J. ORLAND, D.D.S., Ph.D., Chicago

In the history of caries research, there have been few basic studies which on the one hand yielded results ostensibly self-evident, and yet which on the other hand proved to be extremely difficult in their modus operandi. However, once all complicating variables—the influence of bacteria and food—could be completely eliminated from the oral cavity, the essential findings proved to be profoundly simple and striking: Rats reared on a “caries-producing” diet, but in the complete absence of all microorganisms, developed no caries, whereas, the mutually complementary study demonstrated that rats having their conventional oral microbial flora, when fed a “caries-producing” diet by stomach-tube, also developed no caries.

In the one study, a collaborative effort by the Zoller Clinic, University of Chicago and the Lobund Institute, University of Notre Dame, 22 rats were reared germ-free in special tanks. These animals remained entirely free of microscopically demonstrable caries in contradistinction to 39 conventional control rats. In the other study, conducted at the Harvard School of Dental Medicine, 13 of 52 intact, and 3 of 23 desalivated, tube-fed rats survived the experimental period wherein no food reached the oral cavity, and these were found caries-free in contrast to comparable control animals.

The results of these two studies strongly suggest that both microorganisms and substrate, ordinarily lodged around the teeth, must be essential for caries development.

2. Various factors concerned with caries production in hamsters

SIDNEY B. FINN, B.A., D.M.D., M.S., Birmingham

A study of the morphological type of tooth and its susceptibility to dental caries indicates that the second molar appears to be the most frequently involved tooth and the first molar, the least involved. In the first molar the cervical aspect of the tooth is most frequently attacked, while on the second and third molars, the occlusal, proximal, and buccal surfaces are the most susceptible. There are, however, some exceptions. There appears to be an inverse relationship between the exposure age of the teeth and their susceptibility to dental caries. An analysis
of the individual teeth themselves indicates that the longer an individual tooth is exposed to the oral environment, the more resistant it becomes to dental caries. Removal of the salivary glands on hamsters is shown to increase the extent and rapidity of caries production in hamsters. Tooth brushing with a non-therapeutic dentifrice reduces the incidence of dental caries in the hamster. If a therapeutic dentifrice is employed (fluorinated sodium calcium pyrophosphate or penicillin) the reduction is further increased.

F. Inhibitory Agents

1. General considerations

John W. Hein, D.M.D., Ph.D., Rochester

Studies of the effect of inhibitory agents on dental decay in experimental animals serve two purposes; they yield information concerning the caries process in the animal studied and they may indicate potential value of the agent for use against dental decay in man. The use of animals for the latter purpose poses a major problem because it is based on the assumption that the effect and the magnitude of the effect will be the same in animals as in man. With the exception of the work with fluoride there is very little conclusive evidence available with which to check this assumption or to select the animal with a dental caries process most resembling man in its response to inhibitory agents. It has been shown that certain agents will effect one species and not another or that greatly different levels of one agent are required for the same amount of caries inhibition in different species. This would seem to justify considerable reservation against any attempt to transfer experimental caries findings from one species of lower animal to another or to man.

2. Antibiotics and experimental caries development

Robert Fitzgerald, Ph.D., Bethesda

It has been possible to inhibit experimentally induced caries in white rats by incorporating appropriate antibiotic agents in cariogenic diets. This is true for a fine particle diet which results in the “smooth surface” type of caries as well as for a coarse corn-particle diet, which leads to the development of occlusal fissure lesions. On a comparative basis penicillin and bacitracin, which primarily affect gram-positive bacteria, appear to be more effective than the broader spectrum antibiotics (streptomycin, chloramphenicol, terramycin and aureomycin) although significant inhibition of caries has been observed with all these agents. Under comparable conditions polymyxin B, which primarily inhibits gram-negative organisms, was without significant effect on caries development.

