

JOURNAL

American College of Dentists



VOLUME 21

NUMBER 4

December 1954

PUBLISHED QUARTERLY FOR GENERAL CIRCULATION
By
THE AMERICAN COLLEGE OF DENTISTS

\$3.00 A YEAR • 75 CENTS A COPY

JOURNAL

American College of Dentists

Presents the proceedings of the American College of Dentists and such additional papers and comment from responsible sources as may be useful for the promotion of oral health-service and the advancement of the dental profession. The Journal disclaims responsibility, however, for opinions expressed by authors.

Published Four Times a Year—March, June, September, December

Entered as Second Class Matter September 3, 1948 at the Post Office at Baltimore, Maryland under the Act of March 3, 1879 Copyright, 1954, by the American College of Dentists—*Made in United States of America*

THE WAVERLY PRESS, INC., BALTIMORE, MD., U.S.A.

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Entered in the Index To Dental Periodic Literature

American College of Dentists

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

Announcements

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

Next Convocation: Miami, Sunday, November 7, 1954.

Research

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

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American College of Dentists

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American College of Dentists

CONTENTS

Wisdom is knowing what to do next; skill is knowing how to do it,
and virtue is doing it.

David Starr Jordan

Editorial

REMINISCENCE: RENASCENCE

It has been said that there is a time in a man's life when he may be permitted to reminisce just a little. Of course, when he does this he is to a certain extent touching upon autobiography and autobiography is a dangerous thing to deal with for so few could or would tell the truth about themselves. But when a man looks back to the days of "the barefoot boy with cheeks of tan" there are many thoughts of yesterday which come into mind, and he might be permitted by "kind and beneficent readers" to indulge himself just a little in a story about a boy, not with an object of bringing the life of the boy before his readers but really with the idea of bringing out something of history that has passed and a little of the story of the present with perhaps a slight dip into the future. One might even demonstrate how it is in some instances that boys grow up and go out into the arena of life without a too-long formed desire.

This boy whom we might call Jay first saw the light of day in a little two-story house in the corner of two country crossroads and at the hands of the well-known midwife of that time. He grew up here to the approximate age of six years when he loaded his younger brother into the little 'red wagon' and dragged him three miles into the town where his father clerked in a drygoods store. This was at or near Lamoni, Iowa. Soon after that the itching in his feet became also an itch in the feet of his dad and they hit the long trek to California. This was after the era of the covered wagon but by a slow tourist train. Jay remembers very clearly the Chinaman on that train with his basket full of food. One of his bread twists, known today perhaps as a butterhorn, was given to Jay but, Oh, he couldn't eat it! It was not from the hands of his mother.

Jay arrived in California and settled on a little ranch in the northern part of the state which produced nothing but rocks, which, in the hot summer sun, were very hard on bare feet. A little later his father became a merchant at another country crossroads where the family lived until high school was finished. His mother wanted him to be a druggist but here he found himself between two conflicting emotions—he didn't want to be a druggist and he didn't want to

offend his mother. But after conversation with a druggist in a nearby town, the druggist himself answered this question by suggesting he take up dentistry. (Jay even refused to go to high school, and there was nothing his dad could do about it—only the cynical suggestion of another boy persuaded him to go on.)

It was in 1901 that Jay graduated from high school and within a few weeks thereafter the druggist had persuaded him concerning dentistry with these words: "Dentistry isn't much now, just a mechanical business, but by the time you are ready for it in ten years from now it will be becoming a real profession." This country druggist was correct for in 1912-15 the X-ray was introduced into dentistry; McCollum came along teaching food and nutrition; Black introduced his technique in cavity preparation with rules therefor and men began to think differently.

Jay spent two or three years in business between high school graduation and entrance into college, having advanced to a very good position within that time. The conditions were such that he became definitely convinced that he should go on with his study of dentistry and for which he has been a thousand times glad.

One might divide the professional period through which Jay passed, or is passing, into three: First, there was the Mechanical Era up to 1900. During this time there was a development of many schools, some no doubt with an eye to profit to be gained therefrom but mostly as Friesell¹ has pointed out, with professional aim. The methods used were empirical and the ideas were almost wholly mechanical. But in the early years after 1900, even extending to 1935, physics and chemistry were introduced into the curriculum and the scientific approach was developed. Here now men began to think. There was no biochemistry, no pharmacology, no research, but out of the study of these inanimate sciences there came in part, at least, the new sciences—pharmacology and biochemistry with sociology and psychology—which revolutionized both attitude and practice, because of understanding or increased knowledge. These all have been included now into what is termed fundamental, basic or sometimes medical sciences. Through these different eras it is easy to be seen, that we have passed from the one termed repair, into the second, control, and now into the third, preventive.

¹ FRIESELL, H. E.: Some Problems of Dental Education and how they are being solved, *J. Allied Den. Soc.*, 11, 222; 1916. See also p. 52.

But here again the teaching of students has come up against another stone wall. We are in an age of technology and dentistry is a very technological profession, therefore, the question of correlation between scientific teaching on one hand and technical teaching on the other is one of immediate concern. During these years, too, the schools have undergone a complete change. In fact, the whole change may be considered as a revolution for the number of schools was greatly reduced and with but one or two exceptions have now become members of the university family. In other words, dental education is now recognized as a cultural education and as a member with equal rights with other members of the university family.

