

JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS

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Contents

American College of Dentists:

Objectives, constitution and by-laws, and register of membership as of March 15, 1938. *Otto W. Brandhorst, D.D.S., Secretary* 1

Proceedings of the meeting of the sections as guests of the Illinois Section, Chicago, Feb. 13, 1938:

Some problems common to medicine and dentistry. *Alphonse M. Schwitalla, S. J.* 40

Dental prosthetic service. III: Laboratory leaders criticize statements by members of the dental profession. *Walter H. Wright, D.D.S., Ph.D., Chairman, Committee on Dental Prosthetic Service* 52

Ad-interim actions of the Regents: 1937-38; second series. *Otto W. Brandhorst, D.D.S., Secretary* 68

The life of Alfred Owre. A tragedy. *John Oppie McCall, B.A., D.D.S., F.A.A.P., F.A.C.D.* 70

American Association for the Advancement of Science: Proceedings of the Sub-section on Dentistry; Indianapolis, Ind., Dec. 27, 1937. *Thomas J. Hill, D.D.S., F.A.C.D., Dental representative in the Council of the A.A.A.S.* 73

Use of indium in dental alloys. *Reginald V. Williams, A.C.* 78

Editorials:

Dental research. *A. H. M.* 95

Planning dental meetings. *O. W. B.* 97

New classification of dental journals 100

Temporary change in rating of the *American Journal of Orthodontics and Oral Surgery* 101

New phase of the open discussion of dental journalism 103

Dean Owre's biography (II) 106

Notes:

Dental Cosmos and the American Dental Association 114

Dental research: Is the term inadequate? 114

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AMERICAN COLLEGE OF DENTISTS

Sections and dates of meetings in 1937-38.—(1) *Kentucky*: June 13, '38. (2) *North-ern California*: Oct. 27, '37; Mar. 25, '38. (3) *Maryland*: June 17, '38. (4) *New York City*: Feb. 11, '38; May 20, '38. (5) *Minnesota*: Feb. 1, '38. (6) *New England*: Nov. 23, '37. (7) *Wisconsin*: Apr. 25, '38. (8) *Colorado*: June —, '38. (9) *Pittsburgh*: Nov. 17, '37; Jan. 12, '38; Apr. 13, '38; June 29, '38. (10) *Iowa*: May 4, '38. (11) *Illinois*: Dec. 6, '37; Feb. 13, '38. (12) *St. Louis*: Sep. 27, '37; Jan. 14, '38. (13) *Oregon*: Feb. 24, '38 (meeting for organization).

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

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

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

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

JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS

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AMERICAN COLLEGE OF DENTISTS

OBJECTIVES, CONSTITUTION AND BY-LAWS, AND REGISTER OF MEMBERSHIP AS OF MARCH 15, 1938

OTTO W. BRANDHORST, D.D.S., *Secretary*

St. Louis, Missouri

CONTENTS

I. Objectives	1
II. Constitution and by-laws	5
III. Register of membership:	
1. Deceased fellows	12
2. Honorary fellows	15
3. Active fellows	15
4. Geographic distribution of active fellows	30
5. Classification of active fellows as to years of admission	33
6. Members-elect who have not yet attended a convocation to complete re- quirements for admission	35
IV. Register of sections, and chief officers	37
V. Register of Past-presidents	38
VI. Board of Regents: 1937-38	39
VII. Addendum to Section III: Subsection 1	39

I. OBJECTIVES

The American College of Dentists was organized on August 20, 1920. Those who established it believed that there was a definite need for a society that would be imbued with the highest ideals for the dental profession; would keep burning the fires of enthusiasm and encouragement; and lend its influence to every movement having for its purpose the advancement of professional ideals and the betterment of dental service to humanity. During the succeeding years, this organization has continued to seek improved ways and means to serve the dental profession and the public. To the effort to promote the development of the profession, the American College of Dentists will continue to devote itself. Its activities not only create greater opportunities in the profession itself, but also elevate dentistry in the eyes of other professions and the public.

While the College has frequently modified its approaches in accord-

ance with existing conditions, and taken up the study of new problems as they presented, its objectives have always been earnestly pursued. The general purposes of the College, as stated briefly in the constitution, are these:

- (a) To promote the ideals of the dental profession.
- (b) To advance the standards and efficiency of dentistry.
- (c) To stimulate graduate study and effort by dentists.
- (d) To confer Fellowship in recognition of meritorious achievement, especially in dental science, art, education and literature.
- (e) To improve public understanding and appreciation of oral health-service.

The College is not a one-man organization. It has in its ranks the most conscientious workers in the profession—men who habitually labor far into the night, not for personal glory but that the principles that are fundamental to the advancement of dentistry may be maintained. The annual convocation, which is usually held a day or two before the meeting of the American Dental Association, represents only a part of the year's activities. The Board of Regents, and various committees, function throughout the entire year. Besides the usual committees associated with organization activities, there are many other standing committees. These committees make thorough studies in the fields assigned to them, and present annual reports that are intended to further the best interests of dentistry as a profession.

During the years that have elapsed since the organization of the College in 1920, its interests and activities have increased with the needs of the times, and have become more varied as dentistry as a profession broadened its fields of usefulness. In efforts to advance the welfare of the profession, the College has continually encouraged higher educational standards and research. Its committees on Education and Research regularly report their findings and offer recommendations. The College has been an ardent supporter of dental research, and in recent years has been one of the main financial supports for the *Journal of Dental Research*.

Through the committees on Hospital Dental Service and Oral Surgery, a better understanding between the health-service professions has been created and the foundation has been laid for a much closer

relationship in the future. In the field of literature the College has championed the cause of professional control of dental literature. The profession, years ago, set up a code of ethics that resulted in our present splendid American Dental Association, and took hold of dental education by placing the dental schools in a new relationship with universities. So in the field of literature, the profession desires to terminate commercial control of dental journalism. The College is cognizant of the interest of its members and the profession generally in better standards and protection. Through the committees on Prosthetic Dental Service, Legislation, and Certification of Specialists, the College seeks ways and means to improve existing standards and also to protect the public.

The College is also investigating conditions in the many relationships with the public and other organizations. Its committees on Public Relations and Socio-economics have been making detailed studies. If and when the need arises, information of the greatest importance will be available. The College has been able to bring about many recognitions of dentistry, one of the most important of which was the admission of dentistry into membership in the American Association for the Advancement of Science, where dentistry is now an active section. All committees take their assignments seriously. They make their studies thorough and base their recommendations on facts disclosed.

There are sections of the College, now 13 in number, in various parts of the United States. These sections endeavor to solve local problems as they relate to the College and the profession at large. An annual meeting of the sectional representatives is held in conjunction with the Chicago Mid-Winter Clinic meeting.

The general evolution in the affairs of the College has been an outcome of much planning and of many experiences, including some mistakes. In all activities the goal has always been kept in sight. Conditions change, procedures must be varied, but the purposes remain unaltered. "The good of the profession and humanity" is the light that ever beckons us onward.

The American College of Dentists will not, knowingly, accept into fellowship persons holding membership in any similar honorary dental organization. Membership in the College is automatically forfeited

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

The total membership of the College at present is about 600. It is representative of the dental profession in the United States, Canada and some foreign countries. Nomination to membership is made by two Fellows in the College without the knowledge of the nominee. Election to Fellowship is made by the Regents after a thorough investigation and report by the Board of Censors. The criteria of judgment in elections to membership have been published in detail in the *Journal of the American College of Dentists*, which is now in its fifth annual volume.

Meetings are held annually to further the work of the College and to confer Fellowship upon those who have accepted invitations to join in the endeavors to promote dental progress. The pledge, which is exacted from every new member, reads as follows:

"I have read a copy of the constitution and by-laws of the American College of Dentists.

"Recognizing that the American College of Dentists seeks to exemplify and develop the highest traditions and aspirations of our calling, I hereby accept, as a condition of Fellowship in the College, all its principles, declarations and regulations.

"I pledge myself, as a member of the American College of Dentists, to uphold to the best of my ability the honor and dignity of the dental profession, and to meet my ethical obligations to my patients, to my fellow practitioners, and to society at large.

"I also pledge myself to refrain from all practices that tend to discredit the profession, including employment, or holding a proprietary interest, in commercial corporations supplying dental products or services to either the profession or the public; giving testimonials for such products or services; participating in radio programs that advertise proprietary preparations sold to the public; bartering in fees; making excessive charges without rendering commensurate service; dividing fees with other health-service

practitioners, or in any other manner taking advantage of the ignorance or confidence of the patient.

"I further pledge myself to devote my best endeavors to the advancement of the dental profession, and to perfect myself in every way possible in the science and art of dentistry. I shall be ready at all times to give freely to dental colleagues, privately or publicly, the benefit of any knowledge or experience I may have that would be useful to them; but will give courses of instruction in dentistry, for remuneration, only as an appointed teacher serving under the auspices of a dental school, dental society, hospital, or other accredited professional or educational agency."

II. CONSTITUTION AND BY-LAWS

CONSTITUTION

Article I: Name and Objects

This organization, named American College of Dentists, was established to promote the ideals of the dental profession; to advance the standards and efficiency of dentistry; to stimulate graduate study and effort by dentists; to confer Fellowship in recognition of meritorious achievement, especially in dental science, art, education and literature; and to improve public understanding and appreciation of oral health-service. Suitable means shall be used to attain these and related objectives.

Article II: Membership

Section 1: Classes of members. There are two classes of members: active and honorary. Each member receives the title of Fellow.

Section 2: Active members. The active members consist of dentists and others who have made notable contributions to dentistry, or who have done graduate, scientific, literary, or educational work approved by the College.

Section 3: Honorary members. Any person who, through eminent service, has promoted the advancement of dentistry, or furthered its public appreciation, may be elected to honorary membership.

Section 4: Election to membership. After a nominee for membership has received the approval of a four-fifths vote of the Board of Censors (*Art. III, Sec. 3*), he may be elected by a majority vote of the Board of Regents (*Art. III, Sec. 2*).

Section 5: Forfeiture of membership. Sub-section A. Membership in the College shall be automatically forfeited by members who

(a) give courses of instruction in dentistry under any auspices other than those of a dental society, dental school, or other recognized professional or educational agency; or

(b) give courses of instruction in dentistry in a privately owned undergraduate or postgraduate dental school; or, in a school that is associated with an independent hospital or dispensary but is not an organic part of it; or

(c) exact exorbitant fees for courses of instruction in dentistry under any auspices; or

(d) are guilty of unethical or unprofessional conduct, or of moral turpitude; or

(e) are in arrears for two fiscal years in the payment of annual dues, unless the reason therefor is presented to the Regents and the delay approved by them.

Sub-section B. The Board of Regents shall note and announce, for the College, the occurrence of automatic forfeiture of membership. But, to insure justice before declaring a forfeiture of membership, the Board of Regents shall privately inform the affected member of the Board's tentative judgment, and shall give him ample opportunity to present evidence showing that forfeiture did not in fact occur.

Article III: Officials

Section 1: Officers. The officers of the College are a President, a President-elect, a Vice-president, a Secretary and a Treasurer.

Section 2: Regents. A Board of Regents, consisting of the President, the President-elect, the Vice-president, the Secretary, the Treasurer, the Editor (Art. IV) and five additional members, shall conduct the business of the College, excepting as otherwise provided.

Section 3: Censors. A Board of Censors, consisting of five members, shall receive all nominations for membership.

Article IV: Journal

Section 1: Title. The *Journal of the American College of Dentists* is the official periodical publication.

Section 2: Board of Editors. The *Journal* shall be conducted by a Board of Editors, consisting of the Regents of the College and such additional members as the Regents may select.

Article V: Sections

Sections of the College may be organized, in geographical centers, to support and promote locally the aims, purposes, functions and ideals of the College.

Article VI: Standing Committees

Standing committees may be created by the Board of Regents. Their membership shall be appointed by the President.

Article VII: Meetings

Section 1: Annual meetings. The College shall hold a meeting at least once in each calendar year.

Section 2: Special meetings. The Board of Regents, by a majority vote, may call special meetings of the College or of the Regents. No other authority has power to call special meetings of either the College or the Regents.

Article VIII: Financial

Section 1: Initiation fee. The membership initiation fee shall be one hundred dollars (\$100.00), or more.

Section 2: Annual dues. The annual dues shall be ten dollars (\$10.00), or more.

Section 3: Remission of fees. (a) For special reasons in individual cases, the Board of Regents may remit initiation fees, annual dues and special fees.

(b) Honorary Fellows shall be exempt from the payment of initiation fees and annual dues.

Article IX: Colors

The colors of the College are lilac and American rose.

Article X: Quorum

Thirty-five members constitute a quorum.

Article XI: Amendments

Amendments of this constitution may be made by affirmative vote of a majority of the total membership.

BY-LAWS

Section A: Members

1. *Nomination and election.* Any member of the College may nominate candidates for membership. Nominations must be presented, on copies of the official nomination form, to the Secretary at least 90 days before the date of the annual meeting at which action on the nominations may be desired, to enable the Secretary to forward them to the Board of Censors in accord with the rules of the Regents. Knowledge of nominations shall be kept inviolate by the nominators, and by the Secretary, Censors and Regents, until action is formally announced.

2. *Admission.* The procedures attending admission of members, and conferring of Fellowships, shall be determined by the Regents. The title of Fellow of the American College of Dentists (F.A.C.D.) may not be used by, and the certificate and academic apparel of the College shall not be presented to, a member before Fellowship has been conferred upon him.

3. *Recall of election.* The Regents may recall the announcement of election to membership for any person who fails to complete the requirements for Fellowship by the close of the first annual meeting after the original notification.

4. *Fellowships conferred in absentia.* In the unavoidable absence of a member-elect, or for any unusual reason, the College, on recommendation by the Regents, may confer Fellowship in absentia.

Section B: Officials

1. *Election of Officers.* The President, the President-elect, the Vice-president, the Secretary, 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.

2. *Election of Regents.* One member of the Board of Regents shall be elected annually by the College, from the general membership, to

serve for five years. For at least one year after the completion of a five-year term, he shall be ineligible for re-election.

3. *Nomination of officials and creation of Nominating Committee.* The elective officials shall be selected from nominees presented, at the annual business meeting, (a) by the Nominating Committee and (b) by individual members who may make independent nominations from the floor. During the meeting at which this provision becomes effective, five Fellows shall be selected by the President to serve as the Nominating Committee, subject to confirmation by the Board of Regents. Their terms shall range successively, by designation of the President, from 1 to 5 years. Thereafter, one Fellow shall be appointed annually by the President, for a term of five years, subject to confirmation by the Board of Regents.

4. *Election of Censors.* The Board of Regents shall annually elect one member of the Board of Censors to serve for five years. He shall be ineligible for re-election. When vacancies occur in the Board of Censors, the Board of Regents shall present three names to the President, who shall select one therefrom to serve for the unexpired term.

5. *Duties.* (a) The *President* shall preside at all meetings of the College and of the Regents, and at all convocations where Fellowships are conferred.

(b) In the absence or disability of the President, the *Vice-president* shall perform the duties of the President.

(c) The *Secretary* shall attend, and keep records of, all meetings of the College and the Board of Regents. All funds of the College received by him shall be promptly sent to the Treasurer. He shall issue orders on the Treasurer for the payment of all bills that are presented in accord with the rules of the Board of Regents, and perform such other duties as usually pertain to his office, or as the College or Regents may direct.

(d) The *Treasurer* shall disburse funds only on the order of the Secretary, and in accord with the rules of the Regents. At each annual meeting he shall make a detailed written report to the Board of Regents of the funds received and disbursed by him. At the expense of the College, he shall furnish a bond for the faithful performance of his trust. He shall be, ex-officio, a member of the Finance and Budget Committee.

(e) The *Board of Regents*, besides performing the duties specified in the Constitution and By-Laws, shall make detailed reports at the annual meetings of the College.

(f) The *Board of Censors* shall make careful investigations of the character and attainments of all nominees for membership, received from the Secretary on copies of the official nomination form, and shall recommend to the Regents only such persons as are deemed worthy of Fellowship.

Section C: Board of Editors

1. *Officers.* The *Board of Editors* of the *Journal* shall elect an Editor, an Associate Editor, and an Assistant Editor; and a maximum of ten Contributing Editors for terms not to exceed five years. No one shall be eligible to serve in the same position for a term or terms exceeding a total of five years.

2. *Duties.* The Board of Editors shall perform all duties pertaining to the *Journal* that may be properly assigned to a group of editors and managers of a periodical.

Section D: Sections

1. *Application.* Local organizations of members of the College may petition to the Regents to be accredited as sections of the College.

2. *By-Laws.* (a) To be accredited as a section, a local organization must adopt by-laws for its government in harmony with the principles of the Constitution and By-Laws of the College, as determined by the Regents; and, with the petition to be made an accredited section, shall file with the Secretary of the College a copy of the said by-laws.

(b) Amendments of a section's by-laws, to become operative, must be approved by the Regents.

3. *Action by the Regents.* The Secretary of the College shall forward copies of each sectional petition and by-laws to the Regents for their decision, before notifying the organizers of a section that their petition has been accepted.

4. *Charter.* Upon acceptance of a petition, the section shall be duly accredited as such and a copy of the sectional charter, as pre-

scribed by the Regents, shall be forwarded to the section by the Secretary of the College.

5. *Jurisdiction.* On all questions affecting jurisdiction of the College over a section or its affairs, whether raised in behalf of the College or of a section, the Regents shall have authority to determine.

6. *Dissolution.* Any section may be dissolved, for cause, by the Regents; but dissolution of a section would not affect any individual rights and obligations of membership in the College.

Section E: Standing Committees

1. *Vacancies.* The President shall fill vacancies in the standing committees of the College.

2. *Duties.* Each standing committee shall perform such duties as may be assigned to it by the Regents, and before each annual meeting shall present to the Regents a full report of its activities.

Section F: Financial

1. *Initiation Fee.* The initiation fee shall be the minimum amount specified in the Constitution (\$100.00).

2. *Annual dues.* The annual dues shall be the minimum amount specified in the Constitution (\$10.00).

Section G: Amendments

1. *Amendments of the Constitution.* Proposed amendments of the Constitution may be presented at any annual meeting and shall be voted upon at the succeeding annual meeting. Copies of all proposed amendments of the Constitution, with an accompanying ballot for a vote by mail, must be sent by the Secretary of the College to each Fellow at least three months before the date of the succeeding annual meeting.

2. *Amendments of the By-Laws.* Amendments of the By-Laws may be presented at any annual meeting and adopted by a majority of the members present and voting.

III. REGISTER OF MEMBERSHIP

1. DECEASED FELLOWS¹

Charles L. Alexander, '28	Charlotte, N. C.	October 13, 1933
Charles C. Allen, '22	Kansas City, Mo.	July 16, 1930
Charles F. Ash, '22	New York, N. Y.	January 25, 1938
D. D. Atkinson, '22	Brunswick, Ga.	January 14, 1924
John H. Baldwin, '23	Louisville, Ky.	January 20, 1929
Lafayette L. Barber, '23	Toledo, Ohio	November 23, 1929
Thomas J. Barrett, '21	Worcester, Mass.	December 29, 1930
L. P. Bethel, '23	Columbus, Ohio	January 17, 1936
Theodore B. Beust, '28	Louisville, Ky.	November 24, 1937
*John F. Biddle, '21	Pittsburgh, Pa.	January 19, 1926
**Arthur D. Black, '21	Chicago, Ill.	December 7, 1937
George A. Bowers, '32	Nashua, N. H.	December 18, 1935
Charles A. Brackett, '22	Newport, R. I.	March 20, 1927
Frank T. Breene, '26	Iowa City, Iowa	October 15, 1931
Truman W. Brophy, '21	Chicago, Ill.	February 3, 1928
George K. Burgess, '30	Washington, D. C.	July 2, 1932
John H. Cadmus, '29	Chicago, Ill.	October 31, 1934
H. Wood Campbell, '25	Suffolk, Va.	March 31, 1931
Calvin S. Case, '23	Chicago, Ill.	April 16, 1923
David T. Chase, '37	Portland, Ore.	October 23, 1936
W. R. Clark, '23	Clear Lake, Iowa	August 1, 1932
Levitt E. Custer, '22	Dayton, Ohio	January 3, 1924
S. E. Davenport, Sr., '32	New York, N. Y.	June 7, 1934
W. S. Davenport, Sr., '26	Paris, France	February 26, 1938
Horace M. Davis, '24	Baltimore, Md.	February 8, 1935
Lyndall L. Davis, '27	Chicago, Ill.	February 25, 1937
Frank H. Dean, '24	Worcester, Mass.	September 10, 1934
W. H. DeFord, '32	Des Moines, Iowa	March 22, 1932
Charles L. Drain, '34	Iowa City, Iowa	June 5, 1937
S. Eschelman, '23	Buffalo, N. Y.	September 26, 1932
Luther A. Faught, '28	Philadelphia, Pa.	November 23, 1933
*William A. Giffin, '21	Detroit, Mich.	July 3, 1929
Steele F. Gilmore, '32	Princeton, Ind.	July 15, 1932

¹ Numerals following names indicate years of admission to membership.

* A founder.

** A founder and organizer.

Hart J. Goslee, '23	Chicago, Ill.	May 31, 1930
Horace P. Gould, '23	Brooklyn, N. Y.	April 4, 1928
Louis Graham, '22	San Francisco, Calif.	February 19, 1932
*Clarence J. Grieves, '21	Baltimore, Md.	November 4, 1927
William M. Griswold, '33	London, England	July 13, 1935
Charles W. Hall, '23	Milwaukee, Wis.	June 10, 1936
Frank A. Hamilton, '26	Indianapolis, Ind.	September 3, 1937
Charles A. Hawley, '27	Washington, D. C.	July 22, 1929
Frank W. Hergert, '29	Seattle, Wash.	August 31, 1937
Frank O. Hetrick, '22	Ottumwa, Kan.	May 17, 1934
DeLos L. Hill, '23	Atlanta, Ga.	May 7, 1931
*Thomas P. Hinman, '21	Atlanta, Ga.	March 19, 1931
A. Hugh Hipple, '21	Omaha, Neb.	July 29, 1933
N. S. Hoff, '22	Ann Arbor, Mich.	December 1, 1926
Thomas A. Hogan, '30	Pittsburgh, Pa.	July 17, 1930
J. A. C. Hoggan, '23	Richmond, Va.	February 28, 1928
David A. House, '24	Indianapolis, Ind.	January 8, 1933
Edward J. Howard, '32	San Francisco, Calif.	November 16, 1931
Alfred O. Hunt, '27	Omaha, Neb.	January 12, 1934
*Victor H. Jackson, '21	New York, N. Y.	January 26, 1929
Albert Wade Jarman, '31	Philadelphia, Pa.	May 20, 1933
H. Herbert Johnson, '23	Crescent, Ga.	May 23, 1937
*C. Edmund Kells, '21	New Orleans, La.	May 7, 1928
Albert H. Ketcham, '30	Denver, Colo.	December 6, 1935
Edward G. Link, '22	Rochester, N. Y.	July 12, 1933
Benjamin F. Luckey, '23	Paterson, N. J.	April 29, 1930
Chalmers J. Lyons, '22	Ann Arbor, Mich.	May 18, 1935
Herman A. Maves, '28	Minneapolis, Minn.	March 19, 1932
Harris W. McClain, '29	Chicago, Ill.	July 16, 1934
Louis Meisburger, '22	Buffalo, N. Y.	August 10, 1927
George H. Mengel, '32	El Paso, Tex.	February 14, 1932
Clinton T. Messner, '29	Washington, D. C.	May 28, 1936
George E. Mitchell, '23	Haverhill, Mass.	August 23, 1934
J. N. C. Moffat, '31	Memphis, Tenn.	August 14, 1933
George S. Monson, '22	St. Paul, Minn.	May 27, 1933
William D. M. Moore, '27	Chicago, Ill.	July 19, 1937
L. G. Noel, '23	Nashville, Tenn.	January 20, 1927

* A founder.

Edmund Noyes, '23	Chicago, Ill.	March 28, 1927
Robert Todd Oliver, '26	Washington, D. C.	July 11, 1937
Forrest H. Orton, '24	San Francisco, Calif.	March 1, 1933
John D. Paterson, '27	Kansas City, Mo.	January 12, 1930
Frank L. Platte, '26	Berkeley, Calif.	June 27, 1927
William H. Potter, '26	Boston, Mass.	July 27, 1928
Merle M. Printz, '25	Chicago, Ill.	February 10, 1934
James H. Prothero, '23	Chicago, Ill.	April 8, 1929
H. A. Pullen, '32	Buffalo, N. Y.	February 17, 1935
G. A. Rawlings, '25	Bismarck, N. D.	April 16, 1933
Harry J. Ray, '34	Aiken, S. C.	June 27, 1936
Frank B. Rhobotham, '29	Chicago, Ill.	May 30, 1934
Charles E. Rice, '28	Los Angeles, Calif.	February 5, 1935
William Rice, '27	Boston, Mass.	November 23, 1932
F. E. Rodriguez, '33	Washington, D. C.	October 21, 1932
Arthur T. Rowe, '34	New York, N. Y.	December 12, 1935
John Scholten, '32	Cedar Rapids, Iowa	March 8, 1938
Wallace Seccombe, '21	Toronto, Canada	January 16, 1936
Samuel L. Silverman, '22	Atlanta, Ga.	October 7, 1934
Alfred R. Starr, '23	New York, N. Y.	October 27, 1924
Fred A. Stevenson, '27	Montreal, Canada	August 9, 1934
Burt S. Sutherland, '28	Owosso, Mich.	October 23, 1931
George Kerr Thomson, '26	Halifax, N. S.	May 2, 1935
A. W. Thornton, '21	Montreal, Canada	February 11, 1931
William D. Tracy, '23	New York, N. Y.	February 11, 1937
Frank T. Van Woert, '23	New York, N. Y.	September 9, 1927
Wm. Wallace Walker, '23	New York, N. Y.	June 14, 1925
Eugene R. Warner, '22	Denver, Colo.	March 28, 1936
F. H. Waters, '30	Ames, Iowa	July 6, 1937
Harry L. Watson, '32	Manchester, N. H.	March 1, 1936
A. E. Webster, '22	Toronto, Canada	November 6, 1936
E. K. Wedelstaedt, '22	St. Paul, Minn.	June 1, 1931
W. H. Weston, '22	Sydney, Australia	February 26, 1933
Herbert L. Wheeler, '22	New York, N. Y.	March 23, 1929
J. Leon Williams, '24	New York, N. Y.	February 22, 1932
George H. Wilson, '21	Cleveland, Ohio	April 12, 1922
Albert M. Wright, '23	Troy, N. Y.	November 8, 1926
J. Lowe Young, '29	New York, N. Y.	May 3, 1931

Total, 108

2. HONORARY FELLOWS¹

- Cumming, Hugh S., '32, U. S. Public Health Service, Washington, D. C.
Cutter, William D., '37, 535 N. Dearborn St., Chicago, Ill.
Guild, Frederick T., '37, Brown University, Providence, R. I.
Hanzlik, P. J., '33, Leland Stanford University, San Francisco, Calif.
Kraus, Edward H., '32, University of Michigan, Ann Arbor, Mich.
Leake, Chauncey D., '36, University of California, San Francisco, Calif.
Leary, Timothy, '31, 44 Burroughs St., Jamaica Plains, Mass.
Luckhardt, Arno B., '33, 5216 Greenwood Ave., Chicago, Ill.
Samuels, Joseph, '32, Outlet County, Weybosset St., Providence, R. I.
Sinai, Nathan, '34, University of Michigan, Ann Arbor, Mich.
Souder, Wilmer, '30, National Bureau of Standards, Washington, D. C.
Thompson, L. R., '32, U. S. Public Health Service, Washington, D. C.
Waller, Clifford E., '33, 1103 W. Highland Drive, Woodside, Md.

Total, 13

3. ACTIVE FELLOWS¹

- Abbott, Rush P., '34, West Point, Miss.
Adams, Philip Edwin, '37, 106 Marlborough St., Boston, Mass.
Addie, Charles B., Sr., '37, 1812 Spring Garden Rd., Philadelphia, Pa.
Aiguier, James E., '37, 1116 Medical Arts Bldg., Philadelphia, Pa.
Aisenberg, Myron S., '33, Baltimore Coll. of Den. Surgery, Baltimore, Md.
Alden, Harold W., '35, 160 Main St., Northampton, Mass.
Alexander, Howard, '33, 1305 East 63rd St., Chicago, Ill.
Altfillisch, Henry J., '29, 722 Roshek Bldg., Dubuque, Iowa
Anderson, George M., '31, 831 Park Ave., Baltimore, Md.
Arnold, Joseph P., '37, 1021 Esperson Bldg., Houston, Tex.
Arnott, Alwyn J., '32, 137 Macquarie St., Sydney, Australia
Ashbrook, John Stewart, '28, 310 Medical Arts Bldg., Pittsburgh, Pa.
Atkinson, Spencer Roane, '37, First Trust Bldg., Pasadena, Calif.
Bach, Ernest N., '37, 1307 Second Nat'l Bank Bldg., Toledo, Ohio
Bailey, Elpha E., '36, 1124 Republic Bldg., Denver, Colo.
Baker, Charles R., '22, 308 Central Office Bldg., Davenport, Iowa
Baker, Charles Reeder, '28, 636 Church St., Evanston, Ill.
Baker, Chester A., '32, 1726 Eye St., N. W., Washington, D. C.
Ball, Edward L., '31, 547 Doctors Bldg., Cincinnati, Ohio
Ballou, N. Talley, '37, State Dep't of Health, Richmond, Va.

¹ Numerals following names indicate years of admission to membership.