10 Assistant Professor, in Dentistry, University of Rochester.
11 Senior Assistant Scientist, National Institute of Dental Research, Bethesda, Maryland.
HELMUT A. ZANDER, D.D.S., Minneapolis, Presiding

3. PATHOGENIC DISTURBANCES OF THE DENTAL PULP RESULTING FROM DENTAL OPERATIVE PROCEDURES

A. In Incisors and molars of Albino Rats

ISAAC SCHOUR, D.D.S., Chicago

The incisors and molars of the rat are delicate biologic tools for the assessment and evaluation of dental filling materials and drugs. Experimental cavities were prepared under the dissecting microscope and filled with materials to test their effects upon the pulp. When the incisors were used, the rats were sacrificed 2 or 7 days after the experimental operation. When the molars were used, the animals were sacrificed after 1 to 4 weeks. The earliest effects were related to functional disturbances of the odontoblasts and occurred before morphologic alterations were observed in the odontoblasts. These functional disturbances were reflected as a calcio-traumatic band in the portion of the dentin which was forming and calcifying at the time of the cavity preparation and as an accentuation of the incremental calcification pattern in the postoperative dentin. In more advanced injury, the odontoblasts were degenerated and replaced by newly differentiated odontoblastic cells. These formed reparative (secondary) dentin at a rate which varied with different filling materials and duration of postoperative survival.

In the incisors of the rat, zinc oxide and eugenol cement produced minimal alterations in the calcification of the developing dentin and no morphologic changes in the pulp or odontoblasts, while silicate cements and copper cements produced death of odontoblasts and marked arrest in dentin formation and calcification. The order of effects increased from zinc-oxide-eugenol to amalgam, self-curing acrylics, zinc oxyphosphate cements, silicates and copper cements.

In the molars of rats, experiments were conducted to test the influence of fillings on the production of reparative (secondary) dentin. A filling with “aquadont” (two parts zinc oxide, one part of zinc sulfate, and one part of cornstarch) containing 50 per cent tricalcium phosphate resulted in double the amount of secondary dentin, as compared with “aquadont” alone or zinc oxide and eugenol.

Preliminary experiments in the incisors and molars of the rat pave the way for more selective experiments in the teeth of higher animals and man.

B. In the Teeth of Dogs

VINSANT F. LISANTI, D.D.S., Boston

Responses in the teeth of dogs were evaluated with respect to the stressor agent on normal animals and the animals subjected to systemically administered hormones, cortisone and desoxy-corticosterone acetate (DCA).

The dogs were pretreated for one to four weeks with doses of 1.5 mg/kg of either
department of Histology, College of Dentistry, University of Illinois.
 Research Associate, Tufts College Dental School.
cortisone or DCA and compared to the responses of the untreated dogs for similar periods of time. Cavity preparations with a dental bur, and the airdent techniques were compared. One of the injuries used was heat applied to the floor of the cavity preparation, varying from 200°F to 600°F, followed by a zinc oxide and eugenol restoration. Cavity preparations without heat injury were restored with zinc oxide and eugenol, silicate cement, zinc oxyphosphate cement, methyl methacrylate resins, and no restoration.

Little apparent difference was noted between the untreated and pretreated dogs up to two weeks. However, pretreatment for longer than two weeks demonstrated the following:

Interference with macrophage activity. Differentiation of the pulpal stellate mesenchymal cells to other cell types (fibroblasts and odontoblasts) related to pulpal healing was retarded. Increased blood vessel fragility and a reduction in the numbers of leukocytes especially eosinophiles and lymphocytes. There appeared to be an increase in the number of plasma cells.

With cortisone there was a reduction in the number of young fibroblasts and to a lesser degree the ground substance between cells.

With DCA there was an increase in young fibroblasts, fibrils and ground substance.

Both demonstrated almost a complete absence of predentin formation and no calcification was seen in any of the hormone pretreated animals.

When cortisone or DCA was administered postoperatively there was a general delay in healing or repair of the dental pulp. The dogs treated with cortisone two month postoperatively showed a slightly better reparative response than DCA though considerably less than the untreated animals.

The control animals, non-operative, after eight weeks of hormonal injection demonstrated clean cut responses in the dental pulp of the dogs.

The cortisone treated animals' dental pulps were undistinguishable from the untreated control. The DCA treated animals however showed increased vascularity, a dramatic increase in the number of young stellate mesenchymal and fibroblastic cells with an accompanying increase in fibrils and ground substance.

C. Changes related and unrelated to any known stimuli


Changes which occur in the pulp of teeth may for purposes of description be divided into two categories: (1) regressive changes unrelated to any known stimulus exemplified by fibrosis, diffuse calcification, reticular atrophy, etc., and (2) changes resulting from or associated with the diverse operative procedures which are commonly employed in clinical dentistry. The first series of changes observed on microscopic examination of the pulp is generally associated with increase in age of the tooth.

The work on which this report is based was supported in part, by a grant from the U. S. Public Health Service.

College of Dentistry, New York University.
Clinical observation and experimental studies have established the course of events which take place in the pulp as a result of various operative procedures, the use of medicaments, and filling materials. One of the most common and apparently useful or protective responses is the elaboration of localized increments of secondary dentin or dentin-like tissue. The mechanism of the various changes which occur and the explanation for several instances of pulp failure, however, is not understood.

Any attempt to evaluate the changes which occur in the pulp eventually resolves itself into an interpretation of cytochemical and cytophysiological conditions which exist in this tissue. Recent advances (i) in our knowledge of the connective tissues have emphasized the role of the fibroblast in the elaboration of collagen fibers, the multipotency of these cells under conditions of stress and also of the composition and probable role of the ground substance as an active metabolite and in connection with cell migration. Our own investigations (ii) have demonstrated the correlation between such substances as the alkaline phosphatase and nucleic acids in the functional odontoblast observed during the period of active dentin elaboration. We have also observed acid and mucopolysaccharides to be a prominent constituent of the ground substance of the pulp during the developmental period of the tooth whereas these substances are relatively absent in the pulp of the mature teeth.

Several other cytochemical differences have been observed in comparing young and mature pulps. It will suffice in this brief report to refer to the few examples already mentioned to illustrate some of the significant chemical and enzymatic components of the cells and ground substance of the pulp in the developing tooth which are diminished or lacking in the adult pulp. It is felt that further studies designed to elucidate in greater detail the cytochemical and cytophysiological characteristics of this tissue will help clarify the responses which the pulp exhibits under various conditions.

THIRD SESSION: SYMPOSIUM (8:00 P.M.)

CYRIL D. MARSHALL-DAY, D.D.S., Boston, Presiding

4. THE PREVALENCE OF PERIODONTAL DISEASE

A. Introduction by the Chairman

Periodontia, the subject for our symposium this evening, should be considered one of the most important areas of dental education and should constitute one of the major phases of general dental practice; yet it has been, without doubt, that

19 Arranged by Irving Glickman, D. D. S., Tufts College Dental School.
20 Dean, Tufts College Dental School.

branch of the art and science of dentistry most inadequately taught and most frequently neglected in oral health service.

A knowledge of the epidemiologic characteristics, particularly the prevalence and incidence of a disease is of course, important in an evaluation of the extent of the problem and may conceivably point the way to profitable avenues of investigation. Unfortunately very little useful information is available since the few surveys that have been carried out in this country on prevalence and incidence have varied so widely in methods of approach and diagnostic techniques that comparison and confirmation of results are seldom valid.

However, there is sufficient agreement on the results of investigators in this field to state categorically that because of its early incipiency and widespread distribution, periodontal disease in its various phases constitutes a very serious public health problem. Probably the most valuable contribution that epidemiologic research has made in the field of periodontology has been to focus attention upon the too common inadequacy of training in this area of dental education and practice, and upon the consequent appalling neglect of periodontal disease by the public and by the general practitioner of dentistry.