- *Banzhaf, Henry L., '21, 1217 W. Wisconsin Ave., Milwaukee, Wis.
 Barber, Arthur D'Alanson, '33, 217 Eccles Bldg., Ogden, Utah
 Bard, Alexander E., '32, Valley Bank Bldg., Tucson, Ariz.
 Barker, Albert M., '33, Medico-Dental Bldg., San Jose, Calif.
 Barnard, Frank P., '35, 507 Main St., Worcester, Mass.
 Barrett, Leland, '29, 133 West 72nd St., New York, N. Y.
 Barry, Walter F., '35, 51 Central Ave., Newark, N. J.
 Baumann, Charles J., '36, 408 W. Greenfield Ave., Milwaukee, Wis.
 Bear, Harry, '29, 410 Professional Bldg., Richmond, Va.
 Becks, Hermann, '35, 154 Yerba Buena Ave., San Francisco, Calif.
 Benbrook, C. M., '27, 707 Theatre Audit. Bldg., Los Angeles, Calif.
 Benson, William J. H., '29, 530 Wisconsin Ave., Milwaukee, Wis.
 Berger, Adolph, '29, 10 East 74th St., New York, N. Y.
 Bergstrom, Hyrum, '33, 229 Seventh Ave., Salt Lake City, Utah
 Bettmann, M. M., '36, 528 Medical Arts Bldg., Portland, Ore.
 Black, J. Cannon, '29, 55 E. Washington St., Chicago, Ill.
 Black, Roy E., '32, 612 Washington St., Huntington, Pa.
 Blackwell, Robert E., '29, 180 N. Michigan Ave., Chicago, Ill.
 Blaisdell, Edwin C., '34, 5 Market St., Portsmouth, N. H.
 Blake, Reuben Lloyd, '36, Butler Bldg., San Francisco, Calif.
 Blakeman, Robert I., '27, 603 Hume Mansur Bldg., Indianapolis, Ind.
 Blanquie, Raoul Henry, '36, Flood Building, San Francisco, Calif.
 Blue, James A., '26, 1017 Comer Bldg., Birmingham, Ala.
 Blum, Theodor, '23, 101 East 79th St., New York, N. Y.
 Bödecker, Charles Francis, '26, 630 West 168th St., New York, N. Y.
 Bogle, R. Boyd, '23, Medical Arts Bldg., Nashville, Tenn.
 Booth, Cecil O., '29, 405 Flannery Bldg., Pittsburgh, Pa.
 Booth, John J., '33, Marion, Iowa
 Boots, John L., '28, Severance Medical Union, Seoul, Korea
 Bostwick, Frank Brown, '26, 94 Main St., Gibraltar, Spain
 Bowles, Shirley W., '28, 3875 Wilshire Blvd., Los Angeles, Calif.
 Boyd, Bert, '30, 610 S. Broadway, Los Angeles, Calif.
 Boydston, Walter J., '37, 204 Masonic Temple, Fairmont, W. Va.
 Brach, Louis, '34, 112 Monticello Ave., Jersey City, N. J.
 Bradford, Harry, '37, Medical Arts Bldg., Birmingham, Ala.
 Brady, Ewing P., '33, 7239 Northmoor Drive, St. Louis, Mo.
 Brand, Thurlow Weed, '29, 131 Robinson St., Pittsburgh, Pa.
 Brandhorst, Otto Wm., '34, 223 Lister Bldg., St. Louis, Mo.

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- Brekhus, Peter J., '34, 1967 E. River Road, Minneapolis, Minn.
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Brevig, Harold R. H., '33, 27 E. Monroe St., Chicago, Ill.
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Broadbent, B. Holly, '33, 1400 Keith Bldg., Cleveland, Ohio
Brockington, Marion L., '33, 509 West Pine St., Florence, S. C.
Bronner, Finn J., '37, 209 East 23rd St., New York, N. Y.
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Brown, Homer C., '23, 1816 Franklin Ave., Columbus, Ohio
Brown, Robert Kennard, '32, Campus Building, Ann Arbor, Mich.
Brownlie, Ira C., '30, 536 Metropolitan Bldg., Denver, Colo.
Bruening, E. H., '22, 620 City National Bank Bldg., Omaha, Neb.
Brun, B. Lucien, '29, 827 Park Ave., Baltimore, Md.
Bryan, Alvin Wesley, '28, Box 727, Iowa City, Iowa
Bryant, Elwyn R., '37, 215 Whitney Ave., New Haven, Conn.
*Buckley, John P., '21, 803 Taft Bldg., Hollywood, Calif.
Budge, David Clare, '29, Logan, Utah
Bull, Harry L., '37, 921 Bergen Ave., Jersey City, N. J.
Bunting, R. W., '22, University of Michigan, Ann Arbor, Mich.
Burket, George E., '30, Kingman, Kan.
*Burkhart, H. J., '21, Rochester Dental Dispensary, Rochester, N. Y.
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Bush, Alden J., '31, 150 E. Broad St., Columbus, Ohio
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Camalier, C. Willard, '29, 1726 Eye St., N. W., Washington, D. C.
Cameron, Dan U., '26, 25 E. Elm St., Chicago, Ill.
Cameron, James R., '35, 19th and Spruce Sts., Philadelphia, Pa.
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Carr, James B., '31, 706 Hume Mansur Bldg., Indianapolis, Ind.
Carr, Malcolm W., '34, 667 Madison Ave., New York City
Cartee, Horace L., '37, 810 Huntingdon Bldg., Miami, Fla.
Casto, Theodore D., '33, 1833 Chestnut St., Philadelphia, Pa.
Chace, James Edward, '34, Professional Bldg., Ocala, Fla.
Chambers, W. T., '22, 121 Lafayette St., Denver, Colo.
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- Charlton, Percie C., '28, "Rushall," Almy St., Pymble, Australia
 Chase, Charles E. B., '34, 29 Commonwealth Ave., Boston, Mass.
 Chipps, Henry Duley, '35, Corinth, Miss.
 Christensen, Martin L., '33, 99 W. New York Ave., Oshkosh, Wis.
 Christiansen, John F., '33, 727 West 7th St., Los Angeles, Calif.
 Clark, James Francis, '34, 148 Cottage St., Pawtucket, R. I.
 Clark, Stanley W., '33, 180 N. Michigan Ave., Chicago, Ill.
 Clarke, John J., '35, Artesia, N. Mex.
 Clendenen, Irving B., '30, 124 Wisconsin Ave., Oak Park, Ill.
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 Combs, Warren S. P., '30, Middleton, Del.
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 Conley, Clinton E., '37, LeSuer, Minn.
 **Conzett, John V., '21, 116 West 13th St., Dubuque, Iowa
 Cook, J. Franklyn, '29, 511 S. Bonnie Brae St., Los Angeles, Calif.
 Cooke, Augustus R., '23, 815 University Bldg., Syracuse, N. Y.
 Coolidge, Edgar David, '26, 25 E. Washington St., Chicago, Ill.
 Cooper, Herbert C., '28, 206 N.E. 31st Ave., Portland, Ore.
 Cooper, Herbert Kurtz, '37, 26 N. Lime St., Lancaster, Pa.
 Copeland, Clarence S., '33, Rochester, N. H.
 Coriell, Louis D., '22, 111 W. Monument St., Baltimore, Md.
 Coston, Willis A., '22, 900 Medical Arts Bldg., Kansas City, Mo.
 Cottrell, Arthur J., '33, 831 North 4th Ave., Knoxville, Tenn.
 Cottrell, Harvey V., '32, 206 E. Drendin Road, Columbus, Ohio
 Crawford, J. W., '27, 434 First Wis. Nat'l Bank Bldg., Milwaukee, Wis.
 Crosby, Albert William, '36, 215 Whitney Ave., New Haven, Conn.
 Cushman, Frank H., '32, Harvard Dental School, Boston, Mass.
 Damon, George M., '34, 730 La Salle Bldg., Minneapolis, Minn.
 Darnall, W. L., '33, U. S. Naval Hospital, San Diego, Calif.
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 Davis, Albert David, '30, 209 Post St., San Francisco, Calif.
 Davis, William R., '31, State Department of Health, Lansing, Mich.
 Day, Roscoe A., '36, 490 Post St., San Francisco, Calif.
 Dean, Oscar T., '36, 818 Cobb Bldg., Seattle, Wash.
 Delabarre, Frank Alexander, '28, 483 Beacon St., Boston, Mass.

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Edwards, Ralph W., '34, 1108 East 10th St., Kansas City, Mo.
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*Endelman, Julio, '21, 6th and Grand Ave., Los Angeles, Calif.
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Fixott, Henry C., '27, 729 Medical Dental Bldg., Portland, Ore.
Flagstad, C. O., '32, 1549 Medical Arts Bldg., Minneapolis, Minn.
Fleming, J. Martin, '29, Citizens Bank Bldg., Raleigh, N. C.
Fleming, Willard C., '36, 1904 Franklin St., Oakland, Calif.

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- Fontaine, Sadi B., '36, 1904 Franklin St., Oakland, Calif.
Ford, Lewis E., '22, 122 East 16th St., Los Angeles, Calif.
Foster, S. W., '21, Atlanta-Southern Dental College, Atlanta, Ga.
Fraser, M. S., '34, Lahaina Ulani, Hawaii
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Freeman, Charles W., '29, 311 E. Chicago Ave., Chicago, Ill.
French, Felix A., '32, 111 Metcalf St., Ottawa, Canada
Frew, Athol Lee, '28, 4105 Live Oak St., Dallas, Tex.
Friesell, F. C., '23, University of Pittsburgh, Pittsburgh, Pa.
**Friesell, H. E., '21, University of Pittsburgh, Pittsburgh, Pa.
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Gallie, Donald M., '24, 25 E. Washington St., Chicago, Ill.
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Gaver, Oren H., '31, 808 Medical Arts Bldg., Baltimore, Md.
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Graham, James Allen, '28, 209 Post St., San Francisco, Calif.
Graham, William Conrad, '30, 388 Fairwood Ave., Columbus, Ohio
Grant, Giles C., '37, 655 Congress St., Portland, Me.
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Hadley, Amos I., '31, 29 Commonwealth Ave., Boston, Mass.

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Hale, John M., '24, 112 West 2nd St., Mt. Vernon, Ind.
Hall, James Oscar, '33, 506 North 15th St., Waco, Texas
Hallenberg, Albert, '34, 803 Black Bldg., Fargo, N. Dak.
Hardgrove, T. A., '24, 710 Commercial Bank Bldg., Fond du Lac, Wis.
Harkins, Cloyd S., '35, 222 Curtain St., Osceola Mills, Pa.
Harkrader, Roy C., '35, 1010 Central Bldg., Cincinnati, Ohio
Harper, Charles F., '32, 146 Belmont Ave., Jersey City, N. J.
Harrington, Albert A., '37, 49 Bleecker St., Newark, N. J.
Harris, Harold L., '37, 1353 Medical Arts Bldg., St. Paul, Minn.
Harris, Madison C., '36, 402 Tiffany Bldg., Eugene, Ore.
Harrison, Guy R., '33, Professional Bldg., Richmond, Va.
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Hasbrouck, James F., '24, 1065 Armada Drive, Pasadena, Calif.
Hassell, H. Clay, '23, 616-22nd Ave., Tuscaloosa, Ala.
Hausmann, William, '32, 119 N. Main St., West Bend, Wis.
Hayes, G. B., '27, 5905 Camino de la Casta, La Jolla, Calif.
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Hewett, Ashley Myron, '33, 55 E. Washington St., Chicago, Ill.
Hight, Finis Marlin, '31, 1323 Medical Arts Bldg., Houston, Tex.
Hilderbrand, John G., '28, 207 Black Hawk Bldg., Waterloo, Iowa
Hill, Thomas J., '33, Western Reserve University, Cleveland, Ohio
Hillias, George Watts, '28, 1213 Rialto Bldg., Kansas City, Mo.
Hillyer, Ellison, '23, 1143 Dean St., Brooklyn, N. Y.
Hinds, Frederick W., '32, 6300 Tremont St., Dallas, Tex.
Hocking, W. E., '23, Devil's Lake, N. Dak.
Hodgkin, W. N., '31, Warrenton, Va.
Hoeffel, Paul Heath, '33, 1951 Irving Park Blvd., Chicago, Ill.
Hoffer, Carl Walsh, '26, 414 Hitchcock Bldg., Nashville, Tenn.
Hoffman, Abram, '24, Northwestern Univ. Dental School, Chicago, Ill.
Hoffman, Henry F., '34, 700 Majestic Bldg., Denver, Colo.
Hogeboom, Floyd Eddy, '36, 3780 Wilshire Blvd., Los Angeles, Calif.
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Hopkinson, Roy S., '28, 425 E. Wisconsin Ave., Milwaukee, Wis.
Hopkinson, William, '24, 1438 E. Brady St., Milwaukee, Wis.

* A founder.

- *House, Milus M., '21, 1001 Floral Ave., Whittier, Calif.
- Howe, Percy R., '21, 140 The Fenway, Boston, Mass.
- Hower, Frank Beard, '29, 814 Heyburn Bldg., Louisville, Ky.
- Howle, Eugene Bond, '30, Raleigh, N. C.
- Hubbuck, Edward H., '27, 830 Starks Bldg., Louisville, Ky.
- Huegel, Raymond W., '33, 703 Tenney Bldg., Madison, Wis.
- Huff, Malvern Dumah, '25, 1204 Medical Arts Bldg., Atlanta, Ga.
- Hughes, Frank C., '37, 1121 W. Michigan Ave., Indianapolis, Ind.
- Hume, Elmer Clarence, '24, 710 Heyburn Bldg., Louisville, Ky.
- Hunt, Vernon L., '34, Hunt Building, Arcata, Calif.
- Hurd, Everett M., '29, 1416 N.E. Brazee St., Portland, Ore.
- Hutchinson, R. G., Jr., '24, Rensselaer Road, Essex Fells, N. J.
- Hyatt, Thaddeus P., '24, Wee Haven, Stamford, Conn.
- Hyde, Walter, '37, 434 LaSalle Bldg., Minneapolis, Minn.
- Ide, Burt Beldon, '29, 611 Medical Arts Bldg., Baltimore, Md.
- Irish, Russell Edwin, '35, 612 Fulton Bldg., Pittsburgh, Pa.
- Irving, Albert John, '35, 1 East 57th St., New York, N. Y.
- Irwin, Vernon D., '37, University of Minnesota, Minneapolis, Minn.
- Jackson, C. R., '25, 904 Hume Mansur Bldg., Indianapolis, Ind.
- Jelinek, Louis E., '29, 1934 Kenilworth Ave., Berwyn, Ill.
- Jeserich, Paul H., '37, University of Michigan, Ann Arbor, Mich.
- John, James E., '35, 804 Medical Arts Bldg., Roanoke, Va.
- *Johnson, Charles N., '21, 212 E. Superior St., Chicago, Ill.
- *Johnson, Ervin A., '21, 541 Boylston St., Boston, Mass.
- Johnson, John Norborn, '30, Goldsboro, N. C.
- Johnson, Joseph E., '31, 752 Starks Bldg., Louisville, Ky.
- Johnson, Leland Ray, '36, 180 N. Michigan Ave., Chicago, Ill.
- Johnson, R. E., '36, 824 Lowry Medical Arts Bldg., St. Paul, Minn.
- Jones, Bush, '33, 4321 Beverly Drive, Dallas, Tex.
- Juett, Brooks, '37, 1112 First National Bank Bldg., Lexington, Ky.
- Kazanjan, Varaztad, '29, 475 Commonwealth Ave., Boston, Mass.
- Keith, H. Leonidas, '37, N. C. Bank Bldg., Wilmington, N. C.
- Kelley, Henry Allen, '29, 815 Trelawny Bldg., Portland, Me.
- Kellogg, Hugh K., '29, 888 Starks Bldg., Louisville, Ky.
- Kelly, Oather A., '37, University Club Bldg., St. Louis, Mo.
- Kelsey, Harry E., '22, 833 Park Ave., Baltimore, Md.
- Keltie, James, '31, 419 Boylston St., Boston, Mass.
- Kennedy, Edward, '23, 420 Madison Ave., New York, N. Y.

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Koch, Clarence W., '36, 817 Donaghey Bldg., Little Rock, Ark.
Kohn, Alfred L., '32, 8 West 40th St., New York, N. Y.
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Krause, Otto G., '27, 626 Wells Bldg., Milwaukee, Wis.
Lane, Charles, '26, 2004 Eaton Tower, Detroit, Mich.
LaRue, F. Wade, '31, 904 Medical Arts Bldg., Indianapolis, Ind.
Lasby, W. F., '28, Univ. of Minnesota, Minneapolis, Minn.
Latham, Harry E., '33, Baltimore Coll. of Den. Surg., Baltimore, Md.
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Lee, Alfred P., '23, 235 South 15th St., Philadelphia, Pa.
Lee, Henry C., '29, 9 S. Kedzie Ave., Chicago, Ill.
Leggett, John W., '36, 490 Post St., San Francisco, Calif.
LeGro, Albert Leland, '26, 525 David Whitney Bldg., Detroit, Mich.
Leigh, Rufus Wood, '34, Fort Hancock, N. J.
Lewis, Samuel J., '37, 308 David Whitney Bldg., Detroit, Mich.
Lindsay, A. W., '28, W. China Union Univ., Chengtu, Szechwan, China
Lineberger, H. Otis, '31, 804 Professional Bldg., Raleigh, N. C.
Lischer, Benno E., '25, 4559 Scott Ave., St. Louis, Mo.
Locke, Franklin H., '30, 811 American Bank Bldg., Oakland, Calif.
Logan, William H. G., '21, 55 E. Washington St., Chicago, Ill.
Lotz, Walter E., '32, Tyrone, Pa.
Loughry, James A., '37, 1638 Keith Bldg., Cleveland, Ohio
Lowery, Percy C., '28, Lowery Bldg., Detroit, Mich.
Lucas, Carl D., '23, 520 West 7th St., Los Angeles, Calif.
Luckie, S. Blair, '34, 333 E. Broad St., Chester, Pa.
Lum, Frederick Harvey, Jr., '36, 151 Main St., Chatham, N. J.
Lundquist, G. R., '29, 180 N. Michigan Ave., Chicago, Ill.
Lynch, Ambrose H., '32, 511 Westminster St., Providence, R. I.
Lynch, Daniel F., '37, 1149 Sixteenth St., N.W., Washington, D. C.
Lyons, Harry, '34, 306 Professional Bldg., Richmond, Va.

- MacBoyle, Robert E., '27, 2460 N. Clarke St., Chicago, Ill.
Macfarlane, William, '33, Tomahawk, Wis.
Mack, Cornelius H., '34, Naval Training Station, Norfolk, Va.
MacMillan, Hugh W., '27, 1005 Union Central Bldg., Cincinnati, Ohio
Main, Lee Roy, '37, Metropolitan Bldg., St. Louis, Mo.
Marshall, J. A., '22, 490 Post St., San Francisco, Calif.
Martin, Aubrey Lee, '29, 1705 Medical Bldg., Seattle, Wash.
Marvel, William Wilkinson, '29, 151 Rock St., Fall River, Mass.
Mason, Arnold D. A., '31, 7 Schofield Ave., Toronto, Canada
Mason, Richard Holmes, '31, First National Bank Bldg., Macon, Ga.
Massicotte, Joseph P., '25, 1536 Westminster St., Providence, R. I.
Mauer, John F., '36, 181 S. Sycamore Ave., Los Angeles, Calif.
Maxfield, Carl W., '35, 31 Central St., Bangor, Me.
Maxfield, Fred Evans, '29, 31 Central St., Bangor, Me.
Maycock, James H., '37, Gardner State Hospital, E. Gardner, Mass.
McBride, Walter C., '33, 660 Fisher Bldg., Detroit, Mich.
McCall, John Oppie, '26, 4 Cambridge Court, Larchmont, N. Y.
McCarthy, Charles Joseph, '36, 450 Sutter St., San Francisco, Calif.
McClung, John A., '32, 1407 Reynolds Bldg., Winston-Salem, N. C.
McCole, Patrick A., '32, Navy Department, Washington, D. C.
McCoy, James D., '22, 3839 Wilshire Blvd., Los Angeles, Calif.
McCready, William A., '31, 1115 Highland Bldg., Pittsburgh, Pa.
McDowell, Arthur R., '27, 344 Fourteenth St., San Francisco, Calif.
McDowell, Johnson G., '28, 1002 Medical Arts Bldg., Nashville, Tenn.
McElrath, Hugh M., '31, Murray, Ky.
McGehee, W. H. O., '33, 308 Brunswick Ave., Blackstone, Va.
McLean, Robert Gordon, '31, Medical Arts Bldg., Toronto, Canada
McParland, Patrick Vincent, '29, Medical Arts Bldg., Pittsburgh, Pa.
Meacham, F. W., '33, Hamilton Nat'l Bank Bldg., Chattanooga, Tenn.
Means, George H., '25, 1380 Bardstown Road, Louisville, Ky.
Meguiar, C. W., '31, Franklin, Ky.
Meisel, Emanuel George, '29, 121 University Place, Pittsburgh, Pa.
Mentzer, William Edward, '37, 1108 Medical Arts Bldg., Duluth, Minn.
Merriman, A. F., Jr., '35, 1002 Ashmont Ave., Oakland, Calif.
Merritt, Arthur H., '23, 580 Fifth Ave., New York, N. Y.
Metz, Harry Cameron, '29, 1201 Highland Bldg., Pittsburgh, Pa.
*Midgley, Albert L., '21, 1108 Union Trust Bldg., Providence, R. I.
Miller, Herbert C., '23, 235 Vesta Ave., Portland, Ore.

* A founder.

- Miller, Howard C., '29, 55 E. Washington St., Chicago, Ill.
Millikin, John D., '22, 490 Post St., San Francisco, Calif.
Mills, Charles Willett, '31, 52 West 2nd St., Chillicothe, Ohio
Mills, Edward Cook, '31, 255 E. Broad St., Columbus, Ohio
Miner, Leroy M. S., '29, 363 Marlboro St., Boston, Mass.
Mitchell, Edw. L., '37, 701 Hume Mansur Bldg., Indianapolis, Ind.
Mitchell, John Russell, '28, 613 Candler Bldg., Atlanta, Ga.
Molt, Frederick F., '32, 25 E. Washington St., Chicago, Ill.
Moore, Fred P., '32, 900 Bank of Commerce Bldg., Hamilton, Canada
Moose, Sanford M., '35, 450 Sutter St., San Francisco, Calif.
Moran, M. J., '34, Deming, N. Mex.
Morgan, George E., '33, 2039 N. Prospect Ave., Milwaukee, Wis.
Mork, Waldo H., '26, 501 Madison Ave., New York, N. Y.
Morrey, Lon W., '33, 5611 Kenmore Ave., Chicago, Ill.
Morton, Harry Greenwood, '24, 735 N. Water St., Milwaukee, Wis.
Mortonson, James C., '27, 735 N. Water St., Milwaukee, Wis.
Mortonson, Morton H., '27, 425 E. Water St., Milwaukee, Wis.
Moxham, H. C., '36, "Wyoming," Macquarie St., Sydney, Australia
Mueller, Emil, '29, 180 N. Michigan Ave., Chicago, Ill.
Mullaney, M. L., '26, 1201 Union Trust Bldg., Providence, R. I.
Mullett, H. J., '36, W. China Union Univ., Chengtu, Szechwan, China
Murlless, Frederic T., Jr., '36, 43 Farmington Ave., Hartford, Conn.
Murphy, John Maxwell, '32, Farmers State Bank Bldg., Temple, Tex.
Needles, John W., '26, 718 Brockman Bldg., Los Angeles, Calif.
Nelson, Charles, '37, Hodgson Block, Fergus Falls, Minn.
Nelson, Clarence A., '34, Amery, Wis.
Nelson, Harry W., '29, 1747 Medical Arts Bldg., Minneapolis, Minn.
Nesbitt, Kenneth Irwin, '36, 450 Sutter St., San Francisco, Calif.
Nestler, Edwin J., '29, 21 East 40th St., New York, N. Y.
Noetzel, Adelbert J., '30, 536 W. Wisconsin Ave., Milwaukee, Wis.
*Noyes, Frederick B., '21, 30 N. Michigan Ave., Chicago, Ill.
Nygard, Arthur Louis, '35, 1232 Medical Arts Bldg., Dallas, Tex.
Oartel, John Sheldon, '35, 7 Scenery Road, Wilkinsburg, Pa.
Ogden, John J., '32, 1005 Sterick Bldg., Memphis, Tenn.
O'Hare, A. P., '37, University Club Bldg., St. Louis, Mo.
Olafsson, Olaf J., '29, 55 E. Washington St., Chicago, Ill.
Oliver, Oren Austin, '27, 440 Lambuth Bldg., Nashville, Tenn.
O'Rourke, John Thomas, '28, 220 Valley Vista Road, Louisville, Ky.

* A founder.

- Owen, Elbert B., '34, Frisco Bldg., St. Louis, Mo.
Owen, James Francis, '35, Lexington, Ky.
Paffenbarger, G. C., '35, Nat'l Bureau of Standards, Washington, D. C.
Palmer, Bissell B., '28, 667 Madison Ave., New York, N. Y.
Pankey, Lindsey Dewey, '36, 138 Alhambra Circle, Coral Gables, Fla.
Parkinson, David Talbot, '36, 729 Beacon Bldg., Wichita, Kan.
Partridge, Benjamin Sherwin, '28, 1305 East 63rd St., Chicago, Ill.
Paterson, Alexander H., '25, 809 Medical Arts Bldg., Baltimore, Md.
Patton, Ernest W., '34, 1807 Comer Building, Birmingham, Ala.
Pell, Glenn Jasper, '31, 505 Hume Mansur Bldg., Indianapolis, Ind.
Peters, John Louis, '23, 133 West 72nd St., New York, N. Y.
Peters, Maurice E., '37, 60 Charlesgate West, Boston, Mass.
Phillips, John H., '24, 2117 Blair Blvd., Nashville, Tenn.
Pinney, Harry B., '33, 108 N. State St., Chicago, Ill.
Piper, Henry H., '32, 411 High St., West Medford, Mass.
Pond, William R., '32, Merchants Row, Rutland, Vt.
Porter, C. G., '37, Kansas City-Western Den. Coll., Kansas City, Mo.
Porter, L. J., '37, 41 East 57th St., New York, N. Y.
Power, William B., '29, 712 Pike St. Bldg., Seattle, Wash.
Powers, George L., '25, Sterick Bldg., Memphis, Tenn.
Price, Weston A., '22, 8926 Euclid Ave., Cleveland, Ohio
Prime, James M., '22, 1136 Medical Arts Bldg., Omaha, Neb.
Prince, M. Webster, '33, 7634 Dexter Blvd., Detroit, Mich.
Pruden, Kenneth C., '34, 44 Church St., Paterson, N. J.
Psayla, Joseph E., '37, 1108 Maison Blanche, New Orleans, La.
Purcell, Thomas E., '33, St. Louis University, St. Louis, Mo.
Randall, W. Marcus, '29, 1035 Second St., Louisville, Ky.
Raper, Howard R., '24, 1516 East Silver Ave., Albuquerque, N. M.
Rault, Clemens V., '34, U. S. S. Medusa, San Pedro, Calif.
Rial, Bruce Poole, '32, 4612 Bayard St., Pittsburgh, Pa.
Richardson, Walter H., '23, 390 Main St., Worcester, Mass.
Richmond, Fred A., '31, 1008 Huron Bldg., Kansas City, Kan.
Rickert, U. G., '23, University of Michigan, Ann Arbor, Mich.
Riggs, Charles E., '31, 1802 R Street, Washington, D. C.
Rinehart, Roy James, '25, 10th and Troost St., Kansas City, Mo.
Roberts, C. W., '30, 60 Harley St., London, England
Robinson, J. Ben, '23, Medical Arts Bldg., Baltimore, Md.
Robinson, Wilfred H., '30, 1706 Broadway, Oakland, Calif.
Rogers, Ernest Albert, '34, Route 2, Iowa City, Iowa
Rohde, A. C., '26, 324 E. Wisconsin Ave., Milwaukee, Wis.

- Rollins, Fred Goldsmith, '32, 358 Commonwealth Ave., Boston, Mass.
Ross, Albert R., '23, Murdock Bldg., Lafayette, Ind.
Rudolph, C. E., '31, 909 Metropolitan Bank Bldg., Minneapolis, Minn.
Rusca, Felix St. Elmo, '34, 3943 Chestnut St., Philadelphia, Pa.
Rushing, Shade P., '37, 212 Armstrong Bldg., El Dorado, Ark.
Sapienza, Benedict Francis, '37, 712 Comer Bldg., Birmingham, Ala.
Sausser, Emerson R., '37, 269 South 19th St., Philadelphia, Pa.
Sayre, Loren Dana, '34, 30 N. Michigan Ave., Chicago, Ill.
Schaeffer, Joseph E., '33, 55 E. Washington St., Chicago, Ill.
Scherer, Walter H., '34, 1620 Medical Arts Bldg., Houston, Tex.
Schlosser, Rudolph O., '32, 311 E. Chicago Ave., Chicago, Ill.
Schott, Carlos H., '31, 1004 Neave Bldg., Cincinnati, Ohio
Schuyler, Clyde H., '32, 400 Madison Ave., New York, N. Y.
Scott, Saxon Bird, '29, 291 Geary St., San Francisco, Calif.
Scruggs, Anderson McL., '35, 1225 Euclid Ave., N.E., Atlanta, Ga.
Selberg, Alver, '35, 344 Fourteenth St., San Francisco, Calif.
Selden, Joseph L., '29, 118 S. Perterson Ave., Louisville, Ky.
Selleck, George A., '35, 450 Sutter St., San Francisco, Calif.
Semans, Harry M., '22, Ohio State University, Columbus, Ohio
Shearer, William, '27, 619 City National Bank Bldg., Omaha, Neb.
Sheffer, Will Gross, '36, Medico-Dental Bldg., San Jose, Calif.
Sherwood, Clyde C., '31, Edison Building, Toledo, Ohio
Simkins, William M., '28, 720 Woodward Building, Washington, D. C.
Simmons, Richard F., '37, Medical Arts Bldg., Norfolk, Va.
Simpson, Richard Lee, '29, 301 E. Franklin St., Richmond, Va.
Slaughter, Nathaniel G., '31, Athens, Ga.
Small, Donald Meeds, '37, Kennebunk, Me.
Smith, A. Malcolm, '37, 416 Tampa St., Tampa, Fla.
Smith, Arthur G., '26, Box 665, Tryon, N. C.
Smith, Earle S., '30, University of Iowa, Iowa City, Iowa
Smith, Edward Henry, '29, 216 W. Cook Ave., Libertyville, Ill.
Smith, Harold S., '24, 180 N. Michigan Ave., Chicago, Ill.
Smith, Harry L., '33, Charlottesville, Va.
Smith, Prescott E., '36, 922 Canal Bank Bldg., New Orleans, La.
Smith, T. Sydney, '30, 85 Marcela Ave., San Francisco, Calif.
Sniffin, David A., '35, 121 Westchester Ave., White Plains, N. Y.
Sorensen, Hans W., '36, 450 Sutter St., San Francisco, Calif.
Spalding, Edward B., '26, 555 W. Maple Ave., Birmingham, Mich.
Spicer, Albert H., Jr., '35, Westerly, R. I.
Sprau, Robert L., '27, 970 Baxter Ave., Louisville, Ky.