From the results of an important survey recently carried out at the University of Illinois, Belting, Massler and Schour have predicted that approximately 50 per cent of all males will have x-ray and clinical evidence of periodontal disease or will be edentulous as a result of it by 45 years of age. At Tufts College Dental School we are at present analyzing data following clinical and roentgenographic examination of many hundreds of male and female subjects in the Boston area. We find a much greater prevalence of gingivitis and alveolar bone loss than has been generally reported. The incidence of gingivitis increased from an already high level of 80 per cent at age 13 years to 95 per cent at age 65 years. The prevalence of periodontal disease with roentgenographic evidence of bone loss involving one or more teeth ranged from 4 per cent at age 13-15 years to 100 per cent at age 65 years. In varying degrees, from slight localized to severe generalized involvement, from 35 years of age onwards the prevalence of bone loss was almost universal, ranging from 98 to 100 per cent. In addition to these extremely high morbidity figures, it was found that tooth mortality increased from 6 per cent at age 19-20 years to 60 per cent at age 60 years with a marked increase in tooth loss at age 40 years. These two studies alone indicate the urgent need for greater emphasis on early diagnosis and treatment of periodontal disease and for intensified investigation in this field.

There is ample evidence in the literature that periodontal disease was recognized hundreds and even thousands of years ago and that most of the present local preventive and curative techniques, if less refined, were practised between the time of Orad-Nana in 668 B.C. and the time of Pierre Fauchard in the 17th century. Scaling, gum massage, cauterization, surgical treatment, splinting and occlusal equilibration were all practised between 400 and 2500 years ago.

Food deficiencies and systemic factors were considered by Rhazis in 865 A.D. and by Celsus in 100 A.D. thus predating Irving Glickman's "bone factor" concept by more than 1100 and 1800 years respectively. It is true that with the shift in research from the histological studies of autopsy material to animal experimenta-
tion, and the development of histochemical and other experimental techniques, a beginning has been made towards a better understanding of the mechanisms responsible for the morphological alterations in the tissues.

However, we are still far from a complete understanding of the processes involved. In modern textbooks we find chapters devoted to instrumentation, to occlusal equilibration, to techniques for the eradication of the periodontal pocket, to the sharpening of periodontal instruments and to many other admittedly important considerations—but we find very little information of real practical assistance to the dentist who recognizes a probable systemic etiologic factor and wants to do something about it. It is also true that attempts are being made to evaluate the inter-relationship of local and systemic factors in the etiology of periodontal disease. It is true that the frontiers of knowledge are being gradually pushed back to a point where there appears to be some hope that rational systemic therapy will ultimately replace the present empirical methods and that this more fundamental approach will supplement the present system of technical manipulations aimed at the alleviation of symptoms.

Epidemiologic research has helped to bring about a greater awareness on the part of all concerned of the importance of the periodontal problem, and the increasingly intensive search for rational methods of prevention and treatment offer high hopes for a future more comprehensive health service.

B. The Gingiva in health and disease

Samuel Turesky, D.M.D., Boston

Recent oxygen consumption and histochemical studies reveal aspects of the gingiva not easily detected by histopathologic staining methods.

Oxygen consumption studies, using the Warburg Manometric Technic, offer a quantitative index of the metabolic changes in various phases of inflammation and healing of the gingiva. For example, the $QO_2$ of normal human gingiva is 1.6. There is an increased oxygen consumption in gingiva with marked inflammation and proliferation of connective tissue, and a decreased $QO_2$ in degenerated and necrotic gingivae. The $QO_2$ of gingiva in the course of healing following gingivectomy reaches a peak of 5.4 at 14 days, and then declines until at the 21st day it approximates the preoperation level. The rise in $QO_2$ level can be correlated with such histologic changes as proliferation of the epithelium, new capillary formation, fibroblastic activity, and reduction in degenerative changes; the fall in $QO_2$ can be correlated with a reduction in vascularity and cellularity of the connective tissue, and resolution of inflammation and maturation of the epithelium.

Histochemical studies of the gingiva for carbohydrate complexes using the Hotchkiss Leukofuchsin-Periodic Acid Method or modifications of this technic have demonstrated the following: a polymerized glycoprotein structure of the intercellular substance of the epithelium, a concentration of glycogen in epithelium overlying inflamed connective tissue, disintegration of the basement membrane in inflammation and desquamative gingivitis, and increased solubility of the glyco-

*Tufts College Dental School.*
protein carbohydrate elements of the connective tissue ground substance in inflammation and desquamative gingivitis.

These studies have demonstrated that knowledge regarding the gingiva depends upon further understanding of the interrelationship of structure and function; morphologic technics alone have failed in many instances to reveal disturbances in the functional elements. Histochemical technics, chemical and metabolic studies are required for further clarification of the activity of the gingiva in health and disease.

C. The Activity and Morphology of the Submaxillary Gland of the Albino Rat

LEO M. SREEBY, D.D.S., Chicago

Previous studies concerning the enzymology of the salivary glands of rodents have dealt mainly with the properties and characteristics of the starch-splitting, amylolytic, enzyme. Only scanty evidence for proteolytic activity in extracts of these glands has been reported in the literature. More knowledge concerning such an enzyme would further our understanding of the causes of tooth decay and diseases of the tooth supporting structures.

Recent investigations in our laboratory showed that saline extracts of frozen-dried rat submaxillary glands were able to break down the protein, azocoll. At least two specific proteolytic enzymes were present: one with an optimum pH at 2.5; the other at pH 8.5 to 9.6. Similar extracts from the rat spleen, liver, testis, kidney, muscle, parotid and sublingual glands, did not degrade this protein. This report deals with the alkaline proteolytic enzyme. The enzyme was similar to, but not identical with, trypsin. It had an optimum pH of 8.5-9.6, and an optimal temperature between 50 and 55°C. It was activated by cystine and ascorbic acid and inhibited by iodine. Trypsin inhibitor, iodoacetic acid and MgSO₄ had no effect upon it. Dialysis of the enzyme extract resulted in a decrease in enzyme activity due to the loss of some inorganic component.

Granules within the cytoplasm of the intralobular ducts of the submaxillary glands are believed to be responsible for the elaboration of this enzyme.

D. Nature of Bone Loss

IRVING GLICKMAN, D.M.D., Boston

Loss of alveolar bone has been induced in experimental animals subjected to nutritional and hormonal disturbances and debilitating disease such as diabetes. These studies do not detract from the importance of local oral factors which determine the location of alveolar bone loss and affect its severity. The aforementioned studies do indicate however, that systemic influences, by affecting the anabolic-catabolic balance in alveolar bone also participate in the overall process of bone loss in periodontal disease.

22 Department of Applied Materia Medica and Therapeutics, College of Dentistry, University of Chicago.

23 Tufts College Dental School.
Whereas previous studies have emphasized the destructive effect of systemic influences, our current experiments deal with the stimulation of alveolar bone formative activity by systemic means. With weekly injections of 600 R U of estradiol benzoate in young mice it was possible to prevent or compensate for the alveolar bone loss which ordinarily resulted from daily injections of 25 mg of cortisol. It is hoped that the demonstration of the rebuilding of alveolar bone by estrogenic hormone injections will stimulate further research regarding the possibility of utilizing a systemic approach for retarding bone loss in periodontal disease.

5. THE CHEMISTRY OF SALIVA AND ITS IMPORTANCE

FRANCES KRASNOW, Ph.D., New York

Insuring continued well-being is to establish methods sufficiently sensitive to recognize early approaching derangement. Long recourse to clinical chemistry for aid in ascertaining disease and indicating progressive steps toward cure naturally encouraged biochemical blood analyses in dental caries research. Preliminary results for protein and cholesterol showed no discernible aberrances. The fact that blood is the master fluid holding fast to normal composition and the observation that tooth abnormality occurs so frequently in individuals otherwise judged healthy by medical examination turned attention to the evaluation of these compounds in total oral secretion. Meaningful fluctuations from the “normal” soon presented themselves.