- Spurgeon, John S., '32, Hillsboro, N. C.
Staples, George Abel, '33, 177 Main St., Nashua, N. H.
Stephan, John Franklin, '25, 1038 Keith Bldg., Cleveland, Ohio
Stern, Leo, '32, 745 Fifth Ave., New York, N. Y.
Stickney, Truman L., '37, Crookston, Minn.
Stillman, Paul R., '23, Longwood, Fla.
Stillson, William C., '35, 10208 Euclid Ave., Cleveland, Ohio
Stratton, George Allen, '27, Oshkosh, Wis.
Streett, H. Hayward, '32, 829 Park Ave., Baltimore, Md.
Strosnider, C. W., '37, Beggs Bldg., 21 E. State St., Columbus, Ohio
Stuart, Carroll W., '33, 108 N. State St., Chicago, Ill.
Sullivan, Edward Francis, '32, 520 Beacon St., Boston, Mass.
Summers, H. E., '35, 1015 First Nat'l Bank Bldg., Huntington, W. Va.
Sutphen, Herbert S., '23, Lake Mohawk, Sparta, N. J.
Swanson, Henry A., '35, 1726 Eye St., N.W., Washington, D. C.
Swanson, William F., '32, 5236 Pocussett St., Pittsburgh, Pa.
Sweet, Charles A., '32, Summit Medical Bldg., Oakland, Calif.
Swinehart, Earl W., '28, 717 Medical Arts Bldg., Baltimore, Md.
Talbot, William O., '28, 1508 Trinity Life Bldg., Fort Worth, Tex.
Taylor, Richard P., '37, 414 St. James Bldg., Jacksonville, Fla.
Thatcher, George A., '34, 101 Main St., Brockton, Mass.
Thoen, Erling, '29, 1026 Kirkwood Ave., Iowa City, Iowa
Thomas, Earle H., '28, 55 E. Washington St., Chicago, Ill.
Thomas, Elmer A., '32, 200 Gaston Bldg., Hastings, Neb.
Thomas, Robert Palmore, '27, 907 Heyburn Bldg., Louisville, Ky.
Thompson, A. C., '28, 1821 David Whitney Bldg., Detroit, Mich.
Thompson, Walter G., '30, 3 Stanley Ave., Hamilton, Canada
Thompson, Walter S., '36, Roosevelt Bldg., Los Angeles, Calif.
Timmons, Gerald D., '36, 1121 W. Michigan Ave., Indianapolis, Ind.
Tison, Gordon B., '37, 505 W. University Ave., Gainesville, Fla.
Titus, H. W., '34, 628 Miner Bldg., Eugene, Ore.
Travis, John J., '37, 721 N. University Ave., Ann Arbor, Mich.
True, Harry A., '30, 344 Fourteenth St., San Francisco, Calif.
Tuckfield, W. J., '24, Dallas Monomeath Ave., Canterbury, Australia
Tylman, Stanley D., '29, 187 N. Wabash Ave., Chicago, Ill.
Uebele, Harvey M., '34, 208 E. Wisconsin Ave., Milwaukee, Wis.
Van Horn, Chris S., '32, 424 Iron St., Bloomsburg, Pa.
Van Kirk, Lawrence E., '29, 6049 Jenkins Arcade, Pittsburgh, Pa.
Vann, George S., '26, Gadsden National Bank Bldg., Gadsden, Ala.
Vaughan, Clarence B., '37, 363 Marlborough St., Boston, Mass.

- Vaughn, James J., '34, 1001 Medical Arts Bldg., Nashville, Tenn.
Vedder, Francis B., '33, 711 N. University Ave., Ann Arbor, Mich.
Vignes, C. Victor, '23, 922 Canal Bank Bldg., New Orleans, La.
Vinsant, Robert Sherman, '31, 1728 Madison Ave., Memphis, Tenn.
*Volland, Roscoe H., '21, First Nat'l Bank Bldg., Iowa City, Iowa
Waddell, J. Clark, '34, 413 Murphy Bldg., E. St. Louis, Ill.
Waldron, Carl William, '28, 730 La Salle Bldg., Minneapolis, Minn.
Waldron, Ralph, '23, 549 High St., Newark, N. J.
Walker, Alfred, '23, 501 Madison Ave., New York, N. Y.
Wallace, J. Sim, '29, Park Bourne, Hampton Wick, England
Walls, James Milton, '34, 828 Lowry Bldg., St. Paul, Minn.
Walz, William F., '23, 1114 First Nat'l Bank Bldg., Lexington, Ky.
Ward, Marcus L., '23, 1308 Cambridge Road, Ann Arbor, Mich.
Watkins, J. C., '25, 503 Wachovia Bank Bldg., Winston-Salem, N. C.
Watson, Alfred P., '34, 923 Medical Dental Bldg., Portland, Ore.
Watts, Clarence V., '27, 315 K of P Block, Des Moines, Iowa
Waugh, Leuman M., '23, 576 Fifth Ave., New York, N. Y.
Way, T. Irving, '32, Vernon Manor, Cincinnati, Ohio
Weeks, Arthur F., '34, 1015 Selling Bldg., Portland, Ore.
Wells, A. S., '37, 700 Physicians-Surgeons Bldg., Minneapolis, Minn.
Werner, Jack, '35, 344 Fourteenth St., San Francisco, Calif.
West, Frederick T., '29, 135 Stockton St., San Francisco, Calif.
West, Sylvan Edmond, '37, 450 Sutter St., San Francisco, Calif.
Wherry, Arthur C., '31, 910 Deseret Bank Bldg., Salt Lake City, Utah
Wherry, Styles Winter, '33, First National Bank Bldg., Ogden, Utah
White, F. D., '30, 512 Physicians-Surgeons Bldg., Minneapolis, Minn.
White, J. D., '23, 803 University Club Bldg., St. Louis, Mo.
White, Oliver Wilson, '35, 213 David Whitney Bldg., Detroit, Mich.
White, Paul Gardiner, '30, U. S. Naval Academy, Annapolis, Md.
Whiteman, Joseph D., '32, Mercer, Pa.
Whittaker, H. F., '28, 406 Tegler Bldg., Edmonton, Canada
Wiethoff, C. A., '37, 909 Medical Arts Bldg., Minneapolis, Minn.
Willett, Raymond C., '36, 535 Jefferson Bldg., Peoria, Ill.
William, Maurice, '34, 200 West 57th St., New York, N. Y.
Williams, Albert P., '36, Starks Bldg., Louisville, Ky.
Williams, Edward L., '29, 1316 Medical Arts Bldg., Houston, Tex.
Williams, John Bell, '29, St. Luke's Hospital, Richmond, Va.
Williams, Joseph H., '37, Beaumont Medical Bldg., St. Louis, Mo.

* A founder.

Wilson, George William, '29, 604 N. Sixteenth St., Milwaukee, Wis.
 Wilson, John L., '35, 940 N. Campbell Ave., Indianapolis, Ind.
 Winter, George B., '23, Frisco Bldg., St. Louis, Mo.
 Wise, Albert Irwin, '32, 339 Fifth Ave., Pittsburgh, Pa.
 Wolfe, Allen S., '29, 1710 Rhode Island Ave., N.W., Washington, D. C.
 *Woodbury, Charles E., '21, 604 Bennett Bldg., Council Bluffs, Iowa
 Woodworth, J. Galvin, '33, 40 North St., Buffalo, N. Y.
 Work, Craig M., '32, Ottumwa, Iowa
 Wright, Walter H., '27, 1306 Penn Ave., Wilkinsburg, Pa.
 Wright, W. R., '23, Jackson, Miss.
 Young, Alfred Clyde, '29, 121 University Place, Pittsburgh, Pa.
 Young, William Andrew, '37, 40 N. Main St., Concord, N. H.
 Zeisz, Robert C., '36, 490 Post St., San Francisco, Calif.
 Zimmerman, Neal L., '36, 620 Medical Dental Bldg., Portland, Ore.
 Zugsmith, Robert, '23, 3401 Fifth Ave., Pittsburgh, Pa.

Total, 575

4. GEOGRAPHIC DISTRIBUTION OF ACTIVE FELLOWS

A. United States

Alabama: Blue, Bradford, Chandler, Hassell, Patton, Sapienza, Vann—7.

Arizona: Bard—1.

Arkansas: Koch, Rushing—2.

California: Atkinson, Barker, Becks, Benbrook, Blake, Blanquie, Bowles, Boyd, Bricker, Buckley, Christiansen, Coleman, Cook, Darnall, Davis (A), Day, Dillon, Endelman, Engstrom, Fleming (W.), Fontaine, Ford, Frisbie, Giffen, Gill, Goodman, Graham (J.), Green, Gurley, Hasbrouck, Hayes, Hogeboom, Hollenback, House, Hunt, Kibler, Kingsbury, Kirtland, LaTouche, Leggett, Locke, Lucas, McCarthy, McCoy, McDowell (A.), Marshall, Mauer, Merriman, Millikin, Moose, Needles, Nesbitt, Rault, Robinson (W.), Scott, Selberg, Selleck, Sheffer, Smith (T.), Sorensen, Sweet, Thompson (W. S.), True, Werner, West (F.), West (S.), Zeisz—67.

Colorado: Bailey, Brownlie, Carmody, Chambers, Cogswell, Giesecke, Hoffman (H.), Kramer—8.

Connecticut: Bryant, Crosby, Hyatt, Murlless—4.

Delaware: Combs—1.

District of Columbia: Baker (C. A.), Camalier, Cogan, Cole, Erikson, Lynch (D.), McCole, Paffenbarger, Riggs, Simkins, Swanson (H.), Wolfe—12.

* A founder.

Florida: Caraballo, Cartee, Chace, Pankey, Smith (A. M.), Stillman, Taylor, Tison—8.

Georgia: Byrnes, Foster, Garrett, Huff, Mason, Mitchell (J.), Scruggs, Slaughter—8.

Idaho: None.

Illinois: Alexander, Baker (C. Reeder), Black (J.), Blackwell, Bremner, Brevig, Cameron (D.), Clark (S.), Clendenen, Conklin, Coolidge, Dittmar, Edlund, Fisher, Freeman, Gallie, Grisamore, Hewett, Hoeffel, Hoffman (A.), Jelinek, Johnson (C.), Johnson (L.), Knapp, Lee (H.), Logan, Lundquist, MacBoyle, Miller (Howard), Molt, Morrey, Mueller, Noyes, Olafsson, Partridge, Pinney, Sayre, Schaeffer, Schlosser, Smith (E. H.), Smith (H. S.), Stuart, Thomas (E. H.), Tylman, Waddell, Willett—46.

Indiana: Blakeman, Carr (J.), Gillis, Hale (J.), Henshaw, Hughes, Jackson, Kennedy (W.), LaRue, Mitchell (E.), Pell, Ross, Timmons, Wilson (J.)—14.

Iowa: Altfillisch, Baker (C. R.), Booth (J.), Bryan, Conzett, Fenton, FitzGerald, Hilderbrand, Klaffenbach, Rogers, Smith (E. S.), Thoen, Voland, Watts, Woodbury, Work—16.

Kansas: Burket, Parkinson, Richmond—3.

Kentucky: Fullenwider, Goepper, Hower, Hubbuch, Hume, Johnson (J. E.), Juett, Kellogg, McElrath, Means, Meguiar, O'Rourke, Owen (J.), Randall, Selden, Sprau, Thomas (R.), Walz, Williams (A.)—19.

Louisiana: Psayla, Smith (P.), Vignes—3.

Maine: Grant (G.), Kelley, Maxfield (C.), Maxfield (F.), Small—5.

Maryland: Aisenberg, Anderson, Brun, Coriell, Ferguson, Gaver, Hopkins, Ide, Kelsey, Latcham, Paterson, Robinson (J.), Streett, Swinehart, White (P.)—15.

Massachusetts: Adams, Alden, Barnard, Brown (G.), Chase, Cushman, Delabarre, Desmond, Dort, Farrington, FitzGibbon, Grant (W.), Griffin, Hadley, Howe, Johnson (E.), Kazanjian, Keltie, Marvel, Maycock, Miner, Peters (M.), Piper, Richardson, Rollins, Sullivan, Thatcher, Vaughan—28.

Michigan: Brown (R.), Bunting, Davis (W.), Elliott, Girardot, Goodsell, Jeserich, Lane, LeGro, Lewis, Lowery, McBride, Prince, Rickert, Spalding, Thompson (A.), Travis, Vedder, Ward, White (O.)—20.

Minnesota: Brekhus, Conley, Damon, DeVries, Ernst, Flagstad, Grove, Harris (H.), Hartzell, Hyde, Irwin, Johnson (R.), Lasby, Mentzer, Nelson (Charles), Nelson (H.), Rudolph, Stickney, Waldron (C.), Walls, Wells, White (F.), Wiethoff—23.

Mississippi: Abbott, Chipps, Wright (W. R.)—3.

Missouri: Brady, Brandhorst, Coston, Edwards, Engel, Frederich,

Hagemann, Hillias, Kelly, Keys, Lischer, Main, O'Hare, Owen (E.), Porter (C.), Purcell, Rinehart, White (J.), Williams (J. H.), Winter—20.

Montana: None.

Nebraska: Bruening, Prime, Shearer, Thomas (E. A.)—4.

Nevada: None.

New Hampshire: Blaisdell, Copeland, Staples, Young (W.)—4.

New Jersey: Barry, Brach, Bull, Faupel, Harper, Harrington, Hutchinson, Leigh, Lum, Pruden, Sutphen, Waldron (R.)—12.

New Mexico: Clarke, Moran, Raper—3.

New York: Barrett, Berger, Blum, Bödecker, Bronner, Burkhardt, Carr (M.), Cooke, Davenport, Dunning, Evans, Gies, Gough, Hellman, Hillyer, Irving, Kennedy (E.), Kohn, McCall, Merritt, Mork, Nestler, Palmer, Peters (J.), Porter (L.), Schuyler, Sniffen, Stern, Walker, Waugh, William, Woodworth—32.

North Carolina: Fleming (J.), Hale (G.), Howle, Johnson (J. N.), Keith, Lineberger, McClung, Smith (A. G.), Spurgeon, Watkins—10.

North Dakota: Hallenberg, Hocking—2.

Ohio: Bach, Ball, Broadbent, Brown (H.), Burmeister, Bush, Cottrell (H.), Germann, Graham (W.), Harkrader, Hill, Kitchin, Loughry, MacMillan, Mills (C.), Mills (E.), Price, Schott, Semans, Sherwood, Stephan, Stillson, Strosnider, Way—24.

Oklahoma: Lawrence—1.

Oregon: Bettmann, Cooper (H. C.), Fixott, Gulick, Harris (M.), Hurd, Miller (Herbert), Titus, Watson, Weeks, Zimmerman—11.

Pennsylvania: Addie, Aiguier, Ashbrook, Black (R.), Booth (C.), Brand, Broomell, Cameron (J.), Casto, Cooper (H. K.), Everhard, Fickes, Fitz-Hugh, Friesell (F.), Friesell (H.), Haas, Harkins, Irish, Lee (A.), Lotz, Luckie, McCready, McParland, Meisel, Metz, Oartel, Rial, Rusca, Sausser, Swanson (W.), Van Horn, Van Kirk, Whiteman, Wise, Wright (W. H.), Young (A.), Zugsmith—37.

Rhode Island: Charbonnel, Clark (J.), Eddy, Lynch (A.), Massicotte, Midgley, Mullaney, Spicer—8.

South Carolina: Brockington, Dick—2.

South Dakota: None.

Tennessee: Bogle, Cottrell (A.), Hoffer, McDowell (J.), Meacham, Ogden, Oliver, Powers, Phillips, Vaughn, Vinsant—11.

Texas: Arnold, Fife, Frew, Hall, Hight, Hinds, Jones, Murphy, Nygard, Scherer, Talbot, Williams (E.)—12.

Utah: Barber, Bergstrom, Budge, Wherry (A.), Wherry (S.)—5.

Vermont: Pond—1.

Virginia: Ballou, Bear, Harrison, Hodgkin, John, Lyons, Mack, McGehee, Simmons, Simpson, Smith (H. L.), Williams (J. B.)—12.

Washington: Dean, Ferrier, Martin, Power—4.

West Virginia: Boydston, Summers—2.

Wisconsin: Banzhaf, Baumann, Benson, Christensen, Crawford, Dresen, Ender, Fee, Hardgrove, Hausmann, Hopkinson (R.), Hopkinson (W.), Huegel, Krause, Macfarlane, Morgan, Morton, Mortonson (J.), Mortonson (M.), Nelson (C. A.), Noetzel, Rohde, Stratton, Uebele, Wilson (G.)—25.

Wyoming: None.

Territories. Hawaii: Fraser—1.

B. Countries other than the United States

Australia: Arnott, Charlton, Moxham, Tuckfield—4.

Canada: Dohan, Faulkner, French, McLean, Mason (A.), Moore, Thompson (W. G.), Whittaker—8.

China: Lindsay, Mullett—2.

England: Roberts, Wallace—2.

India: Khambatta—1.

Korea: Boots—1.

Spain: Bostwick—1.

5. CLASSIFICATION OF ACTIVE FELLOWS AS TO YEARS OF ADMISSION

1921: Banzhaf, Buckley, Burkhart, Conzett, Endelman, Foster, Friesell (H.), Hartzell, House, Howe, Johnson (C.), Johnson (E.), Logan, Midgley, Noyes, Volland, Woodbury—17.

1922: Baker (C. R.), Bruening, Bunting, Byrnes, Chambers, Coriell, Coston, Dittmar, Eddy, Ford, Gillis, Gurley, Henshaw, Kelsey, Marshall, Millikin, McCoy, Price, Prime, Semans—20.

1923: Blum, Bogle, Brown (H.), Chandler, Cooke, Fickes, Friesell (F.), Gies, Grisamore, Hassell, Hillyer, Hocking, Kennedy (E.), La Touche, Lee (A.), Lucas, Merritt, Miller (Herbert), Peters (J.), Richardson, Rickert, Robinson (J.), Ross, Stillman, Sutphen, Vignes, Waldron (R.), Walker, Walz, Ward, Waugh, White (J.), Winter, Wright (W. R.), Zugsmith—35.

1924: Gallie, Hale (J.), Hardgrove, Hasbrouck, Hoffman (A.), Hopkinson (W.), Hume, Hutchinson, Hyatt, Morton, Phillips, Raper, Smith (H. S.), Tuckfield—14.

1925: Goepper, Huff, Jackson, Lischer, Massicotte, Means, Paterson, Powers, Rinehart, Stephan, Watkins—11.

1926: Blue, Bödecker, Bostwick, Cameron (D.), Coolidge, Devries, Fee, Gough, Hoffer, Khambatta, Lane, LeGro, McCall, Mork, Mullaney, Needles, Rohde, Smith (A. G.), Spalding, Vann—20.

1927: Benbrook, Blakeman, Charbonnel, Crawford, Dick, Elliott, Evans, Fixott, Giffen, Hayes, Hubbuch, Kennedy (W.), Krause, MacBoyle, MacMillan, McDowell (A.), Mortonson (J.), Mortonson (M.), Oliver, Shearer, Sprau, Stratton, Thomas (R.), Watts, Wright (W. H.)—25.

1928: Ashbrook, Baker (C. Reeder), Boots, Bowles, Bryan, Charlton, Cogan, Cooper (H. C.), Delabarre, Dunning, Fisher, FitzGibbon, Frew, Graham (J.), Hilderbrand, Hillias, Hopkinson (R.), Kibler, Lasby, Lindsay, Lowery, McDowell (J.), Mitchell (J.), O'Rourke, Palmer, Partridge, Simkins, Swinehart, Talbot, Thomas (E. H.), Thompson (A.), Waldron (C.), Whittaker—33.

1929: Altfillisch, Barrett, Bear, Benson, Berger, Black (J. C.), Blackwell, Booth (C.), Brand, Brun, Budge, Camalier, Conklin, Cook, Farrington, Fenton, Fleming (J.), Freeman, Fullenwider, Hellman, Hopkins, Hower, Hurd, Ide, Jelinek, Kazanjian, Kelley, Kellogg, Knapp, Lee (H.), Lundquist, Martin, Marvel, Maxfield (F.), McParland, Meisel, Metz, Miller (Howard), Miner, Mueller, Nelson (H.), Nestler, Olafsson, Power, Randall, Scott, Selden, Simpson, Smith (E. H.), Thoen, Tylman, Van Kirk, Wallace, West (F.), Williams (E.), Williams (J. B.), Wilson (G.), Wolfe, Young (A.)—59.

1930: Boyd, Brownlie, Burket, Carmody, Clendenen, Cogswell, Combs, Davis (A.), Engstrom, Giesecke, Graham (W.), Gulick, Hollenback, Howle, Kramer, Johnson (J. N.), Locke, Noetzel, Roberts, Robinson (W.), Smith (E. S.), Smith (T.), Thompson (W. G.), True, White (F.), White (P.)—26.

1931: Anderson, Ball, Bush, Caraballo, Carr (J.), Davis (W.), Faulkner, Gaver, Goodman, Hadley, Hight, Hodgkin, Johnson (J. E.), Keltie, LaRue, Lineberger, Mason (A.), Mason (R.), McCready, McElrath, McLean, Meguiar, Mills (C.), Mills (E.), Pell, Richmond, Riggs, Rudolph, Schott, Sherwood, Slaughter, Vinsant, Wherry (A.)—33.

1932: Arnott, Baker (C. A.), Bard, Black (R.), Brown (R.), Cottrell (H.), Cushman, Edlund, Ernst, FitzHugh, Flagstad, French, Germann, Grant (W.), Harper, Hausmann, Hinds, Keys, Kohn, Lotz, Lynch (A.), McClung, McCole, Molt, Moore, Murphy, Ogden, Piper, Pond, Rial, Rollins, Schlosser, Schuyler, Spurgeon, Stern, Streett, Sullivan, Swanson (W.), Sweett, Thomas (E. A.), Van Horn, Way, Whiteman, Wise, Work—45.

1933: Aisenberg, Alexander, Barber, Barker, Bergstrom, Booth (J.), Brady, Bremner, Brevig, Bricker, Broadbent, Brockington, Burmeister, Casto, Christensen, Christiansen, Clark (S.), Copeland, Cottrell (A.), Darnell, Davenport, Ferguson, Ferrier, Fife, FitzGerald, Gill, Hall, Harrison, Hewett, Hill, Hoeffel, Huegel, Jones, Latcham, Lawrence, Macfar-

lane, McBride, McGehee, Meacham, Morgan, Morrey, Pinney, Prince, Purcell, Schaeffer, Smith (H. L.), Staples, Stuart, Vedder, Wherry (S.), Woodworth—51.

1934: Abbott, Blaisdell, Brach, Brandhorst, Brekhus, Broomell, Carr (M.), Chace, Chase (C.), Clark (J.), Damon, Dresen, Edwards, Fraser, Grove, Hallenberg, Hoffman (H.), Hunt, Kirtland, Leigh, Luckie, Lyons, Mack, Moran, Nelson (C. A.), Owen (E.), Patton, Pruden, Rault, Rogers, Rusca, Sayre, Scherer, Thatcher, Titus, Uebele, Vaughn, Waddell, Walls, Watson, Weeks, William—42.

1935: Alden, Barnard, Barry, Becks, Brown (G.), Cameron (J.), Chipps, Clarke, Cole, Desmond, Dohan, Ender, Faupel, Goodsell, Harkins, Harkrader, Irish, Irving, John, Maxfield (C.), Merriman, Moose, Nygard, Oartel, Owen (J.), Paffenbarger, Scruggs, Selberg, Selleck, Sniffin, Spicer, Stillson, Summers, Swanson (H.), Werner, White (O.), Wilson (J.)—37.

1936: Bailey, Baumann, Bettman, Blake, Blanquie, Coleman, Crosby, Day, Dean, Fleming (W.), Fontaine, Frisbie, Green, Haas, Harris (M.), Hogeboom, Johnson (L.), Johnson (R.), Kingsbury, Klaffenbach, Koch, Leggett, Lum, Mauer, McCarthy, Moxham, Mullett, Murlless, Nesbitt, Pankey, Parkinson, Sheffer, Smith (P.), Sorenson, Thompson (W. S.), Timmons, Willett, Williams (A.), Zeisz, Zimmerman—40.

1937: Adams, Addie, Aiguier, Arnold, Atkinson, Bach, Ballou, Boydston, Bradford, Bronner, Bryant, Bull, Cartee, Conley, Cooper (H. K.), Dillon, Dort, Engel, Erikson, Everhard, Frederich, Garrett, Girardot, Grant (G.), Griffin, Hagemann, Hale (G.), Harrington, Harris (H.), Hughes, Hyde, Irwin, Jeserich, Juett, Keith, Kelly, Kitchin, Lewis, Loughry, Lynch (D.), Maycock, Main, Mentzer, Mitchell (E.), Nelson (Charles), O'Hare, Peters (M.), Porter (C.), Porter (L.), Psayla, Rushing, Sapienza, Sausser, Simmons, Small, Smith (A. M.), Stickney, Strosnider, Taylor, Tison, Travis, Vaughan, Wells, West (S.), Wiethoff, Williams (J. H.), Young (W.)—67.

6. MEMBERS-ELECT WHO HAVE NOT YET ATTENDED A CONVOCATION TO COMPLETE REQUIREMENTS FOR ADMISSION

Thomas Richard Abbott, 920 South 37th St., Milwaukee, Wis.

Percy Ash, 137 Macquarie St., Sydney, Australia

Louie T. Austin, Mayo Clinic, Rochester, Minn.

Charles M. Barnwell, Medical Arts Bldg., Atlanta, Ga.

Hugh Thomas Berkey, 408 Wayne Pharmacal Bldg., Ft. Wayne, Ind.

J. V. Hall Best, 135 Macquarie St., Sydney, Australia

Harold Keith Box, 86 Bloor St., West, Toronto, Canada

Ernest A. Branch, State Board of Health, Raleigh, N. C.

Leo Anthony Cadarette, 14296 Terry Ave., Detroit, Mich.
George S. Callaway, 654 Madison Ave., New York, N. Y.
William H. Canavan, 47 Bay State Road, Boston, Mass.
Henry B. Clark, 1132 Lowry Medical Arts Bldg., St. Paul, Minn.
Louis M. Cruttenden, 1353 Lowry Medical Arts Bldg., St. Paul, Minn.
Francis H. Daley, 1085 Boylston St., Boston, Mass.
Robert L. Davis, Edwards Bldg., Woonsocket, R. I.
Thomas J. Davis, 3155 S. Grand Ave., St. Louis, Mo.
James W. Deaton, Texarkana, Ark.
Henry R. Delaney, U. S. Naval Academy, Annapolis, Md.
Henry W. Ernst, 1102 Lowry Medical Arts Bldg., St. Paul, Minn.
Lt. Commander E. J. Fitzgerald, 900 Washington St., Bath, Me.
Lynn Adolphus Fonner, 1100 E. Creighton Ave., Ft. Wayne, Ind.
James W. Ford, 55 E. Washington St., Chicago, Ill.
Edward A. Gamard, 1131 Maison Blanche, New Orleans, La.
Kenneth R. Gibson, 660 Frederick St., Detroit, Mich.
Harry A. Gilchrist, 11139 Eighty-eighth Ave., Edmonton, Canada
Frederick E. Grant, Norfolk County Trust Bldg., Dedham, Mass.
Robert O. Green, 1049 Lowry Medical Arts Bldg., St. Paul, Minn.
Charles A. Griffith, 503 Medical Arts Bldg., Minneapolis, Minn.
William P. Harrison, 6253 Hollywood Blvd., Hollywood, Calif.
Louis Vincent Hayes, 576 Fifth Ave., New York, N. Y.
Victor H. Hilgemann, 2902 Fairfield Ave., Ft. Wayne, Ind.
Claude N. Hughes,¹ Atlanta-Southern Dental College, Atlanta, Ga.
George A. Hughes, 1904 Franklin St., Oakland, Calif.
Karl J. Humphreys, 947 West 8th Ave., Los Angeles, Calif.
Wilbert Jackson, Clinton, N. C.
E. H. Johnson, Pine Bluff, Ark.
Harry B. Johnston, 831 Candler Bldg., Atlanta, Ga.
Luzerne G. Jordan, 3505 Rodman St., N.W., Washington, D. C.
John W. Kemper, University of Michigan, Ann Arbor, Mich.
Frederick C. Kemple, 580 Fifth Ave., New York, N. Y.
Max Kornfeld, Missouri Theatre Bldg., St. Louis, Mo.
William E. Lundy, 808 Exchange Bldg., Memphis, Tenn.
Leon W. Marshall, 490 Post St., San Francisco, Calif.
Harry M. McFarland, 1430 Professional Bldg., Kansas City, Mo.
Claude A. Moore, Lexington, Miss.
Raymond E. Myers, 129 E. Broadway, Louisville, Ky.