Studies were made on 119 cases, 45 for protein determinations and 74 for cholesterol. In both, there is apparent marked increased concentrations for the saliva components whereas the blood portrayed no significant variations:

<table>
<thead>
<tr>
<th>Type of Analysis</th>
<th>Normal</th>
<th>Caries</th>
<th>Odds Against Chance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Serum Protein</td>
<td>6.5 ± 0.1 grams/100 ml</td>
<td>6.6 ± 0.1</td>
<td>1.31</td>
</tr>
<tr>
<td>Total Saliva Protein</td>
<td>295 ± 13.0 mg/100 ml</td>
<td>342 ± 12.6</td>
<td>726</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>153 ± 1.1 mg/100 ml</td>
<td>156 ± 2.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Series I Blood</td>
<td>6.9 ± 0.5 mg/100 ml</td>
<td>9.3 ± 0.5</td>
<td>1933</td>
</tr>
<tr>
<td>Series I Saliva</td>
<td>152 ± 5.2 mg/100 ml</td>
<td>158 ± 3.5</td>
<td>1.72</td>
</tr>
<tr>
<td>Series II Blood</td>
<td>7.2 ± 0.5 mg/100 ml</td>
<td>9.5 ± 0.5</td>
<td>1033</td>
</tr>
<tr>
<td>Series II Saliva</td>
<td>152 ± 5.2 mg/100 ml</td>
<td>158 ± 3.5</td>
<td>1.72</td>
</tr>
<tr>
<td>Series II Blood</td>
<td>7.2 ± 0.5 mg/100 ml</td>
<td>9.5 ± 0.5</td>
<td>1033</td>
</tr>
</tbody>
</table>

Further investigation is revealing similar elevated figures for fatigue, frequent colds and age. These abnormal concentrations of salivary protein and cholesterol without concomitant alteration in the levels of their blood counterparts can be construed as symptomatic forerunners of systemic shortcoming. If utilized diagnostically and the physiological plane raised to optimal, both substances revert to their respective normal values. It may be well to institute saliva analysis at period-

24 In addition to the program of Subsection Nd-Dentistry, this report, which has special dental significance was given in Section C-Chemistry December 27, 1953, at Mechanics Hall, Boston.

ical examinations. This would safeguard the smooth running of the organism's biochemical machinery and obviate serious nutritional disturbances.

6. FINALE

Dr. David Weisberger, Harvard School of Dental Medicine. Some aspects of the Problem of Soft Tissue Infection. No abstract was submitted but the speaker related his experience with chronic recurrent aphthous stomatitis (commonly called canker sore) and his efforts to find the cause in approximately 80 cases. While some believe the ulcers are viral in origin, the author in collaboration with virologists had not been able to confirm this.

Some investigators have held that there is a dietary basis for the origin of the stomatitis but the speaker hospitalized many patients in order to control the diet strictly and was unable to alter the recurrence of the ulcers under a large variety of diet modifications. The cause of the disease remains as obscure as ever and the speaker ended by making a plea for other investigators to take an interest in this not too rare and troublesome disease. (GCP)
BOOK ANNOUNCEMENTS

**STRONG-CARTER DENTAL CLINIC: ANNUAL REPORT:** This is the report for the year 1953 and may be summarized; of a total of 149 schools there was a total of 65,438 pupils. These attended the dentist or a clinic as follows:

<table>
<thead>
<tr>
<th></th>
<th>Not Completed</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>By their own dentist</td>
<td>10928</td>
<td>31543</td>
</tr>
<tr>
<td>By Non-self-supporting Clinic</td>
<td>1340</td>
<td>3209</td>
</tr>
<tr>
<td>By Self-supporting Clinic</td>
<td>30</td>
<td>121</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1298</strong></td>
<td><strong>34873</strong></td>
</tr>
</tbody>
</table>

Total number attending dentist or clinic ........................................... 47171
Total number not attending dentist or clinic ........................................ 18267
Total number of pupils ................................................................. 65438

A study of these figures will reveal the fact that a trifle over 70 per cent of the above total number of children attended a dentist or clinic and of these, a trifle less than 70 per cent had their work completed. The study will also show that approximately 90 per cent of those attending either a dentist or clinic attended a private dentist. A final summing up of figures, however, while showing certain increases and decreases results in a "4.4 per cent improvement over last year." Published by Palama Settlement, 810 N. Vineyard St., Honolulu 17, Hawaii. Free on request.