¹Died March 6, 1938.

James Nuckolls, 450 Sutter St., San Francisco, Calif.
 Adolph Robert Schmid, 1033—3rd Ave., Worthington, Minn.
 Jay D. Scott, Tower Bldg., Kansas City, Mo.
 Simon Shapiro, 142 Joralemon St., Brooklyn, N. Y.
 Joseph F. Shellman, 903 Lowry Medical Arts Bldg., St. Paul, Minn.
 William P. Smedley, 1206 Republic Bldg., Denver, Colo.
 Hugh M. A. Smith, 403 Medical Bldg., Knoxville, Tenn.
 L. T. Smith, American Trust Bldg., San Jose, Calif.
 Edw. C. Stillwell, Glen Ridge Arcade, Glen Ridge, N. J.
 Joseph David Sullivan, 919 Toledo Medical Bldg., Toledo, Ohio
 Elmer Julius Sundby, 825 Medical Arts Bldg., Duluth, Minn.
 Frank J. Viner, Creighton University, Omaha, Neb.
 Leonard P. Wahl, 309 Jackson St., Wausau, Wis.
 S. S. Wald, 57 West 57th St., New York, N. Y.
 Joseph R. Walsh, 67 S. Clinton St., East Orange, N. J.
 Samuel Marshall Weaver, 1632 Keith Bldg., Cleveland, Ohio
 G. N. Wennerberg, Navy Training Station, Great Lakes, Ill.
 John B. West, 306 W. Church St., Elmira, N. Y.
 Russell C. Wheeler, Missouri Theatre Bldg., St. Louis, Mo.
 Leo Winter, 140 West 58th St., New York, N. Y.
 R. C. Young,² Anniston, Ala.

Total, 67

IV. REGISTER OF SECTIONS, AND CHIEF OFFICERS

ARRANGED IN SEQUENCE OF ORGANIZATION

	<i>Chairman</i>	<i>Secretary</i>
(1) Kentucky	Joseph E. Johnson, 752 Starks Bldg., Louisville, Ky.	Edw. H. Hubbuch, 830 Starks Bldg., Louisville, Ky.
(2) Northern California	W. C. Fleming, Medical Bldg., Oakland, Calif.	Alver Selberg, 344 Fourteenth St., San Francisco, Calif.
(3) Maryland	B. Lucien Brun, 827 Medical Arts Bldg., Baltimore, Md.	Harry E. Latcham, Baltimore College of Dentistry, Baltimore, Md.
(4) New York	L. M. Waugh, 576 Fifth Ave., New York City	Leland Barrett, 133 West 72nd St., New York City

²Died March 12, 1938

	<i>Chairman</i>	<i>Secretary</i>
(5) Minnesota	J. M. Walls, 828 Lowry Bldg., St. Paul, Minn.	Max E. Ernst, 1250 Lowry Bldg., St. Paul, Minn.
(6) New England	W. Henry Grant, 107 Massachusetts Ave., Boston, Mass.	James Keltie, 419 Boylston St., Boston, Mass.
(7) Wisconsin	T. A. Hardgrove, Commercial National Bank Bldg., Fond du Lac, Wis.	Wm. J. H. Benson, 536 W. Wisconsin Ave., Milwaukee, Wis.
(8) Colorado	W. T. Chambers, 121 Lafayette St., Denver, Colo.	Max Giesecke, 1206 Republic Bldg., Denver, Colo.
(9) Pittsburgh	H. E. Friesell, Dental School, University of Pittsburgh, Pittsburgh, Pa.	E. G. Meisel, 121 University Place, Pittsburgh, Pa.
(10) Iowa	John V. Konzett, 116 West 13th St., Dubuque, Iowa	[Vacancy created by death of Dr. Scholten, Mar. 8, 1938]
(11) Chicago	G. R. Lundquist, 180 N. Michigan Av., Chicago, Ill.	H. R. H. Brevig, 27 E. Monroe St., Chicago, Ill.
(12) St. Louis	T. E. Purcell, Dental School, St. Louis University, St. Louis, Mo.	E. P. Brady, 7239 Northmoor Drive, Clayton, Mo.
(13) Oregon	H. C. Fixott, 729 Medical Dental Bldg., Portland, Ore.	H. W. Titus, 628 Miner Bldg., Eugene, Ore.

V. REGISTER OF PAST-PRESIDENTS

1921, 1922	J. V. Konzett	1932	U. G. Rickert
1923, 1924, 1925	H. E. Friesell	1933	J. E. Gurley
1926, 1927	C. N. Johnson	1934	B. B. Palmer
1928, 1929	H. L. Banzhaf	1935	J. B. Robinson
1930	R. H. Volland	1936	W. R. Davis
1931	F. T. Breene	1937	A. L. Midgley

VI. BOARD OF REGENTS: 1937-1938¹

1. OFFICERS

President, Charles E. Rudolph. *President-elect*, Arthur H. Merritt.
Vice-president, A. R. McDowell. *Treasurer*, H. S. Smith. *Secretary*, Otto
 W. Brandhorst. *Editor*, William J. Gies.²

2. ELECTIVE REGENTS

Albert L. Midgley (42), J. Cannon Black (41), E. W. Swinehart (40),
 George W. Wilson (39), J. E. Gurley (38).

VII. ADDENDUM TO SECTION III: SUBSECTION 1

FELLOWS WHO DIED DURING THE PERIOD FROM MARCH 15 TO
 JUNE 15, 1938

Frank A. Delabarre, '28	Boston, Mass.	April 15, 1938
Frederic R. Henshaw, '22	Indianapolis, Ind.	May 27, 1938
Frederick C. Kemple, '38 ³	New York, N. Y.	May 21, 1938
Charles Lane, '26	Detroit, Mich.	April 27, 1938
A. C. LaTouche, '23	Los Angeles, Calif.	May 10, 1938
Arthur R. McDowell, '27	San Francisco, Calif.	May 14, 1938
Albert R. Ross, '23	Lafayette, Ind.	May 13, 1938
Edward F. Sullivan, '32	Boston, Mass.	March 26, 1938

¹ The Board of Regents consists of the officers and the elective Regents.

² Dr. Gies also serves in the appointive office of Assistant Secretary.

³ Fellowship was conferred by the Regents, *in absentia*, as of May 20, 1938—the date of meeting of the New York Section, where it had been intended to confer fellowship in person, by vote of the Regents, but where Dr. Kemple, owing to illness, was unable to appear. See page 36.

SOME PROBLEMS COMMON TO MEDICINE AND DENTISTRY¹

ALPHONSE M. SCHWITALLA, S.J.

*Dean, St. Louis University School of Medicine; Regent, St. Louis University
School of Dentistry*

I

The unification of aim and effort, which is making itself progressively even if slowly felt in the area of those professions concerned with the nation's health, is imposing upon each of the professions involved serious and at times somewhat irksome obligations. The older professions are attempting to safeguard their traditional policies, attitudes and processes. Their very age has given them certain prerogatives which are jealously guarded and defended. These professions, such as medicine and dentistry, find it difficult to yield to many of the new pressures and, as a consequence, they are looked upon in certain quarters as ultra-conservative, reactionary and unprogressive. The newer professions in the health fields, such as for example sanitary engineering, psychiatry, medical social-service, laboratory technology, public-health administration, dietetics, not to mention a host of others, are elbowing their way among the hundreds of thousands of workers who are now concerned with the great responsibilities of preserving the health of our people or restoring it when lost. And the elbowing process results not too infrequently in jostling and crowding which in turn may result at times in harsh words and the need for an apology. These newer professions are looking for a participation in the responsibilities of the older professions and are regarded by the latter as upstarts, as revolutionaries, and certainly at times as unethical and conscienceless as well as incompetent rivals. Yet these very professions are making a serious contribution to the nation's medical resources.

¹ Read at the second annual meeting of representatives of the sections (12) of the American College of Dentists, as guests of the Illinois Section, Stevens Hotel, Chicago, Ill., Feb. 13, 1938.

The outcome of all of these currents and counter-currents can scarcely now be foreseen. There is no doubt that the enthusiasms of some persons are forcing the professions pendulum to swing too much in one direction and again too much in the other. To complicate the whole thing for the cautious and observant watchers who study the professional stage, one sees at the upper end of the medical range progressive specialization and a breakdown of the professional solidarity into a multitude of highly complex and at times very exacting specialties; at the lower end of the scale, one witnesses a similar disintegration, seemingly, of professional solidarity resulting in a great multiplicity and variety of auxiliary quasi-professions which base their claim for individual existence upon the fact, assumed or real as the case may be, that they are helpers to the medical profession. There is as yet only the remotest hint or indication that we have reached the end of this dismembering process; that the organic unity of medical activity and responsibility is no longer to be subjected to still farther amputations or dissections. Nevertheless, unless some great new and far-reaching viewpoint in medicine is discovered, we may well hope that we have before us at the present time the sum total of the practical functional divisions; and that for the time being at least one may expect relatively little further differentiation.

It seems timely, therefore, for many persons to give attention just now to inter-professional relationships. It is for this reason that it might be well on the present occasion to cast a hurried but, let us assume, not altogether unprofitable glance at the relations between medicine and dentistry, hoping that we will all give some thought to the relationships between medicine and the other health professions as time and opportunity permit.

II

It would seem, at the present time, we have reached a fairly substantial agreement on the basic thesis that in the last analysis the objectives of medicine and dentistry are one. If the two professions differ in their approach to therapeutics, they are sufficiently unified, except of course for certain practical skills, in their immediate purposes and present procedures. We may, therefore, assume with a certain degree of assurance that we have clarified some of the old

conflicts that beset us. On the one hand, we are all satisfied now that dentistry is in reality one of the basic health professions and that it is, therefore, ever so much more than a vocation which has for its purpose the development merely of a certain group of skills. Strange to say, the time when advocates of the purely technological character of dentistry still found not too limited a hearing is not very far behind us, and for that reason it may well be that certain laggards in the profession still feel it incumbent upon themselves to defend the technological character of dentistry. At the other end of the scale, we are not concerned at the present time as much as we used to be with the thesis that dentistry is a specialty of the science and art of medicine. We are not demanding as we did only scarcely a decade and a half ago that dentistry be treated in the same way as, for example, urology or ophthalmology; that is, that it demand as a prerequisite to specialization a general medical degree. These viewpoints and perhaps certain variations of them have, I believe, found a very satisfactory and what seems to be not only a logically correct but also a practically feasible solution in the present attitudes that, *first* of all, dentistry and medicine are separate professions, both interested in the same fundamental biological and sociological objective, that is, the safeguarding of the health of the people; that, *secondly*, both spring from a common mass of scientific knowledge, that is, the basic sciences of anatomy, biochemistry, physiology, bacteriology and pathology; that, *thirdly*, in their ministrations they both approach the human being as an individualized person with the definite aim of a restoration to the unimpaired functioning of the organism as a whole; that, *fourthly*, dentistry shares with medicine the use and application to the human being of certain clinical procedures in diagnosis and therapeutics; and that, *fifthly*, and perhaps finally, dentistry regards itself as being more closely akin to the therapeutic processes of surgery in its restorative function while it regards itself as more closely akin to internal medicine in its diagnostic and preventive functions. So much for basic similarities out of which, to be sure, some basically significant corollaries must be deduced.

As for the field in which dentistry stresses its uniqueness and autonomy, these in turn might be briefly summarized as being first, *the field of specialized interest* which unlike the dentistry of a generation

ago is not restricted to the oral cavity but includes the digestive tract and the function of metabolism; secondly, the *procedures* which must be regarded as being the utilization of certain physical and chemical characteristics of matter for the repair of certain organic structural and functional deficiencies; thirdly, *particular objectives* in the service of humanity, which are no longer regarded as simply repair and restoration of function, but also the social objective of the improvement of human conditions for better living, implying in many instances an esthetic change in the individual and a consequent betterment of attitudes towards self and to one's human environment.

All of these new emphases have done much to place dentistry into a more exalted position of honor and value, and have done not a little towards elevating the self-evaluation of the dentist himself as a professional, and therefore, an altruistic, a public-service-giving individual, a member of one of the learned professions rather than a tradesman or an artisan. If these viewpoints have not as yet found their full practical realization in the life of this or that dentist and if, moreover, they have not as yet received universal acceptance the world over and are still restricted largely to our own country, one can nevertheless see that the waves of thought which have emanated from certain centers of learning that have devoted studies to these questions are spreading to constantly wider areas. Again, in all of this there are most valuable and profoundly meaningful implications both for the profession of dentistry and for mankind. The dentist has, as a consequence, cast his educational program into the new molds. He has devoted his attention in a more concentrated manner to the utilization of the world's inorganic resources, to the metals, for example, in the service of his art; he has accepted responsibility for invading the twilight zone of human knowledge to bring into it the light that can be shed upon dark spots by enthusiastic and self-devoted research; he is making demands upon the entrants into his profession requiring that the candidate for qualification should be more than a mere adept at certain skills, more than a mere retailer of scientific knowledge but that he be also a man—a man, too, of culture and of refinement, of judgment and of deeply rooted responsibility, who can carry without strain or conflict the responsibilities implied in health and sickness care.

III

With all this pre-supposed, we might well turn to a few of the many problems common to dentistry and medicine, singling out for special mention only one in each of three areas of interest where equally well it might have been possible to discuss a score of such problems in each area.

First of all, with respect to the field of professional objectives—both medicine and dentistry are today battling with the question of individuating the patient. Social pressures, which are directly traceable to the particular social philosophy and to the philosophy of government that is for the time being occupying the center of the stage, have driven the medical man no less than the dentist to a re-evaluation of the service he is giving. The problem, however, did not arise, if I analyze the situation correctly, on the philosophical plane but rather upon the practical plane. It arose by reason of the emphasis which has been placed upon group needs. So many human beings, millions of them of course, need medical attention. Who is there to give it to them? We have only approximately 150,000 physicians in the country and less than half that number of dentists. It is pointed out that in a population of 125,000,000 this would leave approximately 1,000 persons to be taken care of by each physician and approximately 2,000 persons by each dentist. To meet the problem, aside altogether from the economic one to which I shall refer below, group care in various forms has been advocated thus to facilitate the distribution of the available man power for the giving of medical attention. It is surprising, not to say gratifying to some of us, that at the time these social pressures towards group care have become most urgent, medical science and research are stressing more and more the uniqueness of every one of us as an organism. From the day scarcely two and a half decades ago, when Reighard and Brown first announced the individuality of the proteins and the carbohydrates in each of us—their variability under various conditions of sickness and health—to the present time, scientific research has but added to the hints which those authors gave, and has solidified in every thoughtful mind the conviction that biologically there is a much greater difference between any two of us than is revealed, for example, by a study only of our physiognomies, of our body build or of our reactions. Today, we are confronted with

overwhelming avalanches of data which are gathering volume in their progress in ever so many fields of human interest. Physiology and psychiatry, sociology no less than anatomy and pathology, immunology and anthropology, all forcing upon us the conclusion that each one of us is fundamentally different from every other one of us. I can imagine no greater contrast than the antithesis between the impassioned pleading of the social economist for group medical care and the calm objective presentation of the scientist for individual medical care. We have been forced by scientific findings to discard such concepts as that of a clinical entity or types of disease, or the causative organism of disease; to modify even such more-or-less accepted attitudes as that which is implied in specific remedies; to relegate to the medical museum such concepts as are implied in regarding a drug as a stimulant or a depressant. All of this has become necessary because we now recognize that before the physician can prescribe any therapeutic procedure, be it a chemical substance or a physical force, be it the application of the knife or an intravenous injection, he must know more adequately what he had previously surmised; he must know the organism to which a procedure is to be applied or into which a foreign substance is to be introduced.

If all this and much that follows is true in medicine, is it not equally true in dentistry? As a matter of fact, it was the dentist who by his extensive observations of oral structures focussed attention upon individual differences; who by the attention which he focussed upon dentition also called attention to certain processes of growth and consequent differentiations in metabolism; and the dentist of today has continued this emphasis. Today he studies the facial topography of the individual before daring to apply any dental procedures. He even studies the present and probable future social environment of his patient before recommending a dental operation; he must know something of the metabolic history of the patient before he can with reason and intelligence recommend an oral modification which may profoundly affect the patient's general health. All this implies an undoubted emphasis upon the individuality of the patient. Whether or not the implications of such an emphasis are clearly understood in their bearing upon dentistry as an agency for social betterment is, of course, a matter of considerable doubt. This much, however, we may

assert: that dental procedures will become most significant socially as they contribute more and more towards the maintenance of the individuality of the patient. As long as dental operations are individualized, as long as therapeutic procedures are directed towards the individual self-realization, just so long will dentistry contribute largely towards social betterment. I say all this because as I see it, the best social service one can render is to preserve the differences among all of us. The best formula, again as I see it, for social effects, is to preserve that by which each of us differs from everyone else, so that in the sum total of human society, each person may be able to make his own particular contribution.

IV

In the field of economics, as we all know, cognate and at times identical problems present themselves to both the physician and the dentist. We have seen splendid coöperation between the two groups in such plans as the medical-dental service bureaus which have been worked out under the sponsorship of both medical and dental societies in several of our large cities. These agencies, even though not as yet generally accepted and though as yet inadequately used, have nevertheless already achieved one very significant and important effect: the identification of the interests of both of these professional groups in a common health endeavor. If much more remains to be done, the successes which have already been achieved nevertheless point to future valuable results.

Both medicine and dentistry are aware of the fact that the patient of means presents no problem in so far as social implications are concerned. Both groups, however, are concerned with the patient of moderate means, the persons with an average income for whom the cost of illness, be it medical or dental, is an added strain upon an already restricted and perhaps an inadequate budget. Medicine is attempting to aid in the solution of the problem by the creation of group hospitalization plans valuable to at least those patients who will require hospitalization. Neither medicine nor dentistry has as yet succeeded in finding the proper formula for the payment of costs of professional care in this group. Here is a problem in which collaboration between the two groups may result in considerable advantage to

our people. Both of the professions are concerned in safeguarding the same fundamental principles, namely, the right of the patient to choose his own physician or dentist. Both groups are concerned, furthermore, with the safeguarding of the individual physician's or dentist's responsibility for a particular patient and, therefore, both have expressed themselves as opposed to wholesale practice for the social groups here in question. No doubt with the attention which is being given to the problem, some solution is bound to emerge from the plenitude of suggestions which have been made.

As for the indigent, again the two professions are in mental sympathy with each other. Both medicine and dentistry have been characterized in the past by a deep interest in the indigent. Both, as a matter of fact, owe the indigent not an insignificant debt of gratitude for it was on the indigent that both medicine and dentistry practised and thus gained professional experience. It is true that there are some very significant differences in their approach to the indigent in the two professions. Dentistry is necessarily limited to the application of essential emergency procedures, to the indigent, by reason of the great cost of materials which may be involved in desirable dental care; but the statement can still be made with considerable confidence that indigents who really wanted dental attention have never been without at least emergency treatment, and that some way has always been found for obtaining the necessary relief. If we are now trying to solve this problem, as so many persons say, in a more intelligent manner, on the basis of social policies and attitudes, and in a consistent and formal manner rather than merely casually and incidentally, we must again approach the problem on the basis of certain presuppositions. May I hazard the suggestion that whatever the solution which may be found, it may be such as will safeguard the self-respect of the indigent. We are not doing this by making him the ward of the state. We are not safeguarding basic human rights by forcing the indigent to obtain the fulfillment of his needs by emphasizing his dependence upon the largess of government, by emphasizing the tax support for his dental or his medical care, by removing him from the protecting hand of a generous charity and entrusting him to the impersonal, aloof and disinterested attention which must come to him from a politically administered government health agency.

Not in this direction lies that cure for our social ills which medicine and dentistry are called upon to relieve; rather I might suggest our aim should be, as far as lies within the capacity of our charity and our generosity to extend to the indigent, the same attitudes which under similar conditions we should want to have extended to ourselves. A professional person by his very profession must be altruistic, philanthropic, charitable, motivated by the obligation of self-preservation, to be sure, never stopping at considerations of self-interest, but concerned always with the extension of his sphere of influence to all those whom his broadest interests can encompass.

V

In the field of professional education there are again presented to us countless problems that are common to the two professions. And first of all, we cannot but admit that in many an institution in which medicine and dentistry have developed side by side, dentistry has all too often been the stepchild. We encounter educational organizations in which the claim is made that the school of dentistry enjoys the same physical and instructional facilities as the school of medicine, to the extent at least that dentistry needs them. Not very rarely, however, the claim may be true on paper but in practice it is anything but justified. Sometimes it is a curtailed schedule, sometimes a less desirable laboratory, more often less competently prepared personnel which is assigned to the school of dentistry with considerable disregard of the educational conscience. I believe the statement could be made with great fairness that dentistry has developed through the coöperation of the schools of the two professions much better than it could have developed if it had completely divorced its interests from that of medicine. As a matter of fact, it might be doubted whether the universities of the land could have borne the double burden implied in a multiplication and possibly a duplication of departments separately for the two professions. Besides, there are remarkable instances in the country which show a broad interest on the part of the medical schools in the development of its sister profession. The plan which we have adopted in this country is susceptible of intensive and valuable development which would justify the expectation of results of the greatest value not only for dentistry but also for medicine.

The two professions are confronted with similar problems in the field of student selection, school administration and curriculum. The effect of raising admission requirements by the dental schools is still being felt in many sections of the country. It is doubtful to my mind whether the supply of dentists will be adequate to meet the needs of the country for several years to come. This doubt is based upon the inertia to the acceptance of the higher requirements by the people at large. While dentistry does not have the same breadth of choice of its candidates as medicine has, it probably has safer and less doubtful criteria for the elimination of the less capable prospective members of the profession. The dental educator can more quickly recognize probable inadequacies in the development of dental skills than can the medical educator detect the future clumsy practitioner of medicine. As far as the scientific basis of dentistry is concerned, we do not as yet have the evidence as I see it that the dental practitioner can content himself with a less thorough and less broad basis for his work in the basic medical sciences than is expected of the future medical practitioner. It seems to me, considerable additional study should be given in dentistry to the correlation between professional objectives and the curriculum, as well as to the correlation between the curriculum and instructional methods. It may well be that certain viewpoints with reference to dental practice which in many quarters are regarded as undesirable—such as, for example, the stress which is still laid upon the mechanical aspects of the profession—would receive considerable modification or at least reinterpretation if these techniques could flow from a more comprehensive understanding of physiological and pathological processes. Such modification or reinterpretation would be possible only if we could expect of the dental student an understanding of physiology and pathology that is entirely comparable to that which we expect of the medical student.

With reference to school administration, further studies I think are needed in the fields of departmental specialization in the school of dentistry. Not that I do not recognize overlapping interests between, for example, prosthesis and operative dentistry, between the latter and periodontia, and again between so-called oral surgery and operative dentistry; but it seems to me that if our schools of dentistry were to select faculty members with specific interests based upon specialized

preparation and training, many complex problems which are now scarcely defined, not to say solved, would approach accurate definition and would thus be pushed nearer a much needed solution. Time forbids, of course, enumeration of extensive examples under these seemingly dogmatic statements which I am here making. These statements are not intended to be apodictic or definitive; they are pronounced in the hope that they may serve as a challenge to some of those who are fully competent to solve them and by their solution to aid in more effectively achieving the objectives for which this profession is striving.

These same considerations will be effective also in throwing light upon related problems of the curriculum in the schools of the two professions. The trend in curriculum reconstruction in medical schools is to draw less sharply the line between the preclinical and the clinical years. On the one hand, the aim has been to permeate the preclinical years with the interests of the clinical years, allowing even freshmen students to exercise their enthusiastic energies upon the living patient, in a guarded and carefully supervised manner, to be sure; and on the other hand, to instill a constantly progressive interest in the basic medical sciences while the student is cultivating intensively his concern for the human being during the clinical years. As a consequence, the trend in the medical curriculum is towards progressively more intimate integration. There is no reason why the student, after his courses in anatomy, bacteriology, pathology, physiology, biochemistry, should lose his interest in these sciences as sciences; rather must he be taught to apply what he has learned as an abstract science to the conditions which he encounters in his clinical practice. Similarly, the student while he studies these basic sciences must be made progressively aware of their significance for his future life's work. Dentistry, on the other hand, has solved one of these problems very effectively in some of our universities by attempting to keep even the so-called pre-dental student somewhat under the sponsorship of the school of dentistry and by holding out to the freshmen the inspiration of even clinical activity as a stimulus to his study. It must be granted, however, as I see the situation, that the students of the third and fourth years of the school of dentistry have not been sufficiently

imbued with interest in those fundamental sciences which, when all is said and done, must form the foundation and ground work of all true progress in dentistry as a health profession, even though without them dentistry might develop into a technology. I would in fact go farther and say that if more emphatic professional orientation is to be imparted to dentistry, it will be done in the measure in which the clinical years of the dental school are permeated with the viewpoints of the basic medical sciences. This is not a plea for a reduction of emphasis on dental diagnosis, dental therapeutics or dental technique; it is, however, a plea for a re-study of the dental curriculum with this viewpoint in mind. It is an argument, I believe, for greater attention to the development of the clinical instructor in dentistry; an argument too for the progressive infiltration of fundamental anatomical, biochemical, physiological and pathological viewpoints among the present practitioners of dentistry.

VI

I have been bold enough before this audience to review, from the viewpoint of a deeply interested but I hope not altogether an unintelligent observer, what has been passing before my eyes in a field to which my position as regent of the school of dentistry has forced me to give attention for fifteen years. The changes during this period have been, I believe, most gratifying, far-reaching and fundamental. Dentistry has every reason to look forward to an epoch of both concentration and expansion; of concentration in its grasp of its own position in the solution of the health problems of the nation; and of expansion in its extension to wider social as well as professional problems. The recognition of the community of interests of the two professions of medicine and dentistry will aid both professions greatly in facing together a future in which question marks abound in the wealthiest profusion. Many a year will, no doubt, have to elapse before these question marks dissolve into certainties. Both medicine and dentistry will face these uncertainties with greater self-reliance and confidence if together they can work for the magnificent purposes for the achievement of which society has defined their special spheres, but has also devised their mutual coöperation.

DENTAL PROSTHETIC SERVICE

III. LABORATORY LEADERS CRITICIZE STATEMENTS BY MEMBERS OF THE DENTAL PROFESSION¹

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- A. The *Laboratory Technician* misinterprets the Dental Curriculum Survey Report. . . . 52
- B. Laboratory leaders criticise Dr. Schuyler's paper on the "relation of the dentist to the commercial dental-laboratory" 58

A. THE LABORATORY TECHNICIAN MISINTERPRETS THE DENTAL CURRICULUM SURVEY REPORT

Laboratory leaders are continually offering arguments to show how indispensable the dental laboratories are to the dental profession. This propaganda frequently goes beyond the harmless stage when a deliberate attempt is made to misinterpret both the spirit and the word of a report that is so outstanding as that of the Curriculum Survey Committee of the American Association of Dental Schools. Below are quotations from a lengthy discussion of this report in the *Laboratory Technician*. The quotations will be followed by a criticism of the misinterpretations.

"Prosthetic dentistry, as taught in colleges, criticised in report.—One of the most serious criticisms voiced by the committee against the profession's conception of prosthetic service is that the mechanical aspects of the service are over-emphasized at the expense of the biological by a large part of the profession, whereas another, smaller part, over-emphasizes the biological without fully appreciating the mechanical. Of the two criticisms voiced by the committee, over-emphasis of the mechanical is the more

¹ This article is the third section of the report of the Committee on Dental Prosthetic Service of the American College of Dentists, at the Atlantic City convocation, on July 11, 1937. The first section (including a preliminary summary of the Committee's recommendations) and the second were published in preceding issues: *J. Am. Col. Den.*, 4, 1937; pp. 110 (Sep.) and 240 (Dec.). A final section will be published in the succeeding issue. Members of the Committee on Dental Prosthetic Service (1936-37): W. H. Wright, *chairman*; P. C. Lowery, A. H. Paterson, C. H. Schuyler, W. H. Grant.—[Ed.]

prevalent, as any laboratory owner knows. Therein lies the chief cause of most of the troubles dental laboratories experience. Surely, a true appreciation of the biological factors would never permit the types of impressions and bites which are all too common in any dental laboratory. It is also this over-emphasis of the mechanical which is responsible for the cause of another serious criticism the committee voices—the tendency of the profession to delegate almost entirely the construction of dentures to dental laboratories. While the report uses such unkind phrases as the profession ‘playing into the hands of commercial interests,’ ‘the degradation of the practice of dental prosthesis,’ that ‘dental prosthesis has been much exploited by commercial interests,’ etc., the fact remains, as every laboratory operator knows, that the dental laboratory is just what the profession made it.

“We have yet to find the dental laboratory owner who relished the added responsibilities the profession wished upon him and which he had to assume or lose a customer. Whether accepting such responsibilities is an honest attempt to render service or is purely commercial is too fine a point to be discussed, let alone settled, here. However, the committee’s criticism is sound. Laboratory men know nothing about the biological factors involved in a given case. Why should they? Sporadic attempts have been made by laboratory men to supply this lack but every attempt has been quite effectively squelched by the profession. These adventures of the laboratories into the biological have done much harm, creating the impression among many dentists that the technicians were seeking to take over the entire prosthetic field. The jealousies and opposition aroused finally convinced all ethical laboratory men that the farther they kept away from any phase of prosthetic work, except the purely mechanical, the better for all concerned.