**CURRENT THERAPY:** This is a book of 898 pages including an index and divided into 16 sections, each representing a phase of medical practice. It is edited by Howard F. Conn, M.D., with a Board of 12 consultants and 192 contributors. The idea of the book is well carried out, consisting of a concise statement by the various contributors as to their particular system in handling certain cases. Published by W. B. Saunders and Co. Price $11.00.

**MAYO CLINIC DIET MANUAL:** This is the second edition of this manual prepared by The Committee on Dietetics of the Mayo Clinic. It consists of 240 pages including typical menus for various types of cases. It so happens that an anti-diebetic's diet and an anti-dental caries diet may be the same. To that extent at least it may be of interest to dentists. Published by W. B. Saunders. Price $5.50.
American College of Dentists

OFFICERS OF THE COLLEGE

1953-1954

President, Harry S. Thomson, Guelph, Ont., Canada

President-elect, James H. Ferguson, Jr., Baltimore, Md.

Vice-President, Harold MacKechnie Cline, Vancouver, B. C.


Secretary, Otto W. Brandhorst, 4221 Lindell Blvd., St. Louis 8, Mo.

Historian, William J. Gies, 632 West 168th Street, New York

REGENTS

Lloyd W. Johnston, Denver, Colorado

Wilbert Jackson, Clinton, North Carolina

Harold J. Noyes, Portland, Oregon

Samuel R. Parks, Dallas, Texas

Ernest B. Penn, Miami, Florida

Kenneth C. Pruden, Patterson, New Jersey


Robert S. Vinsant, Memphis, Tenn.

John E. Gurley (Editor) Ex-Officio, San Francisco, Calif.

COMMITTEES 1953-1954

Education

George M. Anderson, Chairman

Wm. F. Swanson, Vice-Chairman

Roy G. Ellis

P. E. Blackerby, Jr.

Francis J. Conley

Health Relationship

Clarence J. Speas, Chairman

E. Horace Jones, Vice-Chairman

John Steen

Willis R. Osmun

Health Service

Clarence J. Speas, Chairman

E. Horace Jones

John Steen

Willis R. Osmun

Horace L. Carter

Journalism

Charles C. Chumbley, Chairman

Carl O. Boucher, Vice-Chairman

LeRoy E. Kurth

Walter A. Wilson

Charles W. Craig

Memorial Book

Earl E. Shepard, Chairman

Phillip E. Williams, Vice-Chairman

Floyd D. Ostrander

E. Carl Miller

Jacob A. Salzmann

Necrology

Carl J. Stark, Chairman

David W. Brock

Willard Ogle

Nominations

E. G. Meisel, Chairman

F. H. Brophy

Robert A. Downs

Frank O. Alford

Frances B. Vedder

Preventive Service

Carl L. Sebileus, Chairman

Arthur J. Seuva, Vice-Chairman

Walter J. Felton

Ruth Martin

Willard C. Fleming

Prosthetic Dental Service

Clarence A. Nelson, Chairman

Walter J. Pryor, Vice-Chairman

Donald W. Gullatt

Luzerne G. Jordan

Allison Gale James

Public Relations

Lloyd H. Dodd, Chairman

John F. Burke, Vice-Chairman

Frederick C. Elliott

Allen O. Gruebner

Kenneth R. Gibson, Sr.

Research

Philip Jay, Chairman

Henry A. Swanson, Vice-Chairman

Thomas J. Hill

Myron S. Aisenberg

Wm. G. McIntosh

Socio-Economics

Raymond E. Myers, Chairman

Fritz A. Pierson, Vice-Chairman

Thomas R. Marshall

Donald H. Miller

William B. Ryder, Jr.

Student Recruitment

Harold G. Ray, Chairman

Wendell L. Wylie, Vice-Chairman

Ralph J. Bowman

Frank P. Bowyer, Jr.

J. Wallace Forbes