“This is certainly fair enough and would result in full protection of the profession, ample recognition of the laboratories, and adequate and satisfactory service for the public if the profession were sufficiently well trained in the biological aspects of denture work. The seriousness of the situation produced by the profession’s emphasis on the mechanical, and the fact that the public has come to consider dental appliances as almost purely a matter of mechanics, can not be over-estimated.” . . . *Lab. Tech.*, 8, 10; 1935, Oct.

The succeeding issue of the *Technician* continued the discussion, under the same heading:

“If a dentist can plan and supply the preparatory data for a denture with such a background of knowledge of the basic biological factors involved, with such an understanding and appreciation of the mechanics of making a

restoration which will meet the biological requirements, to our mind it would make little difference whether the actual construction of the appliance is done by the dentist, by a mechanic in his private laboratory or by a competent commercial dental laboratory. Some dentists, possessing a mechanical skill equal to their professional knowledge and with a wealthy clientele, might find it worth while to construct their own cases. For the vast majority, however, it would indubitably be more efficient to entrust the construction of their cases to a competent technician. It has been quite definitely proven that it is not economically sound for the general practitioner to do his own laboratory work. It either takes him from more remunerative operative work or requires night work. The extensive equipment required for modern technics is too costly to be used efficiently for casual production.

"On the other hand, it is and always has been, economically and ethically unsound for the laboratory to dabble in biological, diagnostic and preparatory phases of prosthetic work. They lack the necessary scientific background, they can not ethically or legally have the necessary contact with the patients. Those who have, with the collusion of some members of the profession, messed around with impression taking and examining the mouth for hard areas, soft tissue, protuberances or what have you, have found it love's labor lost. Valuable time is spent for which there is no remuneration. If the case fails they are then solely to blame. They lay themselves open to the charge of an over-weening ambition to encroach upon professional ground. They are apt to become implicated with patients, or, at best, to be suspected of being implicated. No laboratory man has followed this course from choice. It has been wished upon him by dentists who lack the modicum of biological knowledge the mechanic might have scraped together.

"Denture designing is an equally bootless activity for the laboratory man. While his extensive experience and intensive practice do give him particular skill in practical design, he has at best only a lifeless stone model upon which to work and no opportunity to know anything about the biological features of the case. Most laboratory men who supply a denture-designing service will admit that it is largely a matter of submitting a plan which the dentist can take around for competing estimates. However, that has been another activity forced upon laboratories by the failure of a large part of the profession to submit plans. It was an attempt by the laboratories to get some tangible, agreed basis upon which to proceed with a case.

"Selection, or recommendation of materials, is another activity assumed by laboratories by default. And it is another source of innumerable headaches. That the condition opened the way for conscious or unconscious

commercial exploitation of some materials by gullible, careless or profit-seeking laboratories is as undeniable as it was inevitable. The dentist should specify every material going into a denture as carefully and in as great detail as the physician prescribes the drugs going into a prescription. To be able to do this the dentist must know the materials used in denture construction. A great step toward providing the dentist with the information upon which he can select his materials has been taken in the A. D. A. Research Committee.

"As one reads the report of the Curriculum Committee on the teaching of dental prosthesis, as one considers its recommendation, one is impressed with the fact that the committee has found at once the cause of the profession's distrust of the laboratories and the remedy for it. While the report does not recognize the laboratories as a necessary aid to the profession but to the contrary indicates that its ideal would be to have dentists construct their own restorations, there is little possibility of this ever coming about. But if the report should have the ultimate effect of reforming the instruction of dental prosthesis to produce dentists who had attained the committee's objectives, skilled in all the biological phases of prosthetic work, skilled in the designing of denture restorations, well versed in the merits of denture materials, skilled in the theoretical if not practical mechanics of denture construction, how easily would all the past and present sources of irritation and jealousy between these two groups disappear. Such dentists would be truly professional prosthetists, so superior in their understanding of the subject that the thought of any rivalry or competition between them and dental technicians would border on the ridiculous."—*Lab. Tech.*, 9, 20; 1935, Nov.

Attention is called to the phrase "overemphasis of the mechanical," which appears to hold out new hope to the commercial laboratories. If schools should discontinue the mechanical phases of prosthesis the laboratories would be perfectly satisfied. But the schools will not do so. "Overemphasis of the mechanical aspects by practitioners" (*Curriculum Survey Report*, p. 49), and "exalting the mechanical side of dental prosthesis by dental teachers" (p. 372), do not mean that mechanics will not be emphasized in the future; instead, antiquated and time-consuming methods must give place to intensive instruction in the principles and practices of actual prosthesis. In addition, the biological sciences which have always been an important part of dental education are to be focussed upon and emphasized in the solution of the practical problems of dental service. Instead of teaching

the student how to make antiquated mechanical appliances which possess little or no biologic significance, these are to be replaced by newer methods and materials as demanded by the biologic requirements of present oral health-service—an interpretation that is quite different from that suggested by the editor of *Laboratory Technician*.

The trouble in the past has been overemphasis of too many prosthetic methods or devices; now the emphasis will be placed on those that are practical, and this is expected to result in the dentist being more skilled, instead of being less capable, in dental mechanics. This idea is clearly and repeatedly expressed in the *Report*, which states that "restorative dentistry involves a large amount of laboratory work" (p. 49), but no suggestion is made that this work should be sent to the commercial dental-laboratories. The following quotation (p. 49) clearly states the judgment of the Survey Committee: "A complete health service by means of dental restorations is provided only when the mechanical procedures and biological factors are properly coördinated. This coördination can be made only by the dentist, who, by training and experience is prepared to understand fully all aspects of this service. Moreover, the responsibility for the service rests upon the dentist." The above quotations from the *Report* show that the laboratories have been assigned no part in rendering prosthetic service as outlined in the new dental curriculum.

A typical laboratory attitude is reflected in the statement quoted above: . . . "to our mind it would make little difference whether the actual construction of the appliance is done by the dentist, by a mechanic in his private laboratory or by a *competent* commercial dental laboratory." Here the editor takes issue with the Curriculum Survey Report, which states: "There is an erroneous idea among some members of the profession that the laboratory procedures of restorative work can be delegated, in their entirety, to a fairly well trained dental mechanic in a commercial dental-laboratory. Unfortunately, this concept has led to the common practice of sending dental restorations out of the dental office into a commercial dental-laboratory where frequently, they are constructed by technicians with no knowledge of the part these restorations will ultimately play in maintaining the health of the patient" (p. 50). The editor mentions "*competent* commercial dental laboratories." According to laboratory leaders the

great majority do not belong in the "competent" class. How is the dental profession to know which are competent and which are not? The odds are against the dental profession in patronizing commercial laboratories, since one denture improperly made by an incompetent laboratory technician may result in the loss of prestige and patronage to the dentist.

In concluding the discussion of the curriculum, the subject of metal dentures raises another issue. On page 273 of the Survey Report this is discussed as follows: . . . "Metal base work has been omitted from the required laboratory projects in preclinical instruction in complete denture prosthesis for the following reasons: (a) casting methods are included in the course on partial denture prosthesis; (b) metal base dentures are likely to consume the student's time out of all proportion to the value of this type of denture, or the need of it in practice; (c) metal base dentures are not adaptable to the adjustment and refittings which may be required from time to time in order to keep dentures in a serviceable condition; (d) since the quality of service with a metallic denture is, in the long run, no better than, and perhaps inferior to, that which vulcanite and its substitutes provide, it is held that the additional amount of work required, and the additional fee charged, for metallic dentures are not in keeping with the present biologic and economic trends in denture service." Notwithstanding the suggested limitations of the use of metals for dentures there has been increasing laboratory propaganda favoring the use of stainless steel for complete and partial dentures. If these materials were ideal for dentures (which they are not) there would still remain one fact that should deter the profession from using them; namely, *the fabrication of these materials is completely under the control of the commercial dental-laboratories and other commercial interests*. By continuing to use such materials the dental profession is, figuratively, nibbling at a trap set by commercial interests to gain control of certain laboratory phases of dental prosthesis. Continued patronage of such laboratory controlled processes will ultimately subjugate the profession to the whims of the public, which can quickly be trained through advertising to request trade-marked brands. This will expose both the profession and public to exploitation by the laboratories, which will then have the profession and the public at their mercy. This growing danger

must be forcefully presented to the dental profession, so that all fabrication processes relating to the practice of dentistry shall remain in the hands of and under the control of the dental profession, and not under the control of commercial interests.

B. LABORATORY LEADERS CRITICISE DR. SCHUYLER'S PAPER ON
THE "RELATION OF THE DENTIST TO THE COM-
MERCIAL DENTAL-LABORATORY"

In July, 1936, Dr. Schuyler, a member of this Committee, presented before the Full Denture Section of the American Dental Association, in San Francisco, a paper on the "Relation of the dentist to the commercial dental laboratory." This paper, published in the issue of the *J.A.D.A.* for Dec. 1936, caused much unfavorable comment among laboratory leaders. A few of the controversial sections of Dr. Schuyler's paper are quoted below as a basis for the presentation of some of the criticisms of his paper.

"While the dentist only is qualified by knowledge, skill, and experience to coördinate the sciences in planning, constructing, fitting, adjusting and maintaining prosthetic restorations in keeping with the biological, functional, psychological and esthetic requirements of oral health-service, the writer believes that economic conditions warrant the employment of trained technicians to assist him in some of the purely mechanical details. The recently graduated dentist has a background of years of education and training, both theoretical and practical, which involves great expenditure of time and money, while the technician is merely finger-trained.

"The dentist, and the dentist alone, has received training in anatomy, physiology, bacteriology, histology, physics, chemistry and dental anatomy which basically qualify him to render a high standard of oral health-service. The technician is a finger-trained man, many of whom enter the work at an early age as messenger boys, later serving as apprentices, receiving training for specific procedures in a department of a laboratory. Few receive adequate training to perfect them in all laboratory procedures.

"The most satisfactory coöperation between a dentist and his technician is possible when the technician is employed within the dentist's office. Close supervision of all procedures delegated to the technician is then possible, and a more complete understanding of requirements peculiar to the individual case upon which its success or failure may depend is assured. Many dentists, who have an insufficient amount of prosthetic work to

warrant [employment of] a private technician have found it very satisfactory to divide the services of a technician with one or two other dentists. The day of large dental-laboratory institutions, where the responsibility for the technical procedures pass through many hands, is on the decline, and the private technician or the technician who serves a limited and selected clientele is becoming more popular.

"We should also be mindful of the fact that it is becoming increasingly difficult to penalize these offenders through court procedure, which may indicate that they have obtained some public support. The dental laboratories could, if they so desired, exert a profound influence in stamping out the illegal practice of dentistry. The Code stated that "no member of this industry shall accept any dental restoration for adjustment, repair or processing except from a dentist or from another dental laboratory." Violation of this rule carried a penalty of a \$500 fine, yet to my knowledge no violators were punished.

"The authoritative statement has been made that ten years are required to develop a capable prosthodontist. Is it a wonder, then, that a student who has spent sixteen weeks and has had the practical experience of constructing only from four to six restorations under supervision should be inadequately qualified to render this service after graduation? Is it surprising that he turns to the technician, who has no knowledge of the sciences but years of practical experience in laboratory technique, for advice in his prosthetic problems? Does it not follow, then, that some of our technicians should wax sarcastic about the inability of some members of the profession to render this service and to advocate legislation permitting them to share this privilege?

"Some schools require the student to spend about one-half as much time in the prosthetic department as in the operative department. The head of one prosthetic department told me that he considered it our responsibility to teach only the bare fundamentals of denture prosthesis for which the construction of from four to six practical cases was sufficient. It is hard to understand what is meant by fundamentals. There are no duplications in denture prosthesis. Each case presents its unique and individual problems and it is certain that if the student constructed twenty-five prostheses, he would have more self confidence and would be better prepared to assume his responsibility in rendering this service after graduation. The curriculum as recently advocated by the American Association of Dental Schools suggests approximately 591 hours, or the equivalent of 4 months for the study of denture prosthesis."—Schuyler: Relation of the dentist to the commercial dental laboratory: *J. A. D. A.*, 23, 2355; 1936, Dec.

After the publication of Dr. Schuyler's paper, many comments and editorials appeared in laboratory publications from which we present several quotations.

(a) "Dr. Schuyler seems to derive much pleasure, apparently, from his repeated allusions to the 'errand boy' status of the beginning laboratory worker. Don't lose sight of the fact for a moment, doctor, that many of these erstwhile 'lowly messengers' have spent 25 years or more perfecting their knowledge and technic in prosthesis and have developed into technicians of consummate skill—artists in their particular field. Equipped with an enviable fund of experience gained in contacting and carrying through to completion almost every type of restorative case, their advice and coöperation are sought as a matter of form by the average dentist. They may be 'finger-trained men,' doctor, but in those skilful fingers has often rested the prestige of a dental practitioner.

"... he has merely peeked into the intertwining problems of these two groups through a glass colored by professional considerations only. . . . From an instrument of convenience and curiosity, cradled in a single room at 125 Tremont Street, Boston, Massachusetts, the laboratory has developed into an invaluable adjunct of the modern dental profession. Through all these years, the industry, taking full advantage of educational and research facilities, has kept pace with the most progressive element of the profession. Over this eventful span an imposing majority of dental laboratories have kept faith with Stowe and Eddy, whose guiding and high-minded principles still motivate the industry in its dealings with the profession.

"In his glowing account of the commendable progress made by the dental profession in the past thirty years, Dr. Schuyler seems to forget how much the dental manufacturers and laboratories, growing inch by inch in stature with the profession, have contributed to this advancement.

"Dr. Schuyler's contention that dentists would render a higher type of service by employing technicians to serve them in their offices, we can dismiss immediately for obvious economic reasons. Again, I am sure that dentists who coöperate with their laboratories, who submit good preparatory work and take advantage of the consultation facilities and modern advances of these laboratories, can see no apparent advantage in private technicians. Finally, how many technicians does Dr. Schuyler suppose are available who possess the composite skill of specialized laboratory workers as a group?

"Incidentally, the better laboratories would warmly welcome a rigidly enforced law tending to discourage, for instance, the collusive practice

whereby a laboratory man, speciously masquerading as a dentist with special prosthetic talents, enters a dentist's office and proceeds to perform preparatory procedures for restorative work. In my opinion, here is where the majority of violation "germs," so to speak, are cultured, and a united front against this procedure should be organized immediately."—Rothstein, R. J.: "Let's present both sides, Dr. Schuyler;" *Den. Craftsman*, 11, 5; 1937, Feb.

(b) "Despite the fact that many prominent educators advocate limiting instruction of dental students to only the basic principles of the mechanics of prosthetic work and emphasizing more than now instruction in the physiological aspects, which would be quite in line with the desire to put dentistry on a professional plane comparable with medicine, Dr. Schuyler believes that not enough time is devoted by dental colleges to the purely mechanical procedures. To be sure, if the general practitioner is to do his own laboratory work the student dentist should receive more intensive instruction in mechanics than has been the recent tendency. Dental educators, however, seem more inclined to accept the commercial dental-laboratory as an established and valuable service available to the profession than is Dr. Schuyler. These men accordingly question the desirability of taking up a student's time 'finger-training' him for purely mechanical work which he in all probability will never do to any extent. They think his time will be better spent mastering the anatomical and physiological phases of prosthetic work that he may be particularly well fitted to plan and design denture restorations properly with a full understanding of the problems involved and to direct his technician, whether private or commercial, in the construction of the restoration.

"If dentistry seeks to attain the professional status of medicine, this view has merits. There is little more reason why a good dentist should know all the technical tricks of constructing a bridge, partial or full denture, than there is for a physician to be able to make a truss or an artificial leg, arm or hand. Little more reason in fact than for an oculist to be able to grind lenses and make glasses. What Dr. Schuyler apparently does not appreciate is that which is fully appreciated in South Africa, where dentistry is so sure of itself that it is not afraid of any threat from mechanics—namely that the less a dentist is hampered by the necessity of performing purely mechanical work the more he can develop professionally. In South Africa a leading dentist even went so far as to suggest that dentistry might well divorce itself from all mechanical work and confine itself to the science of prosthesis, leaving the actual construction of dentures entirely to trained and capable mechanics.

"The *Technician* has said right along illegal practitioners will never be controlled by court action under the dental law. Worse than that, every time an illegal practitioner is dragged into court he is simply advertised through the press. And, if the *Technician* may repeat, the general public does not care whether he is an illegal practitioner or not. If he can make dentures and save them money, there are many who will go to him."—Editorial; *Lab. Tech.*, 10, 5; 1937, Jan.

(c) "But when laboratory men suggest the organization of a united front in attacking these shortcomings, the silence is deafening—professional apathy is at its best. It is difficult to understand the profession's attitude in this respect, especially when we consider that an effective solution to the problems confronting the industry at the present time would result in benefits shared equally by the profession and laboratory and undoubtedly elevate the standards of dentistry.

"What they do want to know, however, is this—how long is the profession to ignore the handwriting on the wall? How long will it take the dental group to grasp the vital significance to dentistry as a whole, of the following laboratory situations and problems:

"1. The all too numerous units, masquerading as laboratories, operated by the unemployed misfits of the industry?

"2. The impending shortage of competent technicians throughout the industry?

"3. The alarming influx of unqualified workers into the laboratory field, thoroughly incapable of turning out high standard restorative work?

"4. The 'bootlegging' laboratory worker, constantly undermining the prestige and security of the industry and the profession?

"5. The problem of educating the technician to a proper appreciation of oral structures concerned in the construction of scientific restorations for the dentist?

"6. The threat of unionism rampant in industrial circles, with no promise that it will not invade the laboratory industry unless ways and means are found to make unionism unnecessary.

"7. The appalling lack of an adequate bureau of standards or testing laboratory to insure the employment of proper materials in laboratory work?"—Seaborg, A. A.: The industry awaits the profession's answer; *Den. Craftsman*, 11, 2; 1937, March.

The foregoing quotations from Dr. Schuyler's paper and laboratory magazines indicate the nature of the current controversy between the profession and the commercial dental-laboratory. This Committee's

original report contains complete copies of the several papers from which the above quotations are taken. Owing to lack of space, only the controversial sections have been included in this published report. The issues involved in this controversy are of such moment to the profession that the Committee summarizes its views in the following discussion.

Rothstein's comment discloses the typical laboratory feeling of equality with the profession, which although inferred is rarely so clearly stated. Dr. Schuyler is accused of "professional consideration only," of which accusation he should be proud. The profession and its responsibility to the public which it serves must come first. Further, the dental laboratories need not expect too much consideration from a profession which they besmirched and disclaimed in order to be codified under the NRA. The laboratories are not a legal part of the dental profession. They voluntarily serve the profession because it is profitable, otherwise dentists would either do their own laboratory work, or employ technicians in their own offices. The laboratory is spoken of variously as "an instrument of convenience and curiosity," "an invaluable adjunct," and "the industry," thus allowing the laboratory leaders wide latitude for future affiliations when favorable opportunity arises. According to Rothstein, the laboratories have grown "inch by inch in stature with the profession" and "have contributed to this advancement." Our records show that the laboratories grew with mushroom rapidity between the years 1920 and 1930. Prior to that time there were only 100 laboratories to approximately 50,000 dentists. It is the Committee's belief that practically every advance in the laboratories was due, either directly or indirectly, to the dental profession.

Dr. Schuyler's contention that dentists would render a higher type of service by employing technicians to serve them in their offices is dismissed by Rothstein for "obvious economic reasons." The most "obvious economic reason" which comes to mind is that the commercial dental-laboratories would have to go out of business if dentists employed their own technicians. It is an established fact that the highest type of prosthetic work today is done either by the dentist himself, or by a technician working in his office under the dentist's supervision. Most dentists, contrary to Rothstein's opinion, can see

a decided advantage in having their own technician. These honest dentists are prevented in this because of the price-cutting methods of the dental laboratories, which induce unscrupulous dentists, who practise antiquated methods, to dabble in prosthesis instead of sending denture patients to those dentists who are qualified to render an up-to-date service. If it were not for this greedy, "try-to-do-everything" kind of dentist—and his hand-maiden, the cheap commercial laboratory—those dentists who are prosthetic minded would find it economically possible to employ high-grade technicians in their own offices, and render a grade of prosthetic service infinitely superior to that now being "turned-out" with the aid of many, particularly the cheap, price-cutting type of commercial laboratories. Here lies the great trouble: so long as we have commercial laboratories, the poor work of the questionable laboratories will greatly exceed the good work of the high-grade laboratories, and meanwhile the public suffers.

Rothstein states that these erstwhile "lowly messengers have spent 25 years or more perfecting their knowledge and technic in prosthesis and have developed into technicians of consummate skill—artists in their particular field . . . in those skilful fingers has often rested the prestige of a dental practitioner." The statement, "in their particular fields," is the weakest link in the commercial dental-laboratories from the standpoint of oral health-service. It places prosthetic dentures in the same category with mass production of automobiles and other appliances. Mass production can never work effectively in dentistry because dentures consist of more than a number of assembled parts. Each and every step, to be properly correlated, must be carried through by the person, or under the direct supervision of the person, who knows the oral requirements of the proposed restoration. In a laboratory where the work is passed from one "particular field" to another it is impossible for each worker to know the specific requirements of each restoration; therefore the finished work suffers accordingly. On this account many exacting dentists prefer to send their work to a small laboratory where they can give explicit directions to the *one* technician who will do all of the work according to the dentist's instruction. The Committee believes that the "finger trained men" of the commercial dental-laboratories have done more to ruin than to elevate the prestige of the dental practitioner. Had the practi-

tioner continued to do his own laboratory work, he would have learned to rely on himself. As it is now, many have been induced to depend upon laboratories, among which are to be found many "broken staffs."

What Rothstein says about punishing offenders who violate the law may be true, but offenders cannot be stopped in their illicit practices by licensing dental technicians. There is a dental act in all states under which offenders may be punished. It remains for organized dentistry to insist on enforcement of the laws by which the profession is protected. Licensing of saloons does not stop "bootlegging" in liquor, and licensing of technicians will not stop "bootlegging" in dentistry. While Rothstein's argument may be effective with those who are not familiar with dental history, it cannot conceal what has actually happened in countries where license has already been granted to technicians. Facts are more convincing than argument.

Space does not permit a discussion of the minor issues of Seaborg's article, but the major problem, license of the dental laboratories, needs further elaboration. In discussing this issue he says: . . . "professional apathy is at its best. It is difficult to understand the profession's attitude in this respect." It has been and always will be difficult for commercial interests to understand the attitude of a profession. While there are exceptions to all rules, a profession survives by giving; a trade or industry, by getting. In the dental profession, the dentist is the producing unit, and there is a definite limit beyond which he cannot go in serving the public. A very definite limit is set on his income. This is shown by the facts on the annual incomes of the members of the dental profession. In good or bad times, the dentist continues to serve the public; his lot is cast with that of humanity which he serves. With the commercial dental-laboratories the situation is different. Success is measured in terms of profits that can be controlled by changes in the personnel. In good times, employees are increased; in bad times, decreased. In smaller laboratories the owner or technicians may even seek employment in more profitable business, if the dental laboratory does not pay. Many owners of laboratories receive a salary without actually engaging in the fabrication of dental appliances. This increases the overhead which must be met by engaging more employees. Hundreds of tech-

nicians having learned their trade, refuse longer to be exploited in this manner, and have opened their own laboratories only to repeat the same business practice. Such uncertainty of employment naturally leads to chaotic conditions in laboratory circles and, further, makes it possible for the most unskilled novice to become the owner of a laboratory.

"How long is the profession to ignore the handwriting on the wall?," asks Seaborg, as he enumerates the following problems: "laboratories operated by . . . misfits," "impending shortage of competent technicians," "alarming influx of unqualified workers," "'bootlegging' laboratory workers," "educating the technician to a proper appreciation of oral structures," "threat of unionism," "appalling lack of an adequate bureau of standards or testing laboratory." These he lays on the doorstep of dentistry. Seaborg forgets that dentistry can survive without the commercial dental-laboratory, and may be compelled to do so if the laboratories continue their threat to the unity of the profession. All of the present trouble with the laboratories, including the appalling amount of low-grade work now being done for the profession, illicit practice of prosthetic dentistry, clamor for license, fear of strikes, and the (unkindly) criticism of the profession, may be eliminated by the profession if and when it is compelled to do so.

In commenting on the criticisms quoted from the *Laboratory Technician*, we repeat what was stated earlier in this report, that the phrase, "only the basic principles of the mechanics of prosthetic work," includes a thorough training in the laboratory phases of complete and partial dentures and crown-and-bridge work, so that the dental graduate may be fully qualified to do all of his own practical laboratory work when he graduates. Dental educators are not inclined to accept the commercial dental-laboratory; on the contrary, the Curriculum Survey Report states specifically that the commercial dental-laboratory has no recognized part in dental education.² Your Committee is aware of only four dental schools that take any cognizance of the dental laboratories in their clinical teaching, and we feel as-

² A recent questionnaire sent to deans of dental schools shows that none of those replying recognizes, in any respect, the part the commercial dental-laboratory plays in fabricating prosthetic restorations for the dental profession.

sured that such unwarranted assumptions as the above will cause these schools to reconsider carefully the justifications for further continuance of this phase of their clinical procedures. Contradicting the *Technician*: dentistry does not "seek to attain the professional status of medicine," and the view has no merit except to make physicians of dentists and turn over prosthesis to the waiting laboratories. There is every reason "why a dentist should know all the technical tricks of constructing a bridge, partial or full denture" and the moment our schools cease to teach this phase of dentistry, just so soon will it be appropriated by the dental laboratories. A comparison of dental appliances with a truss, an artificial leg or spectacle lenses indicates a woeful lack of understanding of the part which a dental restoration plays in the biologic economy of the human body. The South African situation, to which the *Technician* refers, has, we feel, been sufficiently dealt with (*J. Am. Col. Den.*, 4, 240; 1937, Dec.) to show that the South African dentists were so much afraid of the inroads the laboratories were making that they voluntarily agreed to license of the technicians to save themselves. If "illegal practitioners will never be controlled by court action under the dental law," how shall they be controlled? It is the dental law that they violate, and they can and will be held accountable for such violations. License of technicians would, to say the least, give them a legal standing in the mechanical phases of prosthesis, which by the unscrupulous technician could easily be used as a protection in dispensing bootleg dentistry.

AMERICAN COLLEGE OF DENTISTS

AD-INTERIM ACTIONS OF THE REGENTS

1937-38: *Series no. 2*¹

Place: Stevens Hotel, Chicago, Ill., Feb. 13, 1938.

Sessions: Morning (9:30-12:30), afternoon (5-6:30), and night (9:30-2:15).

Attendance: Nine; all members of Board excepting two.

Final report of vote on amendment of constitution (*J. Am. Col. Den.*, 4, 3; 1937; Sep.); submitted to all members as of Sep. 16, 1937). Total number of ballots cast, 365; affirmative, 346; negative, 6; defective, 13. Total membership, 596 as of Sep. 16, 1937; honorary fellows, 13; number eligible to vote, 583. Majority of total voting membership (minimum number of affirmative votes required for adoption of amendment: constitution, Art. IX), 292. *Number of affirmative votes in excess of minimum required for adoption*, 54; *amendment adopted*.

New members. Report of Board of Censors unanimously recommended election of 32 nominees to fellowship in College, for admission at convocation in St. Louis, Mo., Oct. 23, 1938. Each nominee un-animously elected.

Board of Censors. Special meetings will be held before October to consider additional nominations for membership.

New sections: About to be formed in several geographic centers.

Reports of standing committees: All standing committees excepting one presented ad-interim progress reports.

By-Laws Committee: Revived; membership as of 1936-1937 re-stored.

Committee on Dental Research: Invitation to participate in program of Minneapolis meeting of I.A.D.R. on March 13 accepted. Chairman Midgley instructed to present College's plans for promotion of research.

¹ For Series no. 1 see *J. Am. Col. Den.*, 4, 256; 1937, Dec.

Organized dental group in American Public Health Association: Assistant Secretary reported outcome of his correspondence and efforts last summer and fall to bring about development of dental section in A.P.H.A., which culminated in October in organization of dental members as "Oral Health Group of A.P.H.A." Regents favor cooperation of dentists in this relationship through membership and active participation.

Membership pledge: Changes in membership pledge made to include assertions that member-elect (a) read constitution and by-laws of College, and (b) will be ready at all times to give freely to dental colleagues, privately or publicly, benefit of any knowledge of, or experience in, dentistry he may have that would be useful to them; but will give courses of instruction in dentistry, for remuneration, only as an appointed teacher serving under auspices of a dental school, dental society, hospital, or other accredited professional or educational agency.

Dental journals; new classification endorsed by Commission on Journalism: (A) Periodicals controlled and owned by dental societies. (B) Periodicals controlled by dental societies, but privately owned. (C) Periodicals privately controlled: (a) by owners *exclusively* engaged in the business of publication; (b) by owners *not exclusively* engaged in the business of publication. Approved by Regents. See page 100.

American Journal of Orthodontics and Oral Surgery: Temporary classification recommended by Commission on Journalism—to be placed in *Group B*, in new classification in preceding paragraph. Approved by Regents. See page 101.

February 15, 1938

Attest: Otto W. Brandhorst, *Secretary*

THE LIFE OF ALFRED OWRE

A TRAGEDY

JOHN OPPIE MCCALL, B.A., D.D.S., F.A.A.P., F.A.C.D.

Murry and Leonie Guggenheim Dental Clinic, New York City

A book on the life of Alfred Owre,¹ former dean of the School of Dentistry of the University of Minnesota and, later, of the College of Dental and Oral Surgery of Columbia University, brings back to us a recollection of the troublous times that marked the later years of Alfred Owre's life as dean of the Dental School of Columbia University, and contrasts with these years the earlier period in dental education when his efforts were more constructively fruitful and his life more happy. Reading the book, one reflects inevitably on the strange combination of personal characteristics that could carry this man to the heights in the field of dental education, only to plunge him inexorably into a whirlpool of his own making that was finally to engulf and degrade his former splendid record.

To those who knew Doctor Owre only after his assumption of the deanship at Columbia, this book will be a revelation of a side of this man that was little suspected in New York. It reveals, without explaining, much that is incomprehensible as to his activities. We see evidence in those pages of a life-time of hard work; of the possession of unusual professional and administrative ability; of thoughtfulness for others that won the undying affection of some of those with whom he came in daily contact; of an unswerving devotion to an ideal.

What then could have happened to produce the Alfred Owre who, arriving in New York under the most propitious circumstances, soon brought down on himself the wrath of virtually the entire dental profession of Greater New York, alienated friends of many years standing, and finally brought about his own downfall as dean of the school to

¹ Alfred Owre, *Dentistry's Militant Educator*: Netta White Wilson, Minneapolis: The University of Minnesota Press.

which he had come with such high hopes and under such favorable auspices. How is one to explain his advocacy of a plan of dental education which is an acknowledged failure in Europe; of a plan of dental practice which would transfer to this country, with but slight modification, the dental-service *contretemps* which for so many years has plagued our professional confreres in Europe? How is one to explain his failure to appreciate the fact that new ideas, new methods, cannot in America be forced on an unwilling profession? How explain the slurs on an indefinitely large group in his own profession, the discourtesies indulged in at professional meetings to which he was invited so that he might present his views on dental education and practice?

It would be ungracious to recall these less happy incidents in Alfred Owre's life, in contrast with the fine things he did, if we could not derive from the warp and woof of his make-up, as exemplified in these varied happenings, some lessons that might serve, on the one hand, to help others to avoid pitfalls that trapped him and, on the other hand, to inspire them to deeds of service. We find ourselves, then, attempting to analyze the man himself in an effort to answer the questions inevitably posed by the consideration of the things he did.

Owre had a brilliant mind, and at the same time he was an eccentric. One is even led to question his mental balance, when one considers the unusual things he did in early life as well as later, plus the apparently abrupt change in his attitude toward the members of his profession and his way of approaching his objectives after he came to Columbia. Alfred Owre was an aristocrat with all that that implies in the political as well as the cultural sense of the word. Having a brilliant mind, he was intolerant of those less favorably endowed and contemptuous as well. For the same reason he was surer of the rightness of all his ideas than any human being can, in the nature of things, expect to be. And, finally, he was completely lacking in political acumen.

If we accept this evaluation of the man, it is easy to understand his early success and later failure. Alfred Owre came into the profession under circumstances favoring his rise to prominence. He early became identified with the dental school of the University of Minnesota, where his administrative ability enabled him to build up that school and establish an enviable personal reputation. As it happens, his

earlier views as to the desirable evolution of dental education coincided, as far as he announced them, with the views of many of the more advanced members of his profession. Acceptance of these ideas tended to confirm his belief in his own sagacity, the result being that, when offered the position of dean in the dental school of Columbia University, he regarded this as virtually a mandate to put into effect those later ideas about dental education and practice that then seemed good to him.

This is not the place to recapitulate contemporary evaluation of his plans for the dentistry of the future. It may, however, be pertinent to reiterate an opinion expressed in the *New York Journal of Dentistry* some years ago: that Owre, during his years as college administrator, had gotten too far away from the practice of dentistry and was consequently not able to see the weakness of his proposals relating to the master dentist-dental technician plan of practice. But, regardless of whether his plans were right or wrong, his failure to make headway with them exemplifies a fact that he should have known; and that is that, today in America, men and women cannot be forced into acceptance of unwelcome innovations. His failure to realize this fact provides the fundamental reason for the tragedy that clouded Alfred Owre's last days.

And so our lesson reads that respect for the opinions of others trained in the same field, awareness of the need for using persuasion instead of compulsion to gain one's end, realization that even the wisest man may sometimes be wrong—all these are needed by any one who would lead his fellow men.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PROCEEDINGS OF THE SUBSECTION ON DENTISTRY¹

THIRD MEETING: INDIANAPOLIS, IND., DEC. 27, 1937

COMPILED BY THOMAS J. HILL, D.D.S., F.A.C.D.

Dental representative in the Council of the American Association for the Advancement of Science, Western Reserve University, Cleveland, Ohio

The third annual meeting of the Subsection on Dentistry of the American Association for the Advancement of Science was held at the School of Dentistry, University of Indiana, Indianapolis, Ind., Dec. 27, 1937. The morning session was under the chairmanship of Dean Harry M. Semans, President of the American Association of Dental Schools; the chairman at the afternoon session was Dr. Paul C. Kitchen, President of the International Association for Dental Research. The Local Committee on Arrangements, headed by Dr. G. D. Timmons, were very effective in providing an excellent meeting place and

¹Dentistry, since 1932, has been well represented, in independent scientific sessions, at the annual winter meetings of the American Association for the Advancement of Science. The dental programs at these meetings in 1932, 1933 and 1934, were conducted by the American College of Dentists, with the cooperation of members of the International Association for Dental Research, the American Dental Association and the American Association of Dental Schools. In 1931 and 1932, the A. C. D., A. A. D. S. and A. D. A. were admitted, in this sequence, to the "associate" relationship with the A. A. A. S. In April, 1935, the A. A. A. S. admitted the American Division of the I. A. D. R. to the *affiliate* relationship; gave this dental *affiliate* a representative in the Council; and created in Section N (Medical Sciences) the *Subsection on Dentistry*, to consist of the official representatives of the said four dental organizations and all other dental members of the A. A. A. S. A record of the publication of the proceedings of the three dental meetings under the leadership of the A. C. D. follows: (a) Atlantic City, N. J., Dec. 30, 1932: *J. Den. Res.*, 1933, 13, 135-172. (b) Boston, Mass., Dec. 29, 1933: *J. Am. Col. Den.*, 1934, 1, 44-62. (c) Pittsburgh, Pa., Dec. 29, 1934: *J. Am. Col. Den.*, 1935, 2, 106-120. (1) The fourth consecutive annual meeting in this series, and the *first meeting of the Subsection on Dentistry*: St. Louis, Mo., Jan. 4, 1936: *J. Am. Col. Den.*, 1936, 3, 79-95. (2) Atlantic City, N. J., Dec. 28, 1936: *J. Am. Den. Assoc. and D. Cos.*, 1937, 24, 1130-38. (3) Indianapolis, Ind., Dec. 27, 1937: the present account.—[Ed.]

in interesting the local professional men, which materially increased the attendance. The members of the Subsection were the guests of the School of Dentistry at a luncheon at the Riley Hospital. Ten papers of original research were presented at this meeting; abstracts follow.

1. EFFECT OF SALIVA ON CLOTTING OF BLOOD. *Joseph L. Volker, D.D.S., School of Medicine and Dentistry, University of Rochester, Rochester, N. Y.* Greatest acceleration in coagulation brought about when proportion of saliva to blood in ratio of slightly less than 1:2. Ingredient in saliva capable of producing greatest reduction in clotting time is ether-soluble fraction—phospholipid.

2. FLOW OF METAL IN MOLDS. *Raymond E. Myers, D.D.S., B.S., School of Dentistry, University of Louisville, Louisville, Ky.* Determined (a) relative time required to discharge varying amounts of liquid metal through sprues of different shapes, cross-section areas and lengths, under varying degrees of pressure; (b) relative time required to fill pattern chambers of different shapes and volumes under varying degrees of pressure; (c) effect of porosity of investment material on time required to introduce and distribute liquid metal in mold cavities; (d) influence of shape, and smoothness or roughness, of crucible surface on time required to discharge liquid metal through sprue. In preliminary experiments with mercury: molds provided with platinum wires and time measured by tracing make-and-break impulses of signal magnet, and vibrations of tuning fork on blackened drum of kymograph. Consistency of repeated time-recordings on same mold, and agreement of values with those from tests on similarly constructed molds, indicate reliability of equipment and method of procedure. While these preliminary experiments with mercury are important, tests were carried out primarily to diminish difficulties associated with similar experiments on molten gold alloys.

3. INVESTIGATION OF COMPLETELY AND PARTIALLY EMBEDDED TEETH. *William H. G. Logan, M.S., M.D., D.D.S., F.A.C.S., F.A.C.D., Foundation for Dental Research of the Chicago College of Dental Surgery, Chicago, Ill.* To arrive at better understanding of possible pathogenic significance of completely or partially embedded teeth, twenty-two completely and twenty partially erupted teeth examined

histologically, using hematoxylin-eosin and Gram stains. Pulp in each tooth free from bacteria or inflammatory reactions. Pulp stones and calcifications of pulp tissues occurred in same high percentage as in corresponding erupted teeth. Several completely embedded teeth showed evidence of resorption of enamel and dentin, and replacement by bone. Such resorptive changes not inflammatory in nature and not to be confused with dental caries.

4. HEAT TREATMENT OF GOLD SOLDERED JOINTS. *Eugene W. Skinner, Ph.D., and W. J. Turbyfill, D.D.S., M.S.D., Dental School, Northwestern University, Chicago, Ill.* In soldering with gold alloys, not only does atomic diffusion occur between solder and wire, but also between wire and solder. Since composition of soldered joint varies according to composition of parts to be soldered, proper selection of heat treatment for joint very difficult.

5. NEONATAL DENTAL HYPOPLASIA. *Isaac Schour, B.S., D.D.S., M.S., Ph.D., College of Dentistry, University of Illinois, and Rudolf Kronfeld, B.S., D.D.S., M.D., Foundation for Dental Research of the Chicago College of Dental Surgery, Chicago, Ill.* Neonatal ring in human deciduous teeth consists of accentuated Retzius line in enamel and corresponding contour line in dentin. Usually, prenatally formed enamel and dentin slightly better calcified than that laid down after birth. In premature birth or birth injury, neonatal ring particularly pronounced, and often indicates actual arrest in growth. Postnatal enamel and dentin hypoplastic; enamel may be partly or entirely missing; dentin poorly calcified, presenting large areas of interglobular dentin. Neonatal ring forms sharp dividing line between normal prenatal, and abnormal postnatal, structures.

6. EFFECTS OF VITAMINS ON DENTAL CARIES. *Leonard S. Fosdick, Ph.D., and Edward H. Hatton, B. L., M.D., Dental School, Northwestern University, Chicago, Ill.* Fifteen students given vitamin A, vitamin D plus calcium phosphate, and vitamin A plus vitamin D, each over a three-month period. Caries susceptibility periodically tested by authors' chemical test of saliva. Combination of vitamin A and vitamin D only once associated with decrease in caries susceptibility. Thereafter vitamins A and D added to food of children in two different institutions for six-week period. In both groups general increase

in caries immunity observed in 85 percent of children receiving this combination. Studies in progress.

7. DISTORTION OF INVESTED WAX PATTERNS. *P. B. Taylor, M.A., School of Dentistry, Western Reserve University, Cleveland, Ohio.* Measurements on invested M. O. D. patterns indicate mechanical distortion of pattern in addition to thermal expansion of wax. Mechanical distortion apparently due to setting expansion of investment.

8. SOLID TO CYSTIC CHANGE IN AMELOBLASTOMA. *Hamilton B. G. Robinson, D.D.S., M.S., School of Dentistry, Washington University, St. Louis, Mo., and W. R. J. Wallace, D.D.S., University of Rochester, Rochester, N. Y.* Previously found (Kronfeld, *J.A.D.A.*, 17:681, 1930; Robinson, *Arch. Path.*, 23:664, 1937) that solid, solid and cystic, and cystic forms of ameloblastoma exist and apparently represent degenerative changes in the neoplasm. Tumor homologous with normal enamel organ up to functional point but not analogous; thereafter degeneration occurs in epithelial follicles and at expense of stellate reticulum-like cells. One of previous cases of solid ameloblastoma returned after five years with huge swelling of right mandible. At time of previous operation had been ordered to return for check up but failed to do so. Huge mass (8 x 6 x 6 cm.) removed with section of mandible extending from just beyond symphysis on left to angle on right. Radiographs showed number of large and small cysts within bone of mandible. On section, epithelial-lined cysts noted, with strands of epithelium arranged as in first section five years before. Bone shows areas of formation and resorption, side by side. Case, demonstrating clinically and pathologically solid to cystic change in ameloblastoma, strong confirmation of previous indications.

9. OXIDATION-REDUCTION POTENTIALS OF MOUTH ORGANISMS. *Harold L. Hansen, Ph.D., Dental School, Northwestern University, Chicago, Ill.* Studies of oxidation-reduction potentials numerous in other phases of bacteriology, but heretofore no work reported on oral microorganisms from caries viewpoint. Although complexities of bacterial systems add to difficulties of interpretation of findings, relationship between oxidation-reduction potentials, and growth and acid production, indicated. *B. coli* (reference organism), *B. proteus*, yeast "b" and *Streptococcus viridans* examined in infusion broth and in

autoclaved saliva containing glucose. Potentials with bright platinum electrodes, and pH determinations with glass electrode, compared.

10. JAW BONES OF GASTRECTOMIZED DOGS. *Smith Freeman, Ph.D., and Edward H. Hatton, B.L., M.D., Dental School, Northwestern University, Chicago, Ill.* In gastrectomized dogs, bones including jaws undergo profound retrograde changes. Comparison of teeth of two litter-mates (one control) indicate that only developing teeth, not fully formed, affected. Fully developed teeth not changed in form, structure or weight.

USE OF INDIUM IN DENTAL ALLOYS¹

REGINALD V. WILLIAMS, A.C.

Williams Gold Refining Company, Buffalo, N. Y.

"The rare metal indium is softer than lead, lighter than zinc, more lustrous than silver, as untarnishable as gold."² The foregoing description of any element would naturally excite the curiosity of a metallurgist, also the desire to investigate its possible uses in his particular field.

Indium, like many other elements, was discovered many years before sources and process of recovery made it available in commercial quantities. It was discovered in 1863 by two German chemists, Reich and Richter. It was called indium because of the indigo lines in its spectrum. It was known as element 49 in the periodic system and is now definitely placed in the third sub-group along with gallium and thallium. Its position in the electrochemical series is just above that of tin. Chemically in some respects it resembles zinc and tin; in others, iron and aluminum. It melts at the extremely low temperature of 155°C., but has a comparatively high boiling point of 1450°C. It possesses, in the absence of oxygen, a stable molten range of 1295°C. Although stable under ordinary conditions, it oxidizes rapidly at temperatures above its melting point, and at higher temperatures burns with a bright violet flame. The process for its recovery from zinc residues was complicated and expensive, and only recently has it become available at prices below that of gold.³ The physical properties of indium may be summarized as follows: *Atomic weight*, 114.8; *valence*, 3 (usually)—also 2 and 1; *melting point*, 155°C.; *boiling point*, 1450°C.; *specific gravity*,⁴ 7.12,

¹ This article is a preliminary response to our invitation to the Williams Gold Refining Company to present evidence on the subjects discussed in the paper by Dr. William H. Crawford in the issue of this *Journal* for Sep.-Dec., 1936 (3, 174-179).—[Ed.]

² Bayless: *Review*; American Society for Metals, 10, 2; 1937, Aug.

³ Murray: *Ind. Eng. Chem.* (News edition), 11, 300; 1933, Oct. 20. Also *J. Ind. Eng. Chem.*, 24, 686; 1932, June.

⁴ According to two different authorities.

731; *specific heat*, joules per gram-atom, 27.3; *electrical resistivity*—at 20°C., ohms, 9×10^{-6} —at 155°C., ohms, 29×10^{-6} ; *thermal expansion* ($1/Ldl/dt$) at 20°C., 33×10^{-6} ; *hardness*, Brinell 1; *tensile strength* (99.71 percent pure), tons per sq. in., 7.99. It is believed by some that changes will be made in the foregoing values accredited to its specific gravity, hardness, and tensile strength.

The metallurgist in the dental field is concerned, among other problems, in the production of alloys for casting purposes which will possess the following properties: (1) Casting ease; (2) desirable physical characteristics; (3) immunity to discoloration; (4) reasonable price. These classifications as to desirability may be further subdivided. The price feature, which is listed last, is in many instances all important in spite of the apparent inconsistency of attempting to save a few cents or even dollars on what are to become permanent additions to human jaws. The alloys usually known as "casting golds" should possess casting ease, using the facilities in the usual dental laboratory; otherwise patterns may not be completely reproduced. Fusing points should not exceed temperatures obtainable with the average dental torch and the solidified metal should be sound. By soundness is meant absence of voids or trapped gases, flux inclusions or excessive shrinkage areas, all of which have a direct bearing on the definitely measurable physical properties of the casting. The fact however that apparent excellence in a dental casting alloy is assumed from testing cast specimens following accepted dental laboratory practice, in which there are still many variables, necessitates numerous tests, repeated verification and the averaging of maxima and minima results.

The casting properties of metals have been subjects of intensive study by many investigators. The viscosity of all metals in a liquid state is low and the flow or filling of the mold is affected by several factors, principally surface tension, evolution of gases and formation of oxide films. A narrow freezing range produces greater apparent fluidity, almost instantaneous liberation of gases, and sounder metal, whereas in alloys in which the liquidus and solidus do not lie closely together, the slow liberation of gases during the "mushy" stage pro-

motes segregation and porosity.⁵ Molten metals absorb gases in ratio to increasing temperatures, hence overheating is to be avoided. Gas liberation is assisted by proper gating and sprueing. In an effort to deoxidize, degasify and otherwise improve metals in other fields, small proportions of certain elements have been added to the molten alloys. Notable among such elements are titanium, columbium, beryllium, boron, silicon, molybdenum, tungsten, vanadium, manganese, aluminum, zinc, magnesium and other metals, non-metals, compounds and gases. Extremely small additions of an element to an alloy might promote homogeneity, also affect strength, grain size and hardness. Minor constituents may have appreciable effect if present in only slight amounts, from spectrographic traces to several percent. The effect however might be either beneficial, detrimental, or both simultaneously.⁶

In dental metallurgy the element most frequently used in very small quantities of one percent or less, to effect improvement, is zinc. The beneficial effect is to assist in suppressing shrinkage areas, segregation and trapped gases. It also seems to impart the property of keeping clean the voids which might still be present but which will weld readily during rolling, drawing or swaging. If these voids are quite large and near the surface they become oxidized when heated and are apparent in the form of blisters. Zinc, like other elements, when added in small quantities refines metal, but also in larger amounts produces undesirable effects, notably brittleness. This is an example of the simultaneous occurrence of both beneficial and detrimental effects, with the former outweighing the latter. The refining action of these small additions is also somewhat complex. The benefit might be due to a deoxidizing effect because of greater molecular heat of formation as compared to other elements present. It is known that in a mixture of metals and oxides, at the proper reactive temperature, that oxide will be formed whose heat of formation is the highest, thus deoxidizing those whose oxides have a lower heat of formation.

⁵ Portevin and Bastien: *J. Inst. Metals*, London, England, 50, 329; 1932. Also *Ibid.*, 54, 45; 1934. Desch: *Metal Industry* (London), 50, 680; 1937. Schumacher and Souden: *Mining and Metallurgy*, 19, 49; 1938, Jan.

⁶ Osborg: *Metal Progress*, 33, 43; 1938, Jan.

TABLE 1
Indium-content alloys; composition by weight

ALLOY	In	Ag	Pd	Pt	Au	Cu	Zn	REMARKS
no.								
1	95	5						1. Soft, workable; can be rolled and drawn
2	90	10						2. Soft, workable
3	85	15						3. Difficult to cold-work
4	80	20						4. Difficult to cold-work
5	50	50						5. Unworkable
6	33.33	66.66						6. Unworkable
7	25	75						7. Unworkable
8	20	80						8. Workable and ductile
9	95	..	5					9. Soft, workable
10	90	..	10					10. Soft, workable; can be rolled and drawn
11	85	..	..	..	15			11. Easily cast and cold-worked; soft, cohesive
12	90	..	..	..	..	10		12. Can be cast and cold-worked
13	85	..	..	15				13. Unworkable
14	20	75	5					14. Ductile; can be drawn into wire
15	20	75	..	..	5			15. Ductile; can be drawn into wire
16	80	15	..	..	..	5		16. Unworkable
17	82	..	9	..	..	9		17. Unworkable
18	77.23	9.10	..	..	13.67			18. Difficult to cold-work
19	76.20	19.05	..	..	4.75			19. Difficult to cold-work
20	76	20	4					20. Unworkable; Brinell, 480
21	72.25	18.10	..	..	4.4	5.25		21. Unworkable
22	30	57	..	..	11	2		22. Unworkable
23	20	70	10					23. Unworkable
24	18.18	68.08	13.74					24. Difficult to cold-work
25	10	50	..	..	..	40		25. Unworkable
26	6	56	35	..	3			26. Unworkable
27	5	44	40	..	5	3	3	27. Unworkable
28	5	52.5	..	..	..	42.5		28. Workable; poor casting; oxidizes easily
29	3	49	15	5	20	9	1	29. Can be cast and cold-worked; tensile strength as cast, 70,000 per sq. in.
30	1	50	15	5	20	9	1	30. Unworkable
31	0.25	8.75	..	5	70	16		31. Sound casting; can be cold-worked

The value of the addition might also be dependent upon other properties; viz., promotion of fluidity, hindrance to segregation, removal of oxide and slag inclusions, and other "corrective" actions.⁷

⁷ Comstock: *Chem. Met. Eng.*, 26, 165; 1922, Jan. 25. *Iron Age*, 114, 1477; 1924.

A large number of indium-content alloys were prepared to study the application of indium to the extremely varied demands of dental metallurgy, such as soft ductile metals, which might work harden, similar to foil, mat or crystal golds; also its possible application in casting alloys and wrought metals. Still another promising field for investigation was its application in the more inexpensive high silver-

TABLE 2
Physical properties of standard wire
(Compare with tables 3 and 4)

Tests.....	1	2	3	4	5	6
<i>Quenched from 700°C.:</i>						
Diameter.....	0.0379	0.0377	0.0378	0.0380	0.0379	0.0380
Breaking weight; lbs.....	122	127	123	119	123	116
Elongation; percent.....	15.5	11.5	16.5	12.5	11.0	12.0
Ultimate tensile strength; lbs. per sq. in.....	108000	114000	109800	105000	109000	102400
<i>Air cooled from 700°C.:</i>						
Diameter.....	0.0378	0.0377	0.0378	0.0377	0.0372	0.0377
Breaking weight; lbs.....	146	143	157	155	148	151
Elongation; percent.....	7.5	9.5	10.0	8.0	8.5	8.5
Ultimate tensile strength; lbs. per sq. in.....	130000	128400	140000	139000	132800	135500
<i>Oven cooled 450°C.; 250°C., 30 minutes:</i>						
Diameter.....	0.0377	0.0378	0.0377	0.0378	0.0379	0.0377
Breaking weight; lbs.....	180	185	185	184	189	184
Elongation; percent.....	3.0	3.0	3.5	2.0	3.0	3.0
Ultimate tensile strength; lbs. per sq. in.....	161500	165000	166000	164000	167800	164000
<i>Averages</i>						
Ultimate tensile strength; lbs. per sq. in..	<i>Quenched</i>		<i>Air cooled</i>		<i>Oven cooled</i>	
	108,033		134,300		164,116	
Elongation; percent.....	12.5		8.0		3.0	

palladium-gold alloys which have recently been developed and used to a considerable extent to replace the more expensive high gold-content metals, also base metal substitutes. In order that false conclusions would not be drawn, special equipment was secured and procedures followed in the melting, casting and fabricating of various indium-content alloys. In some instances the addition of indium to

an alloy could be carried out successfully under a thick protective layer of powdered charcoal. In other instances better results were obtained by melting in a resistance-type electric-furnace under hydrogen gas. When following this procedure, the purity of the hydrogen was found to be of great importance; consequently, following accepted practice, a purifying train was placed between the cylinder of

TABLE 3
Physical properties of standard wire plus 0.25 percent of indium
(Compare with tables 2 and 4)

Tests.....	1	2	3	4	5	6
<i>Quenched from 700°C.:</i>						
Diameter.....	0.0377	0.0378	0.0378	0.0377	0.0378	0.0377
Breaking weight; lbs.....	125	125	125	125	122	123
Elongation; percent.....	13.0	13.0	10.0	13.0	11.0	11.5
Ultimate tensile strength; lbs. per sq. in.....	112000	111500	111500	112000	109000	110400
<i>Air cooled from 700°C.:</i>						
Diameter.....	0.0378	0.0378	0.0377	0.0378	0.0379	0.0377
Breaking weight; lbs.....	142	142	148	146	140	147
Elongation; percent.....	6.0	7.5	10.0	9.0	5.0	9.0
Ultimate tensile strength; lbs. per sq. in.....	126800	126800	132800	130000	124000	132000
<i>Oven cooled 450°C.; 250°C., 30 minutes:</i>						
Diameter.....	0.0377	0.0377	0.0377	0.0378	0.0378	0.0376
Breaking weight; lbs.....	190	192	189	193	191	196
Elongation; percent.....	2.0	1.5	1.0	2.5	1.5	1.0
Ultimate tensile strength; lbs. per sq. in.....	176800	178000	169800	170000	170000	168000
<i>Averages:</i>						
	<i>Quenched</i>		<i>Air cooled</i>		<i>Oven cooled</i>	
Ultimate tensile strength; lbs. per sq. in..	111,066		128,733		170,866	
Elongation; percent.....	12.5		7.6		2.1	

compressed hydrogen and the furnace. In some instances, melts were made both under protective charcoal covering and hydrogen. In the melting, remelting and casting of the indium-content alloys, there was no perceptible loss of indium, even in instances where the proportion of indium by weight was high and the alloys were unworkable.

Table 1 shows the great variety and many combinations of precious metals to which indium was added. As original researchers in this

field, we devoted preliminary effort to determining the effect of indium under conditions as widely diversified as possible. Combinations showing signs of promise were subjected to further physical testing, others were discarded immediately as being obviously unsuitable. Whether equal proportions of other elements would show similar benefits has yet to be disclosed. Analysis of preparations of indium

TABLE 4
Physical properties of standard wire plus 1.00 percent of indium
(Compare with tables 2 and 3)

Tests.....	1	2	3	4	5	6
<i>Quenched from 700°C.:</i>						
Diameter.....	0.0379	0.0378	0.0377	0.0378	0.0378	0.0377
Breaking weight; lbs.....	125	119	117	120	119	120
Elongation; percent.....	14.5	10.0	12.5	12.0	12.0	12.0
Ultimate tensile strength; lbs. per sq. in.....	111000	106000	105000	107000	106000	107800
<i>Air cooled from 700°C.:</i>						
Diameter.....	0.0378	0.0378	0.0377	0.0378	0.0378	0.0377
Breaking weight; lbs.....	147	140	140	148	145	148
Elongation; percent.....	6	5	6	6	6	7
Ultimate tensile strength; lbs. per sq. in.....	131000	125000	125800	132000	129400	133000
<i>Oven cooled 450°C.; 250°C., 30 minutes:</i>						
Diameter.....	0.0376	0.0379	0.0375	0.0378	0.0376	0.0377
Breaking weight; lbs.....	190	185	175	180	180	182
Elongation; percent.....	1.5	1.5	1.0	1.0	1.0	1.5
Ultimate tensile strength; lbs. per sq. in.....	171000	164000	159000	161000	162000	163000
<i>Averages:</i>						
	<i>Quenched</i>		<i>Air cooled</i>		<i>Oven cooled</i>	
Ultimate tensile strength; lbs. per sq. in..	107,133		129,300		163,333	
Elongation, percent.....	12.5		6.0		1.2	

has at times shown an appreciable lead or tin content. If indium of this type, and without further refining, were used in any investigation, reliable or conclusive results could of course not be drawn. Pure metal and proper alloying facilities were considered of great importance in this research.

After determining the effect of indium in wide concentrations and

in various formulae, effort was made to determine the effect of indium in small quantities, in both wires and casting alloys, using indium-free metal as a standard. The following formula was used as a *standard for wire*: Au, 54; Ag, 15; Cu, 10; Pt, 15; Pd, 5; Zn, 1. The physical properties were determined and averaged over a series of six tests. Four-inch test lengths were used. The diameters of these wires were approximately 0.038 in. Heat treatments, and other procedures, both in the testing of wires and casting alloys followed the recommendations of the A.D.A. Research Bureau, National Bureau of Standards.

Considering the fact that wires to be furnished the dentist and orthodontist should possess ample strength in their softest, most ductile, annealed and quenched conditions, it can be seen that the addition of 0.25 percent of indium is beneficial (*tables 2, 3 and 4*). In the quenched condition, it imparts additional strength and does not impair ductility as measured by percentage of elongation. This condition however does not hold true in the air-cooled wires, where there is some loss of both strength and ductility. In the slowly cooled wires, those containing indium showed increased strengths but losses of ductility. The purposes of the wire and intended heat-treatments should govern the desirability of indium in this particular formula. The average results (*tables 2, 3 and 4*) indicate that there is a decrease of both strength and ductility under all conditions of heat-treatment, and the addition of 1 percent of indium is excessive for beneficial results in this particular alloy.

In the investigation of small additions of indium to *casting alloys*, the following formula was taken as a *standard*: Au, 64; Ag, 18; Cu, 11; Pt, 4; Pd, 2; Zn, 1. The more important physical properties over a series of twenty-five tests were found to be those shown in *table 5*. The results in *tables 5 and 6* indicate that the addition of 0.25 percent of indium to the standard alloy proved beneficial, regardless of heat-treatment, both as to strength and ductility. In the quenched condition, the indium-content alloy possessed practically the same strength, yet 71 percent greater ductility as measured by percentage of elongation; in the air-cooled condition, 14 percent greater strength, and 24 percent greater ductility; in the slowly or oven-cooled condition, 10 percent greater strength, and 57 percent greater ductility. So much improvement was imparted to the alloy through the addi-

tion of 0.25 percent of indium that further tests were conducted with additions up to 1 percent and more. From the average of the results (*tables 5 and 7*), it is noted that although the addition of 1 percent of indium is a vast improvement over no indium at all, optimum results

TABLE 5
*Physical properties of standard casting alloy**
(Compare with *tables 6 and 7*)

Tests.....	1	6	11	16	21	25
<i>Quenched from 700°C.:</i>						
Diameter of cast rod; in.....	0.0799	0.0799	0.0787	0.0778	0.0800	0.0805
Ultimate tensile strength; lbs. per sq. in.....	59700	60300	74000	65500	61000	64300
Elongation; percent.....	2	2	5	4	7	2
<i>Air cooled from 700°C.:</i>						
Diameter of cast rod; in.....	0.0801	0.0798	0.0795	0.0798	0.0775	0.0778
Ultimate tensile strength; lbs. per sq. in.....	68000	70100	91800	79000	83500	58700
Elongation; percent.....	1	1	2	2	2	1
<i>Oven cooled 450°C.; 250°C., 30 minutes:</i>						
Diameter of cast rod; in.....	0.0794	0.0776	0.0797	0.0774	0.0776	0.0779
Ultimate tensile strength; lbs. per sq. in.....	96700	87000	112000	99500	102000	88400
Elongation; percent.....	1	1	1	1	1	1
<i>Averages (25 tests):</i>						
	<i>Quenched</i>		<i>Air cooled</i>		<i>Oven cooled</i>	
Ultimate tensile strength; lbs. per sq. in. . . .	62,084		79,680		97,044	
Elongation; percent.....	3.88		2.00		0.84	

* To simplify this presentation, and for economic reasons, tests 1, 6, 11, 16, 21 and 25 have been arbitrarily selected (by the Editor) from the twenty-five in each of *tables 5, 6, and 7*. Copies of the data for the remaining tests will be presented by this *Journal* to any one who requests them.—[Ed.]

are obtained through the addition of 0.25 of 1 percent. These findings also verify the previous work on wires.

Some of the special forms of equipment used in this research are illustrated in *figs. 1-4*.

In reference to corrosion, tarnish or discoloration, indium should theoretically create greater immunity, although we recommend that

indium be used to replace a base metal and not gold or metals of the platinum group. Indium has been used successfully as a tarnish resistant in silverware,⁸ and should under no circumstances exercise a detrimental effect. In quantities as low as 0.25 percent, it would be difficult to measure the improvement. However, in larger proportions, indium has already an established commercial use as a tarnish

TABLE 6
*Physical properties of standard casting alloy, plus 0.25 percent of indium**
(Compare with tables 5 and 7)

Tests.....	1	6	11	16	21	25
<i>Quenched from 700°C.:</i>						
Diameter of cast rod; in.....	0.0784	0.0789	0.0794	0.0786	0.0801	0.0773
Ultimate tensile strength; lbs. per sq. in.	64700	57000	69000	46500	61000	59500
Elongation; percent.....	8	3	4	4	9	5
<i>Air cooled from 700°C.:</i>						
Diameter of cast rod; in.....	0.0798	0.0790	0.0792	0.0777	0.0803	0.0773
Ultimate tensile strength; lbs. per sq. in.	102000	89000	87500	88000	87600	93000
Elongation; percent.....	6	1	1	2	3	2
<i>Oven cooled 450°C.; 250°C., 30 minutes:</i>						
Diameter of cast rod; in.....	0.0804	0.0791	0.0783	0.0801	0.0790	0.0781
Ultimate tensile strength; lbs. per sq. in.	104800	116000	110600	109800	114800	114700
Elongation; percent.....	2	2	1	2	1	1
<i>Averages (25 tests):</i>						
	<i>Quenched</i>		<i>Air cooled</i>		<i>Oven cooled</i>	
Ultimate tensile strength; lbs. per sq. in. . .	61,728		90,885		107,704	
Elongation; percent.....	6.76		2.48		1.32	

* See footnote with table 5; it also applies to this table.

resistant. Corrosion, tarnish or discoloration is subject to a great many variables, and highly satisfactory tests have yet to be developed for dental alloys. It was once considered satisfactory to study this problem by electrolytic methods—by applying an electromotive force to the metal to be tested, in a suitable electrolyte. By this method

⁸ United States Patent Office: No. 1,847,941; March 1, 1932.

TABLE 7
Physical properties of standard casting alloy, plus 1.00 percent of indium*
(Compare with tables 5 and 6)

Tests.....	1	6	11	16	21	25
<i>Quenched from 700°C.:</i>						
Diameter of cast rod; in.....	0.0783	0.0783	0.0793	0.0796	0.0787	0.0795
Ultimate tensile strength; lbs. per sq. in.....	60000	61000	58000	63400	55000	63400
Elongation; percent.....	5	9	5	10	5	11
<i>Air cooled from 700°C.:</i>						
Diameter of cast rod; in.....	0.0790	0.0781	0.0788	0.0773	0.0765	0.0794
Ultimate tensile strength; lbs. per sq. in.....	82000	88500	84500	88600	83000	82700
Elongation; percent.....	2	3	2	2	2	4
<i>Oven cooled 450°C.; 250°C., 30 minutes:</i>						
Diameter of cast rod; in.....	0.0782	0.0792	0.0755	0.0794	0.0790	0.0773
Ultimate tensile strength; lbs. per sq. in.....	97000	95000	108600	88000	96000	100000
Elongation; percent.....	1	1	2	1	1	2
<i>Averages (25 tests):</i>						
Ultimate tensile strength; lbs. per sq. in. . . .	<i>Quenched</i>		<i>Air cooled</i>		<i>Oven cooled</i>	
Elongation; percent.....	59,808		83,728		97,720	
	7.20		2.28		1.28	

* See footnote with table 5; it also applies to this table.

TABLE 8
Data on solders

<i>I. Variable conditions: 625-fine gold-solder</i>			
CONDITION	SOLUTION	WHOLE CELL	SINGLE POTENTIAL OR HYDROGEN BASIS
(1) Melted and quenched	0.9510 N/HCl	-0.10430	+0.44130
(3) Melted and air-cooled	.9510 N/HCl	-.12317	+.46007
(3) Melted and oven-cooled	.9510 N/HCl	-.08605	+.42305
<i>II. Tests on solders: three accepted conditions of heat treatment</i>			
FINE	QUENCHED	AIR-COOLED	OVEN-COOLED
585	+45847	+45563	+39650
600	+46544	+49436	+51518
615	+47153	+46610	+44155
625	+50838	+53020	+47817
650	+51028	+51580	+52463

may be determined: (1) anodic dissolution or anodic corrosion; (2) cathodic deposition; (3) potential gradient. There are, however,



FIG. 1. High-frequency induction-furnace used in preparation of many alloys. Melts may be made under vacuo or under any gas.

difficulties in determining corrosion through externally applied E. M. F., primarily because of the protective film of an insoluble salt, such as silver chloride. There are also variables owing to changes in

potential due to the physical condition of the metal; namely, the degree of cold-work to which it has been subjected, also variations in physical properties through heat treatments and aging.

Tarnish may be defined as a production of thin adherent film upon the metal which interferes with the original bright luster and usually causes change of color. This film also adds to weight. Corrosion

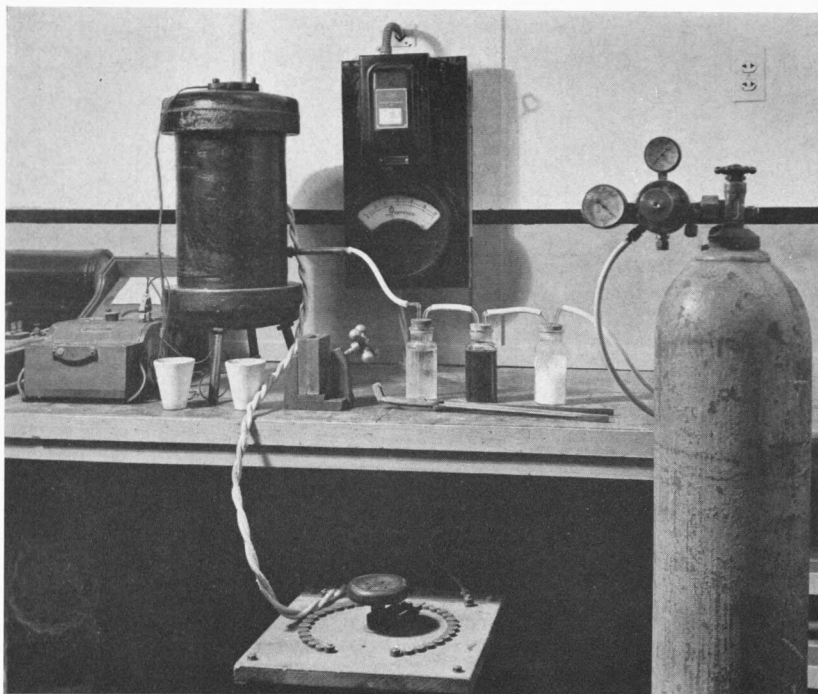


FIG. 2. High-temperature electric-resistance furnace; especially designed for melting under hydrogen.

may be defined as the eating away of metal, yielding a non-adherent product. When the product has been removed the specimen will have lost weight. Tarnish is objectionable for esthetic reasons; corrosion, for utilitarian reasons.

In electrode-potential tests, noble metals are assigned positive values, reactive or base metals have negative values. It may be stated safely that the greater the percentage of noble metal in the specimen, the less the corrosion, as measured by the electrode poten-

tial. The data in the upper part of *table 8* illustrate the variable conditions encountered in a 625-fine gold-solder. Tests conducted on

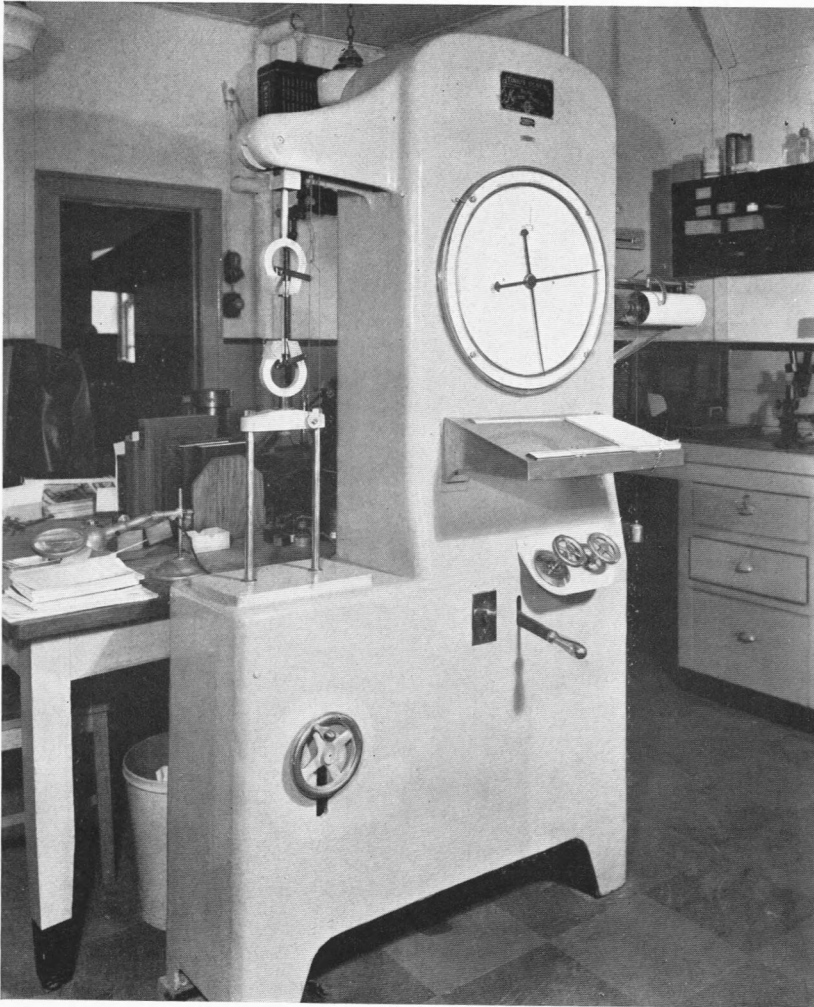


FIG. 3. Tinius Olsen tensile-testing equipment; especially designed for testing precious metals.

solders, following the three accepted conditions of heat-treatment, gave the results in the lower part of *table 8*.

Although corrosion may occur in inverse ratio with nobility, the

same may not be true as to tarnish. This applies especially to the newly developed high palladium-platinum-content silver-gold alloys.

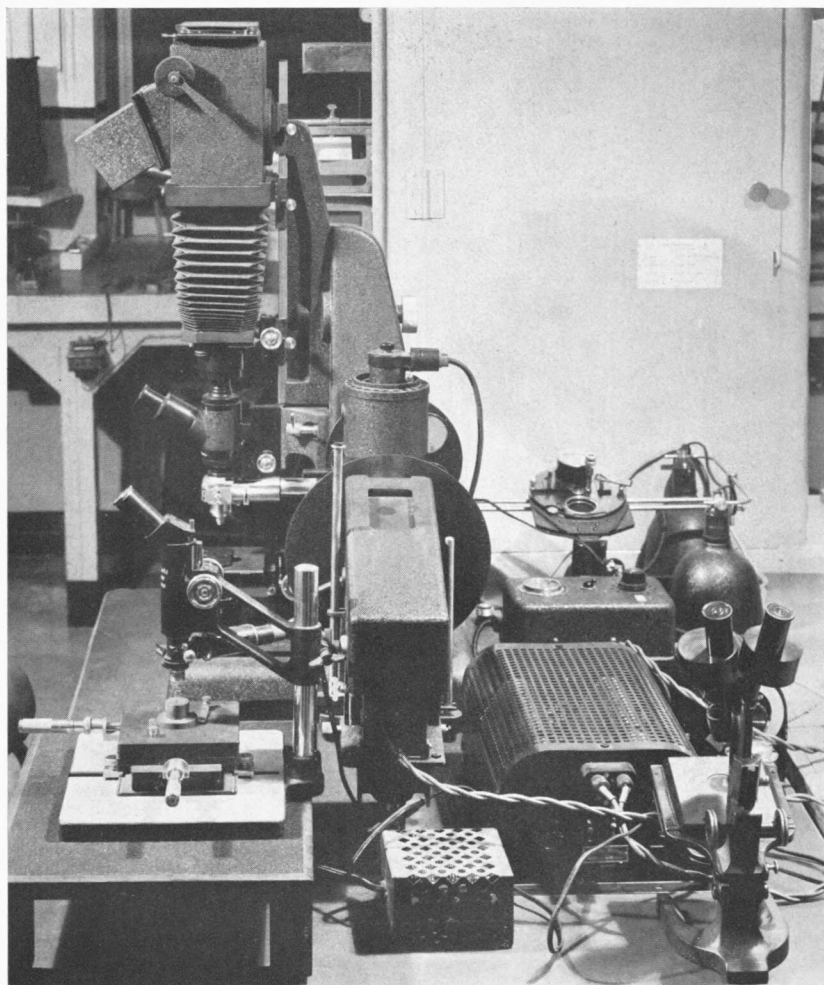


FIG. 4. Metallographic microscope, with photographic attachment; used in study of indium-content alloys.

A number of tests have been developed to determine tarnish resistance, such as exposure to hydrogen sulphide, ammonium sulphide, sulphurized oil, moist mixtures of hydrogen sulphide and sulphur dioxide;

also tenth-normal sodium sulphide in which flowers-of-sulphur is dissolved. If exposed to any of the foregoing reagents, it is doubtful if an alloy containing 0.25 percent of indium would show appreciably more resistance to discoloration than the same alloy containing no indium. The effect, if observable however, should be beneficial. It is also of interest to note that in the study of tarnish-resisting silver alloys, the Bureau of Standards found alloys of silver-zinc to be of high immunity.⁹ Although indium was not studied in this connection, probably owing to high cost and scarcity, indium and zinc are very similar in their chemical properties.

In all of the alloys investigated, nickel content did not exceed 0.5 percent; nor was zinc employed in excess of 1 percent except in one instance, in which the alloy incidentally proved unworkable (*table 1*, no. 27). When indium was added to the casting alloy used as a standard, zinc was omitted because it was believed that their refining actions were similar. Metallographic studies are being made of these alloys and additional information will be available for publication shortly.

Summary and conclusions. Indium, in proportions of 1 percent or less, improves the properties of certain casting alloys. It does not similarly improve the properties of the wrought metals so far investigated.

Owing to its immunity to tarnish or discoloration under normal conditions, further research is indicated in the high indium-content, ductile, and readily workable alloys (85 percent +; see *table 1*). Whether equal proportions of other elements added to the casting alloy under investigation would be of equal benefit is yet to be disclosed. The purity of the indium is of great importance, as also is the method of melting and alloying. Its beneficial effects in the alloy investigated is definitely proven, and it will be interesting to note its further use as additional research is devoted to this subject. It is also of interest to note the progress being made with indium-treated bearing metal.¹⁰

⁹ Jordan, Grenell, Herschman: Bureau of Standards; Tech. Paper, No. 348—1, 482; 1927, July 23.

¹⁰ Smart: *Am. Inst. Mining Met. Engineers*; Tech. Pub. 900 (preprint for New York Meeting, Feb. 1938).

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EDITORIALS

DENTAL RESEARCH

To dentistry has been given an almost unparalleled opportunity for service. It deals, as no other profession does, with a group of physical disorders from which almost no one escapes. In meeting this situation it has in its hundred years of existence made commendable progress. Its accomplishments have been such as to make American dentistry the synonym for excellence throughout the civilized world. But notwithstanding this, its greatest field of usefulness is still ahead. And this field it cannot fully occupy except by prolonged and persevering research. Never in the history of dentistry was research more needed than at present when the profession is faced with the problem of the hundred million people in the United States who receive little or no dental care and who, in increasing numbers, are coming to realize its importance. Out of the uncertainties of the present one thing at least is clear; namely, that the problem created by this situation cannot be solved by present-day methods of dental practice, no matter how efficiently they may be applied. Some way must be found by which the present almost universal incidence of dental disease can be substantially reduced. And this can only be done through research.

There are at present several agencies for the promotion of research in dentistry. One of these is the Research Commission of the American Dental Association which, since it was organized in 1913, has expended approximately a half million dollars in research. Another is the International Association for Dental Research, which likewise has done and is doing much to promote research in dentistry in this and other countries, all of which indicates that the profession is not insensible to its responsibility. The question, however, which we might ask ourselves at this time is whether these and other agencies engaged in research are as effective as they might be—whether greater progress could not be made through closer coöperation. In other

words, would it be possible to put in operation some plan by which the present research activities of the profession could be made more effective. In raising this question no criticism of the work which is being done is intended or implied—its purpose is to stimulate thought along these lines and at the same time to call attention to an article entitled, "A definite plan for dental research" (Morse and Walker: *J.A.D.A. and D. Cos.*, Jan. 1937, p. 59), which offers the following constructive suggestions:

- (1) The establishment of a central bureau for organizing research.
- (2) The appointment of a director, not necessarily a dentist, whose duty among others it would be to correlate all reports on research so that they might be made available to all, preferably in the form of monographs.
- (3) The appointment of a small group of dentists to act as advisors to the director, to be known as trustees of research.
- (4) The formation of a central library and repository where advice and information could be had by investigators regarding their several problems.
- (5) The creation of a board of advisors from the basic sciences, to advise and coöperate with the director in his various activities including the allocation of funds for research.

This is a well-thought-out plan and is deserving of serious consideration. The first step toward putting it or some such plan into effect would be the appointment of a committee representing organized dentistry in this country. A second step would be to obtain funds with which to finance it.

Dentistry in the past has not received the support from philanthropists which its importance demands. One reason among others would seem to be that the profession has in some way failed to establish, in the minds of those who might help, the important place which dental health occupies in all public-health measures. That the public can be interested is shown by the benefactions of such men as the Forsyths, Eastman and Guggenheim. One of the most effective ways in which to obtain support for research in dentistry would be the adoption by the profession of a constructive program, such as that outlined above, which would commend itself to the judgment of those whose assistance

is essential to success. If dentistry is to go forward in its efforts to make prevention something more than an ideal, it must be along the line of research. And since all research is carried on in the interest of the public, it is the public who should support it.—A. H. M.

PLANNING DENTAL MEETINGS

The primary purpose of dental meetings is to enable a group of dentists, usually an organization, to have presented or demonstrated to them the latest findings on a given subject, or on ways and means of rendering better service. This is a process of educating the profession. Because of the importance of dentistry in the field of health service there goes with most dental meetings the responsibility of transmitting information to the public—the beneficiary of our efforts. So the main purposes of dental meetings are two: the education of the dentist and the education of the public. The reason for approaching these educational objectives through meetings is to carry the messages to the greatest number of dentists and, in turn, to create public interest in the matters presented. Generally, dental meetings are of two kinds: one-session meetings and meetings extending through a number of sessions. Our considerations here will be directed principally to the latter, for the indicated principles apply proportionately to smaller meetings.

It is usually the desire of those who plan programs for dental meetings to make the prospect so attractive that it will command the interest of large numbers. And that is as it should be. In fact, it is often necessary to build a program in such a way that its real purpose is not disclosed in the outline of the program at all, those in charge feeling that their appeal must be made through other avenues. Be that as it may, a program must be planned to have an appeal in order to attract attendance. Excepting the occasionally sensational new discovery, some phases of dentistry have been found to be better program attractions to the average dentist than others. For instance, denture construction or oral-surgery procedures are usually better “drawing cards” than others. This varies somewhat, of course, depending on new technical procedures in others fields at the time of the meeting. For a meeting lasting a day or several days such a “drawing

card" should be offered on the first day, and even early on that day, in order to have the meeting start with good attendance. Of course, much consideration should be given to the selection of the essayist to present the subject. If, however, the second main objective is to be achieved—education of the public—special thought must be given to the selection of both subject and speaker. Some presentations do not lend themselves readily to health messages for the public.

The education of the public today, in addition to radio messages, is usually through the press. "Publicity men" usually look with regret at the program of the average dental meeting, because they see that it has not been planned for publicity. A three-day meeting—to use it as an example—should be planned so that each day will have special features of interest to the public. This enables the press to carry the story of the meeting in such a way that the public interest can be maintained from the first day through the last. This means that, if the most is to be gotten out of the efforts put forth, a program should be arranged not only to attract an audience, but also to interest the reading public. Selection of subjects, selection of speakers, and arrangement of programs are, therefore, important procedures.

Naturally every program chairman wishes to secure the best talent for his program. To obtain such essayists is not always easy. While most men consider it a distinct honor to be asked to appear on the program of a meeting of fellow dentists, there are others, we regret to say, who will agree to participate only if the remuneration is sufficient. They forget, of course, what they owe to those who have preceded them and made possible their present success. Then, there are also those who abuse their privilege and make demands at a time when the program committee has no alternative but to agree. All of these eventualities can be readily met if a clear statement of conditions is set forth in the *first* letter extending the invitation to the essayist. Such a letter might read as follows (bearing name of place of issue, date, name of addressee, etc., and salutation):

The Missouri State Dental Association will hold its annual meeting on May 8, 9 and 10, of this year, in this city. I have the honor of serving as Chairman of the Program Committee for this meeting and at the direction

of the Committee am extending an invitation to you to appear on our program on May 8, at 10:30 a.m., to address us on the subject: "....."

In extending this invitation we realize that we are asking you to sacrifice much time and effort in our behalf, but we hope that we can repay you in part at least by assuring an attentive and appreciative audience, and will endeavor to make your visit with us a pleasant and happy occasion.

The Budget Committee has budgeted \$. . . , for your trip, a check for which amount will be sent you several days prior to your departure from home.

The Committee will be happy to make your hotel reservations for you, if you desire it to do so.

The meeting will be held in the Hotel and there is every indication of a good attendance.

We will appreciate hearing from you by February 14, and trust that we may have your favorable reply.

Yours cordially,

.....Chairman
Program Committee

Such a letter presents the entire matter, in one communication, to the invited guest and enables him to make his decision on the basis of the conditions thus stated. By sending the check (covering railroad fare and a per-diem allowance for incidental expenses), the financial matters are taken care of in a definite and understanding way.

Having secured the desired essayist, attention should be directed toward obtaining from the essayist a statement of his needs for his part on the program, and also such information regarding him and his presentation as might be desired by the Publicity Committee. This should include a copy of his paper at least two weeks in advance of the meeting. By securing the manuscript, the program committee (a) learns that the essayist is prepared, (b) has an opportunity to study the manuscripts, and (c) can give to the press such statements as may be in order. The most useful kind of controlled publicity can be obtained through such cooperation. Then, too, advance receipt of the manuscript assures a complete record of matters presented. Publication of the manuscript is thus facilitated, if and when that is desired. If, several days in advance of the meeting, the one in charge can make a thorough check of, and give attention to, all the details

required to conduct the program, it is possible to execute it with comparative ease; and what might become a tedious and laborious task will be a pleasant experience, leading to new friendships and greater accomplishments.—O. W. B.

NEW CLASSIFICATION OF DENTAL JOURNALS

The "continued open discussion of dental journalism," in our issue for September 1937, included this comment (p. 147):

"This open debate is intended to present information, to promote understanding, and to stimulate improvement, but not to render decisions, nor to dictate *anything*. We are open to conviction on *everything*. Our further study of all the available facts leads us to suggest that a *re-classification of dental periodicals* into the following general groups would be useful for purposes of clear discussion and further improvement:

- (A) Periodicals controlled and owned by dental societies
- (B) Periodicals controlled by dental societies, but privately owned
- (C) Periodicals privately controlled:
 - (a) By owners *exclusively* engaged in the business of publication
 - (b) By owners *not exclusively* engaged in the business of publication

This classification would emphasize control rather than ownership. Groups A and B would be 'society journals.' Group C, *a*, would consist of such periodicals as the *Int. J. Orth. Oral Surg.* and the *Year Book of Dentistry*. Under this classification, journals issued by accredited publishers would be grouped together, and 'proprietary' and 'independent' could be dropped as terms having no clear meanings, unless qualified by numerous particulars. Sub-groups, where desirable, would refine the distinctions. Comment on this tentative general re-classification is invited for discussion in our next issue."

In the "renewed open discussion of dental journalism," in our issue for December 1937, we reprinted the foregoing quotation and added the following comment (p. 265):

"Only two correspondents referred to this classification. Dr. Best alluded to it as representing 'a single and a definite step forward' (p. 149). Dr. Thoma indicated approval (p. 152). We believe this general re-classification would favor clear thinking and discussion, as well as constructive effort. We again invite our correspondents to discuss its utility."

Although many correspondents privately indicated approval of this classification, no others commented for publication. The Commission on Dental Journalism having given the matter careful attention, presented, at a meeting of the Regents of the American College of Dentists in Chicago on February 13, 1938, a recommendation that the foregoing classification be adopted. The Regents unanimously approved the recommendation, and accordingly the new classification became effective, for the American College of Dentists, as of that date. (See the record of ad-interim proceedings, p. 69.)

TEMPORARY CHANGE IN RATING OF THE AMERICAN JOURNAL OF ORTHODONTICS AND ORAL SURGERY

During the progress of the open discussions of dental journalism, in the successive issues of this *Journal* since June 1936, representatives of the American Association of Orthodontists stated publicly or privately that the *International Journal of Orthodontia and Oral Surgery* (now the *American Journal of Orthodontics and Oral Surgery*), which is owned by the C. V. Mosby Company of St. Louis, has been controlled in its professional relationships by the American Society of Orthodontists (now the American Association of Orthodontists). Although these representatives have conceded that this professional control is nominal rather than actual, and subject to the caprice of the owner or his successors, official representatives of the Association regard this tenuous control as professionally useful. Practical considerations require recognition of this situation; but it is obvious that, if the Association's nominal professional responsibility could be made real and definite, on a binding agreement between owner and Association, all interests would be served and none harmed. Many members of the Association prefer this outcome.

The Commission on Journalism recently gave special attention to the claims of officers of the American Association of Orthodontists to the effect that the Association has become professionally responsible for the *American Journal of Orthodontics and Oral Surgery*. To facilitate all possible efforts to make the Association's professional control actual and undoubted, the Commission concluded that the said journal should be temporarily placed in Group B in the new classification (p. 100)—among "periodicals controlled by dental societies, but pri-

vately owned." Copies of the following formal notice were sent simultaneously, on February 24, 1938, to the President of the Association and to the owners of the journal:

"The Regents of the American College of Dentists, at a meeting in Chicago on February 13, 1938, received from the Commission on Journalism a report that included references to the *American Journal of Orthodontics and Oral Surgery* to the following effect:

"Officers of the American Association of Orthodontists have stated publicly, and in private correspondence, that the owner of the *A. J. O. O. S.* (formerly *I. J. O. O. S.*) publishes that journal in harmony with the stated wishes of the official representatives of the A. A. O.; that under these conditions the A. A. O. practically controls the said journal; and that the said journal is being conducted in accord with the Association's professional purposes.

"The Regents—acting on this report and believing that the Association's control of the *A. J. O. O. S.*, which is now only nominal and informal, could be made actual and formal to the great advantage of the dental profession, the Association, the owner, and the journal—voted (a) to remove the *A. J. O. O. S.* provisionally from the Commission's list of non-acceptable journals; (b) to give that journal publicly a temporary accreditation as a periodical controlled by a dental society; and (c) to continue that temporary accreditation until the present nominal control has been converted into legal control, by formal contract between the Association and the owner, provided the said legal control will be obtained before the adjournment of the annual meeting of the A. A. O. in 1939."

Further correspondence with orthodontists, in explanation and extension of the action outlined in the foregoing notice and in response to inquiries, has included the following comment:

"The action of the American College of Dentists, in giving the *American Journal of Orthodontics and Oral Surgery* a temporary accreditation that removes it from the Commission's list of non-acceptable journals, was grounded in esteem for orthodontics, animated by desire for the further advancement of dentistry, and suggested by aims to strengthen the truly professional spirit of dental journalism.

"The Regents voted to continue the temporary classification of the *American Journal of Orthodontics and Oral Surgery*, until the adjournment of the American Association of Orthodontists' meeting in 1939, to give the members opportunity in two annual meetings to determine, by deliberation,

whether they are sufficiently interested in the matter to make the temporary classification permanent. It was felt by the Regents—in a sportsmanlike spirit—that nothing should be done to imply anything excepting a friendly and fraternal interest in an outcome that would be fortunate for all concerned; and it was believed that two meetings would afford time for all discussions that might be involved.

"We have great respect and esteem for the specialty of orthodontics as one of the most advanced means of oral health-service. We accept every available opportunity to promote its advancement and the welfare of its practitioners. We hope to see it in high esteem, and an accredited function, in dental graduate education. Our hope that the American Association of Orthodontists will be able to acquire actual professional control of the journal for which the Association pays apportionments from its treasury is due to our belief that, by so doing, the Association would not only enhance its professional self-respect, but also would give the dental profession in general and the public added reason to acclaim the quality and standing of organized orthodontics.

"Professional *control*, not nature of *ownership*, is the basis of the present classification of dental journals, as endorsed by the American College of Dentists.

"The contents of books are commonly controlled by their authors, not by the publishers, who usually are the owners. Contracts between authors and publishers of books customarily allocate portions of the income to the authors. These conditions relating to *books* illustrate the kind of professional control that we hope will be exercised by ethical dental societies over all privately-owned *journals* purporting to represent dentistry."

NEW PHASE OF THE OPEN DISCUSSION OF DENTAL JOURNALISM

In our issues for 1936 and 1937, we conducted a progressive "open discussion" of dental journalism (1936: Mar.-June, p. 103; Sep.-Dec., p. 186. 1937: Mar.-June, p. 28; Sep., p. 140; Dec., p. 257). The first of the series of editorials contained this statement (p. 103):

"In the evolution of opinion and decision on any subject, there are proverbially 'two sides to the question.' Postponing an intended public consideration of the great need for increased support for, and more effective development of, *non-proprietary* dental journals—a need that is now engaging the special attention of the American Association of Dental Editors—we hereby initiate an open discussion of the facts and conditions that may be stated in behalf of *proprietary* dental journalism, as a system and also as

represented by any existing publication. We invite expression of opinion for publication in succeeding issues. In inaugurating this discussion, in anticipation of ensuing benefits to dentistry and to dental journalism, we have not followed the dictates of our own present beliefs and preferences in this field, which are opposed to proprietary journalism *as a system*. Instead, we have yielded to the promptings of our desire to ascertain, understand, evaluate, and publish views and conclusions that influence others; and which, if meritorious, we may after due reconsideration be able to endorse."

In our issue for December, 1937, we summed up the general outcome of the discussion in this comment (p. 263):

"This open discussion, having given all editors of proprietary journals special opportunity to express their views, was characterized at first by numerous emotional excesses and irrelevances, but in successive stages has been converging on essential considerations. Ignoring many matters of detail, we believe the following general view—perhaps not satisfactory in all its parts to extremists on either side—may be crystallized from this discussion:

"Control of dental periodicals by ethical dental societies is, in the interest of the dental profession, the most desirable general condition for dental journalism. But, as a group, the journals controlled by dental societies do not yet meet all of the profession's requirements, some of the proprietary dental journals, owing to greater responsiveness to dental needs and desires, being widely accepted, and frequently preferred over all others. Leading non-proprietary dental journals, to attain the quality and desirability their professional responsibility requires, must be greatly improved in usefulness and appeal. Until then, proprietary competition will tend to maintain present differences. '*Clean* competition' by proprietary journals will rigorously exclude *unclean* methods and conditions. Advertisements of obviously unworthy products, services, etc., stamp a dental publication containing them as lacking in both commercial honor and professional repute.

"We invite all correspondents to give this statement particular attention, with special reference to its revision, if inaccurate in any respect, to a form that would be a correct and acceptable generalization."

No one has suggested any revision of the foregoing generalization; no one has indicated that it contains any inaccuracy. The following statement by Dr. Ryan, in our issue for September, 1937—which expresses appreciation of conditions that we hoped would thus even-

tuate—was heartily endorsed privately by many correspondents (p. 153):

"Since my return home from the Atlantic City meeting of the American Dental Association, I have spent considerable time in reflection on the subject of dental journalism. I have the very definite impression since that meeting that both sides in this debate are attempting to present valid arguments and that the debate has emerged from the arena of acrimony. I believe that your efforts in the *Journal of the American College of Dentists* in conducting this debate have had a great deal to do with this change in attitude."

The constructive conditions gradually evolved by our open debate, the probability that practically all journals purporting to represent dentistry will soon be conducted under the professional guidance of ethical dental societies, and the adoption of the new classification of dental journals (p. 100)—with its emphasis on professional control (responsibility) regardless of ownership—have automatically transferred the center of interest and concern in this field to ways and means to improve *professional conduct* of dental journalism. Accordingly, in harmony with these fortunate developments and our original expectation, we shall turn, in our next issue, to the projected open discussion of deficiencies and improvements in the journals controlled by dental societies.

Current conditions in the American Association of Dental Editors have an important coincidental bearing on this plan. A committee of the Association has been conducting a special study of the conditions under which the journals controlled by dental societies are being published, in the expectation that the findings to be reported at the annual meeting next October will enable the Association to take useful advisory action. The program of the Association's meeting next October will include a formal and thorough discussion, by four speakers, of "*current deficiencies in dental journalism, and ways and means to correct them.*" It is expected that this discussion, to be published under the Association's auspices, will be a notable contribution to the influences that are steadily promoting betterment in dental journalism.

The responses by correspondents to the editorial in our issue for December, 1937, were published on pages 265-66 of that number. In

accord with our understanding with correspondents, we shall close this phase of the "open discussion" without comment on these responses. No advance copies of this editorial have been submitted to correspondents. Our previous plan of procedure in this connection will be resumed for subsequent editorials in this series.

DEAN OWRE'S BIOGRAPHY (II)

In our issue for December, 1937 (p. 269), we discussed a few examples of the many "perversions of dental history" in the book entitled, *Alfred Owre: Dentistry's Militant Educator*, by Netta White Wilson, and stated that "Miss Wilson's biography of Dean Owre is very inaccurate." Below we publish (A) a response from Miss Wilson, (B) our direct reply, (C) a note from Dr. Charles E. Rudolph, to whom Miss Wilson refers in her letter, and (D) editorial comment.

A. LETTER FROM MISS WILSON (MINNEAPOLIS) TO THE EDITOR (NEW YORK): FEB. 22, 1938

Your editorial on "Dean Owre's Biography," in the *Journal of the American College of Dentists* for December, 1937, has been brought to my attention by the committee under whose direction I prepared the biography of Alfred Owre.

In regard to your charges of inaccuracies, I sincerely regret whatever errors occur in the book. I know there are some errors, though all possible efforts were made to avoid them. Every chapter was read in manuscript by some competent critic, and every important statement was checked and rechecked with available documents. The chapter on the Carnegie Survey was submitted not only to the editorial committee but also to Dr. C. E. Rudolph, president of the American College of Dentists. I conferred personally with Dr. Rudolph, who very kindly gave a great deal of his time to answering my questions and to reading the chapter. This chapter as it appears was approved as accurate and just both by the editorial committee and by Dr. Rudolph. Certainly this seemed a sufficient safeguard against all major errors.

It was as a disinterested arbiter, one knowing and understanding thoroughly all sides of the many controversial matters dealt with in

this biography, that Dr. Rudolph was consulted, rather than Dr. Gies or any other person who had an actual part in the controversies.

The main tenor of Dr. Gies's criticisms appears to be that Dr. Owre received too much credit for his work on the Carnegie Survey and Dr. Gies too little. The reason is, of course, that the book is Dr. Owre's story. Had it been Dr. Gies's, Owre probably would have had the barest mention, if any. My apologies are herewith tendered to Dr. Gies for crediting a "commission" with the work that he performed himself. The documents I had (they are now in the possession of the Minnesota Historical Society) clearly indicated the selection of a *group* of men to carry on the survey, and contained no information that this group was dissolved before the completion of the investigation. Nor was this information given me by the committee on the biography nor by Dr. Rudolph.

My statement regarding Dr. Gies's opinions on Dean Owre's two-level plan for dentistry are based entirely on Dr. Gies's own letters to Dean Owre at the time of the Carnegie Survey.

Finally, I should like to make it clear that this biography—which points out Owre's faults as well as his virtues—takes sides with no person or party and has nothing to do with dental politics. It is entirely impartial and unbiased. I never knew Dr. Owre nor any of the other parties to the numerous controversies in which he was engaged. From all I have been able to learn, both he and Dr. Gies had the highest interests of dentistry at heart. They merely viewed those interests differently. The story of Owre's struggle for the realization of his ideas was written from as academic and dispassionate a viewpoint as if it had been a history of the Crusades or the Hundred Years War. It is founded on documentary sources and has been checked by competent critics. Apparently all of us have been guilty of the common human failing of making some mistakes. On that score we offer apologies to the persons or institutions concerned. As Mr. Wickham Steed has said in relation to another controversy, "I may be wrong in details, but I am quite sure I am right in substance."

B. LETTER FROM THE EDITOR (NEW YORK) TO MISS WILSON (MINNEAPOLIS): MARCH 4, 1938

Your letter dated February 22, 1938, which is greatly appreciated, will be published in our issue for March 1938. You did not point

out any mistake in our editorial discussion of your book; but if errors occurred, we would wish to publish your correction of them.

Your letter is very valuable for students of dental history in showing that the following general inference in our editorial comment (p. 270) was well founded: "Some of the many misstatements [in Miss Wilson's book] are so extremely divergent from the truth that it is impossible to believe they were intentional, or the results of carelessness. We prefer to conclude that the authoress was handicapped by incompleteness or onesidedness of the available records, or misled by fragmentary data or irresponsible private comment." Thus you say, for example, that the "documents" upon which you relied "contained no information that this group ['Carnegie Commission'] was dissolved before the completion of the investigation." Yet it was well known to all who were actively concerned in the Carnegie Foundation's study of dental education that the alleged "Commission" never had a conference, never was organized, and therefore neither existed nor "was dissolved." The provisional plan to create such a group of special collaborators, as our editorial comment indicated (p. 271), was abandoned long before the visits to dental schools were begun in the fall of 1921—and the study was actively in progress for five years thereafter.

A casual examination of several pages in the *Carnegie Foundation's Bulletin on Dental Education*, copies of which were easily available to you at the University of Minnesota, would have been sufficient to warn you that the selected "documents" upon which you depended for your erroneous statements about the alleged "Commission" might not be historically adequate. To use private "documents" and to ignore related published records, on the ground that the latter are "controversial" and the former are not, is the privilege of any writer of history, but this preference may not indicate either wisdom or impartiality, and the outcome may be unfortunate for all concerned. No statement of fact in the *Bulletin*, on current conditions, has ever been a subject of controversy, for the very good reasons that (a) complete information was obtained from as many as possible of the chief active living participants in the affairs of dental education—regardless of their relationships, opinions, and disagreements—without relying mainly on any set of selected "documents," and then (b) all of the said participants were invited to discuss the assembled state-

ments of fact until all detectable errors had been sifted out. To this end, in August 1926, after three series of galley proofs of all parts of the *Bulletin* had been carefully corrected by about 100 collaborators, including the dean of each dental school in the United States and Canada, bound copies of the page proofs of the whole *Bulletin* as then provisionally prepared for publication (exclusive of the Appendix and Index) were distributed to 250 collaborators, with requests for the return of each copy bearing indications, in the margins, of final corrections and concluding suggestions on all details. (See page 621 of the *Bulletin* for related comment.) In the copy returned by Dr. Owre, the margin of each page referring to the School of which he was then Dean carried an inscription indicating that all details were correct; and on the margin of the first page of general conclusions of the whole study (p. 239) he expressed (1926) hearty agreement, cordial congratulation, and eager anticipation of ensuing benefits for dentistry.

Your biography of Dean Owre was initiated by the faculty of a leading dental school, was issued by an eminent university press, and is being widely advertised as presenting "hitherto unwritten chapters in the history of dental education." It has been influentially presented to the public as one of the most pretentious additions to dental history in many years. Any book published under conditions that are so favorable to its general reputation rapidly acquires automatically an unusual momentum of acceptability, and is commonly assumed to be reliable not only in "substance" but also in "details." After such acceptance, any errors the book may contain, unless effectively corrected, soon gain currency as "history." With great regret we found that your book contains much, as statement of fact about dentistry, which, as we said in our editorial (p. 270), is "unwarranted, misleading, inaccurate, or untrue." Our editorial criticism of the book was not a childish endeavor to establish relative personal credits, as you have assumed, but instead and obviously was intended, with the aid of ten quotations and comment, to illustrate, publicly and protectively, the many misstatements of fact in your book. *Regarding the misstatements in these quotations therefrom, we indicated our belief that none had ever been made by Dr. Owre.* In our editorial you were credited with the virtues you claim and your book was debited with the errors we noted.

Perversions of fact in written history, however innocently they may be caused, should be publicly corrected. To show that our editorial criticism was not exaggerated, and to illustrate again the many misstatements of fact in your book, the perversions of truth that may flow from such "details," and the unreliability of the book as *dental* history, we select the following paragraph on page 70 of your chapter on the "Carnegie Survey"—a paragraph which, because of the erroneous assumption in your letter about relative personal credits and the absence of any allusion to Dr. Owre, is particularly well suited for this purpose in this letter:

"The last series of inspections of the fifty-two dental schools in the United States and Canada was completed in Kansas City, Missouri, toward the middle of May, 1922. Throughout its tours the Carnegie Foundation met for the most part with cordial cooperation and a sincere desire on the part of the dental schools to promote its work. There were, of course, a few notable exceptions, including one abortive lawsuit brought against Dr. Gies for casting alleged slurs on certain (unnamed!) dental schools in Kansas City. The suit was, of course, absurd, because while Dr. Gies has [*sic*] told the Chamber of Commerce of Kansas City that it harbored 'two plague spots of education in the way of medical schools,' he did not name the schools. It was simply a case, apparently, of the shoe's fitting."

The foregoing paragraph in your book is open to this fair comment: The number of dental schools in the United States and Canada, in [1921-]1922, was 51 not 52. The "Carnegie Foundation" never made any "tours." In the study of dental education under the Foundation's auspices, nine "tours," to include all of the dental schools in the United States and Canada, were made by the Foundation's representative, with associates, in the academic year 1921-22, as related on page 272 of our editorial comment. Throughout these "tours"—referring to them collectively—the faculty of every dental school in the United States and Canada gave "cordial cooperation" and showed a "sincere desire" to promote the work of the study. Therefore it is a gross departure from truth in dental history to state that "there were, of course [*sic*], a few notable exceptions"—or even a single exception—to the fine spirit of generous and cordial cooperation shown during these "tours" by the dental faculties, as duly acknowledged and acclaimed on page 241 of [the Carnegie Foundation's] *Bulletin Number*

Nineteen, which was issued more than ten years before the publication of your book. To support your misstatement about the alleged "notable exceptions," you say there was "one abortive lawsuit brought against Dr. Gies for casting alleged slurs on certain (unnamed!) dental schools in Kansas City." This further misstatement, and the rest of the paragraph quoted above, indicate that despite your intention to be "entirely impartial and unbiased"—and in this case also to be personally complimentary—you made a hash of the realities by failing to learn and to understand what presumably your selected "documents" did not show, but which was well known to very many persons: that

(a) there was only one *dental* school in Kansas City, Mo., at the time (since 1919)—[the Kansas City Dental College and the Western Dental College were united in 1919];

(b) this *dental* school (still there) never instituted a lawsuit "against Dr. Gies," but, instead, was earnestly and effectively cooperative with him throughout the Carnegie Foundation's study of dental education;

(c) the said "abortive lawsuit" was initiated not in 1921-22, the year of the "tours," but, instead, *in May 1924*—two years after the completion of the "tours" in the same city, and in connection with special advisory coöperation with a [local] committee on the organization of the then projected Lincoln and Lee University of Kansas City, *not in relation to the Carnegie Foundation's study of dental education*;

(d) the "abortive lawsuit" was instituted by one of the two proprietary *medical* schools in Kansas City, Mo., not by "certain (unnamed!) *dental* schools" in that city; and

(e) the "abortive lawsuit" never went to trial, because, after the plaintiff digested the "alleged slurs," it was realized that a statement of truth avowedly in the public service is not a good basis for a successful suit for libel.

One wonders why a paragraph that is so strikingly incorrect and misleading, and which has no relation whatever to Dr. Owre's personality or career, was imported into your biography of him. If this illustrative paragraph should remain uncorrected, it might occasion and would support such erroneous paraphrases, by reliant future students of dental history, as this:

During the progress of the Carnegie Foundation's study of dental education the Kansas City and Western Dental Schools, in Kansas City, Mis-

souri, were among the schools that, as notable exceptions, refused to cooperate, and in part manifested their opposition in an abortive lawsuit against the Foundation's representative for casting slurs upon them.

Many perversions of history are initiated in ignorance and good will, and repeated and propagated in confident reliance on earlier erroneous records. We add with pleasure—and welcome the opportunity to say—that the Faculty of the Kansas City-Western Dental School gave cordial and generous cooperation throughout the whole of the Carnegie Foundation's study of dental education, and does not deserve in any degree the unfavorable opinion to which the garbled history on page 70 of your book will by implication permanently subject that dental school.

Our editorial corrections of misstatements of fact in your book, and those above, are intended to protect dentistry and the dental profession against the consequences of error. We believe your good intentions in preparing the book were fully in accord with your statement of them. It is very regrettable, however, that any written history may be "entirely impartial and unbiased" and also animated by wholly admirable purposes, and yet be very inaccurate and unreliable. The same may be said of our editorials and letters. In our judgment the correction of misstatements of fact in any published history or record, regardless of their origin or authorship, is not only a public service but also accords with the spirit and objective of real research—earnestly to establish facts and faithfully to serve truth, impersonally and without fear or favor.

C. LETTER FROM DR. CHARLES E. RUDOLPH (MINNEAPOLIS) TO
THE EDITOR (NEW YORK): MAR. 18, 1938

(Copies of the correspondence quoted above had been submitted to Dr. Rudolph, to whom Miss Wilson referred as an "arbiter")

It was my privilege to read and discuss with the author, Miss Wilson, a portion of the biography of Dr. Alfred Owre, a number of months before the book went to press. The discussion was entirely general.

My meeting with Miss Wilson was in the nature of an interview at which I was expected to present information, if I could, which might aid the author in depicting any qualities of character not yet covered.

I am quite sure that I approved of the general trends of thought which Miss Wilson developed in my presence. At no time was I given to understand that I was responsible for the author's final statements for the biography.

I hope this statement makes it plain that my position was that of a general consultant.

D. EDITORIAL COMMENT

The assumption, in Miss Wilson's letter, that the "main tenor of Dr. Gies's criticisms appears to be that Dr. Owre received too much credit for his work on the Carnegie Survey and Dr. Gies too little," equals, in its lack of understanding, the statement that "apologies are herewith tendered to Dr. Gies for crediting a 'commission' with the work that he performed himself." The "main tenor" of the said criticisms was obviously a matter-of-fact correction of misstatements, regardless of relative credits; and, instead of suggesting that Dr. Gies performed the stated work "himself," the original criticism (p. 271) indicated that various groups, and fully 400 members of dental faculties including Dr. Owre, were directly and effectively cooperative.

The foregoing correspondence presents another example of gross inaccuracy in Miss Wilson's book (pp. 110-111). A very brief general consultation with a referee, on a whole chapter and more in the book, was regarded by the authoress as "a sufficient safeguard against all major errors"—mistakes on details were apparently assumed to be immaterial. The inaccuracies to which we drew attention were due, she states, to the misfortune that "competent critics" had not corrected them. In the preparation of the book, Miss Wilson relied by preference upon "documents" which were so incomplete, one-sided, or irresponsible, that the truth about such matters as the projected "Carnegie Commission" and the irrelevant "abortive law-suit" in Kansas City was neither ascertained nor stated. She assumed that, if a correspondent's letters in Dr. Owre's file failed to discuss any subject, the correspondent not only "had not given the matter much thought," but also had not expressed mature views on that subject to any one else. These and related conditions, affecting accuracy in authorship, indicate some of the reasons, despite an abundance of good intentions, for the "perversions of dental history in which the book abounds."

NOTES

Dental Cosmos and the American Dental Association. The following statement is quoted from a report on the Atlantic City meeting of the A. D. A. relative to opposition to "the transfer of *The Dental Cosmos* to the A. D. A." (*N. J. State Den. J.*, 9; 7; 1937, Nov.): "Another group vigorously opposed the action [of the House of Delegates in 1936 in authorizing the Board of Trustees to make *Dental Cosmos* a part of the *J. A. D. A.*] on the grounds that American dentistry has been zealously striving for a number of years to discourage the commercial interests in education, in practice, and in literature. To take over the *Cosmos* and to make it a part of our *Journal* was to glorify the commercial taint, and they stubbornly resisted a compromise of principle which seemed in effect a bargaining with the enemy in which there was at least no gain in their crusade." These stated reasons suggest this question: Did the universities that accepted various proprietary dental schools into integral relationship "glorify the commercial taint," or "compromise a principle?" Is it not a fact that, in these "mergers," the universities accomplished a public service by converting, in each case, a proprietary dental school into a non-proprietary one?—(1)

Dental research: Is the term inadequate? A "university news office," in a "release" for "afternoon papers" on May 26, included this statement: "*It is a growing conviction that 'dental research' is too narrow a term to be applied to the investigations needed to disclose the many-sided character of dental disease* [italic not in original]. Research workers in dental problems quickly find the need of invading the province[s] of the physiologist, the chemist, and other scientists. The sympathetic coöperation of the men in all departments of the university must be assured for the sound growth of both graduate teaching and research in dentistry." . . . No term other than 'dental research' was suggested. Perhaps "universal research" would be preferred in the said "news office" because this term would be ideally indefinite. Just why "dental research is too narrow a term" to indicate the whole of *research in dentistry* is not clear unless a pedantic view of "dental research" was taken in this "release." "Dental research" now means clearly the sum total of efforts to ascertain, by every available means, the import of all the facts relating to the teeth and their relationships. What term is more convenient, distinctive, or useful for the purpose?—(2)

OUR ADVERTISEMENTS

A policy intended to safeguard professional interests and to encourage the worthiest industrial endeavor

The basis and conditions of our policy relating to advertisements are set forth below (*J. Am. Col. Den.*, 2, 199; 1935):

I. Advancement of the material aspects of civilization is largely dependent upon the expanding production and distribution of commodities, and their correlation with individual needs and desires. Successful practice of modern dentistry, on a broad scale, would be impossible without an abundance of the useful products of dental industries. Leading dental manufacturers and dealers have been providing invaluable merchandise for the dental practitioner. The business of supplying dental commodities has been effectually organized and, as an auxiliary to oral health-service, is more than sufficient to tax the greatest ingenuity and all the attention and integrity of each dental producer and distributor.

The American College of Dentists aims, in the public interest, to strengthen all wholesome relations and activities that facilitate the development of dentistry and advance the welfare of the dental profession. The College commends all worthy endeavors to promote useful dental industries, and regards honorable business in dental merchandise as a respected assistant of the dental profession. Our Board of Editors has formulated "minimum requirements" for the acceptance of commercial advertisements of useful dental commodities (*J. Am. Col. Den.*, 2, 173; 1935). These "minimum requirements" are intended, by rigorous selection on a high level of business integrity and achievement, to create an accredited list of Class-A dental products and services, and include these specifications: Advertisements may state nothing that, by any reasonable interpretation, might mislead, deceive, or defraud the reader. Extravagant or inappropriate phraseology, disparagement, unfairness, triviality, and vulgarity must be excluded. Advertisements relating to drugs or cosmetics, foods, dental materials, education, finance—to any phase of interest or activity—will be accepted for only such commodities or services as merit the commendation, approval or acceptance of the National Bureau of Standards, American Dental Association, American Medical Association, Council on Dental Therapeutics, Dental Educational Council, Better Business Bureau, and other official bodies in their respective fields of authoritative pronouncement. *The welfare of the consumer is our paramount consideration.* In accordance with the recommendation of the American Association of Dental Editors, the placement of advertisements will be restricted to the advertising section.

II. An advertisement, to be accepted or repeated, not only must conform with the said "minimum requirements," but also *must meet the special test applied through a questionnaire* that will be repeatedly exchanged confiden-

tially with numerous referees in all parts of the United States, and which contains the following inquiries:

Questionnaire for referees on acceptance of advertisements.—(1) Has (person, company, service, etc.) always been honorable and fair in (his, their) dealing with you personally? (2) If not, indicate confidentially your experience to the contrary. (3) Has (commodity, service, etc.) always been, in your use of it, what its advertisers claim for it? (4) If not, indicate claims that were unwarranted when made. (5) Would the accompanying (copy of a proposed) advertisement of (commodity, service, etc.) be warranted, in your judgment, as a recognition and encouragement of useful dental commercialism? (6) If your answer to Question 5 is Yes, will you agree to test, *critically*, the above-named commodity (service, etc.) and to respond at intervals to our further inquiries as to whether all the claims published currently in its behalf, in advertisements in the *Journal of the American College of Dentists* or elsewhere, are justified?

III. The advertisers whose claims are published on the succeeding pages stand high in commercial character and on the recognized merits of their products (services, etc.). They are not among those who seek advantage from misrepresentation, and need no assistance from a prejudiced or insincere journalistic policy. They are above the temptation to try to control or influence any aspect of the conduct of this *Journal*, which in all its phases is completely independent, and fully representative of the professional ideals and the professional obligations of the American College of Dentists. We commend each advertiser in this issue to the patronage of all ethical dentists.

NEW BOOKS

The 1937 year book of dentistry. Diseases of the mouth, pathology and research; operative dentistry; oral surgery; prosthetics; orthodontics. Edited, respectively, by CHARLES G. DARLINGTON, M.D., GEORGE W. WILSON, D.D.S., F.A.C.D., HOWARD C. MILLER, D.D.S., F.A.C.D., CHARLES LANE, D.D.S., F.A.C.D., GEORGE M. ANDERSON, D.D.S., F.A.C.D. 1937: Pp. 808—6½ × 3½ in.; 574 illustrations: \$3.00. Year Book Publishers, Inc., 304 S. Dearborn St., Chicago, Ill.

Principles and practice of public health dentistry. By J. A. SALZMANN, D.D.S., Editor, *New York Journal of Dentistry*; Head, Dental Service, New York City Vocational Schools; Member, New York Society of Orthodontists, American Public Health Association, etc. Foreword by ALFRED WALKER, D.D.S., F.A.C.D., Member, New York State Board of Dental Examiners; Associate Professor, New York University College of Dentistry; Formerly Chairman, Committee on Community Dentistry, New York Tuberculosis and Health Association. With a special chapter by JOHN OPPIE MCCALL, A.B., D.D.S., F.A.C.D., F.A.A.P., Director, Murry and Leonie Guggenheim Dental Clinic; Chairman, Dental Advisory Committee of Committee on Neighborhood Health Development, New York City, and HARRY STRUSSER, D.D.S., Chief, Dental Division, New York City Department of Health; Lecturer on Dentistry, Columbia University College of Dental and Oral Surgery. 1937: Pp. 584—6½ × 3½ in.; 15 illustrations; \$4.00. Stratford Company, Boston, Mass.

Alfred Owre: Dentistry's militant educator. By NETTA W. WILSON. Foreword: GUY STANTON FORD; pp. vii-viii. Acknowledgments: N.W.W.; pp. ix-xi. *Part I: The Life of Alfred Owre:* Pp. 3-198. Chapters—(1) A boy from Norway. (2) The making of a dentist. (3) Dean at Minnesota. (4) At home and abroad, 1905-1915. (5) The war years. (6) The Carnegie Survey. (7) The last Minnesota years. (8) Dean at Columbia. (9) The Columbia Clinic under fire. (10) Dean Owre versus the dental societies. (11) The future of dentistry. (12) "Red medicine." (13) The last year. (14) "This living record." *Part II: Selected writings of Alfred Owre:* Pp. 201-304. *Bibliography and index:* Pp. 307-331. 1937 (Dec. 10): Pp. 331—6¾ × 4 in.; 11 illustrations (half-tone); cloth (purple, gold); \$4.00. University of Minnesota Press, Minneapolis, Minn. [See editorial reference, page 106, this issue.]



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The achievement of several years of painstaking research, Williams "XXX" (with Indium) is rightly called by many "today's finest partial denture casting gold." Uniform . . . homogeneous . . . strong . . . resilient . . . beautiful light coin color. Physical properties on request. Williams Gold Refining Company, Buffalo, N.Y.; San Francisco, Calif.; Fort Erie, N., Ont.

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with Indium

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Announcements

Next convocation of the College: St. Louis, Mo., Sunday, October 23, 1938. Headquarters: Hotel Statler.

Next sessions of the Regents of the College: St. Louis, Friday and Saturday, October 21 and 22; Hotel Statler.

Nominations for membership in the College, "to be acted upon at the St. Louis meeting, must be in the hands of Secretary Brandhorst, at 4500 Olive St., St. Louis, Mo., on or before July 23, 1938." *Nominations presented after that date will be filed for action in 1939.* A register of the present membership of the College is published on pages 15-37 of this issue. The *geographic distribution* of the active membership is indicated on pages 30-33.

Dental Research Fellowships. Applications for grants for assistance in dental research, in conformity with the plan adopted by the American College of Dentists to further dental research [*J. Am. Col. Den.*, 1937, 4: pp. 100 (Sep.) and 256 (Dec.)], should be sent to the Chairman of the *Committee on Dental Research*, Dr. Albert L. Midgley, 1108 Union Trust Bldg., Providence, R. I. See the personnel of this Committee on the list above.

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