When Jay stops to consider the growth and development and changes that have taken place within his profession and the further fact that he has had some part in that, he comes up now to his later years with a feeling of gratitude. Gratitude for the thought, however it may have come to his mind, that led him into the profession; gratitude to the country druggist who advised him and just plain appreciation of the fact that he has had the opportunities which have been his. He has seen training become real education. He has been associated with a group of men capable of carrying two majors—their profession (dentistry), and the profession of teaching. He has seen the professional associations develop into large institutions through which members of the profession may take their places with other social groups. He has seen literature change from that owned and controlled by supply houses to literature owned and controlled by the profession and with professional aims only.

It is in this latter field that he has had most to do. He was editor of his college annual in 1908. Then, beginning in 1917, he has been in the editorial field continuously, so all of the growth and all of the changes and all of the developments have been in the forefront so far as his own life is concerned. Jay learned however, a dictum which was laid down by John Stuart Mill long years ago and which read something like this: Education may be defined as “. . . the culture which each generation purposely gives to those who are to be its successors, in order to qualify them for at least keeping up, and if possible, for raising, the level of improvement which has been attained.”² Jay has seen this accomplished within his own time and

² Idealism in Education: H. H. Horn, Ph.D.; McMillan Co., 1916, p. 63.

when he contemplates the high level of attainment turned over to his successors as compared with that level received by his generation in the beginning, he is thankful again.

Names should be named and there are many whose names could be included but perhaps the "kind and beneficent readers" alluded to above will allow one individual to express himself. With that confidence in mind, Jay dares to suggest, as he looks out over the years that have passed and those prior even to his own coming, the following men who have contributed so much. One cannot overlook, of course, that one known as the father of dentistry, Fauchard. Then came the founding of the first dental school in the world in 1840 by Hayden and Harris. Along with this came the first dental societies and dental journal which would add the name of Solymon Brown to those other names. From here we jump over to the 1880's, the time of W. D. Miller who introduced science into dentistry. Then in 1908, G. V. Black introduced technical procedures which basically will probably never be changed although there will be some refinements. The late H. Edmond Friesell, a stalwart figure in dental education for nearly fifty years made no little contribution in the matter of educational administration. There is one other, a former dean of Jay's alma mater, James Sharp, who really introduced the idea of a study of the dental curriculum by the Carnegie Foundation for the Advancement of Teaching and who should not be overlooked in this group. These named have passed on to their rewards, but one, a dentist ever anxious about his profession still lives and still struggles for its betterment. Doctor Albert L. Midgley was secretary of the original Dental Educational Council of America and gave not only much of his time but his money as well for the further development of his profession. Then, on top of these, comes the man set apart to do that job by the Carnegie Foundation, Dr. William John Gies, a biochemist. It is to him and to all of those associated with him that dentists can pay obeisance for what has been accomplished and much of which has been accomplished within Jay's own lifetime.

It is, therefore, with a great deal of satisfaction that he lays down his own armaments, not because of what he has done but because of what he has seen done. And it is with a feeling of confidence that he sees labors taken over by a succeeding generation, a leader among whom expresses these concerns:

"I am concerned with the emphasis being put by the profession on economics and practice management . . .

"I am concerned with the attitude of our state officers and committeemen toward recent union proposals concerning dental services . . .

"I am concerned with the attitude of students toward the money making possibilities of the dental profession . . .

"There are these and other concerns and I am sure you have some of your own . . . The American Colleges of Dentists represents the majority of leaders and doers in the dental profession and . . . should take the lead in guiding our profession along the line of continued good public relations."

Is there any wonder then that Jay has any but a feeling of confidence as to the future in the hands of men like this? While there are certain difficulties to be encountered when it comes to the time a man has to lay down his tools and turn over his labors to the oncoming generation, yet it is splendid when he can do that with a feeling of confidence and a feeling of pleasure in expressing his good wishes to those who should follow and to realize that after all the new generation will "do it better." Perhaps at such a time there is no better place to find consolation, if that need be found, or to find that which will buoy one's confidence than Tennyson's poem "Ulysses" in which the great warrior, is pictured as having come to that time when he must turn over his labors to his son:

"It little profits that an idle King,
By this still hearth, among these barren crags,
Match'd with an aged wife, I mete and dole
Unequal laws unto a savage race,
That hoard, and sleep, and feed, and know not me."

And again:

"This is my son, mine own Telemachus,
To whom I leave the scepter and the isle—
Well-loved of me, discerning to fulfil
This labor, by slow prudence to make mild
A rugged people, and thro' soft degrees
Subdue them to the useful and the good."

THE COMPLETE EDUCATION OF DENTISTS

B. FRANK GILLETTE, Ed.D.¹, *Inglewood*

Open-mindedness, willingness to experiment with and test new ideas, cooperativeness, freedom from prejudice, ability to enjoy leisure, and freedom from boredom—these are the “Marks of an Educated Person,” said Willard C. Fleming when he delivered the Presidential Address to the September 1952 Convocation of the American College of Dentists. In closing his inspirational address, he challenged the Fellows of the College to help produce men and women for the dental profession who would show such qualities.²

A year later there was published the 1953 Convocation address of Shailer Peterson, Ph.D.,³ entitled “A Balanced Educational Program for the Professional Man.”⁴ After reviewing certain accepted reasons for broad educational experiences for dentists, the speaker proposed a number of specific ways in which the professional worker could balance his highly specialized, technical education with other important learnings. Like Dean Fleming, Doctor Peterson appeared to rely most heavily upon experiences and personal growth that come after the dentist has been awarded his D.D.S. degree.

During the first six months of 1954 this writer had the unusual opportunity as a non-dentist to work with the College of Dentistry, University of California in the capacity of Director of a Curriculum Survey. Since this was my first exposure to the problems of dental education, I was not fully prepared for the onslaught of opinions expressed by dentists as to the areas of greatest need. Right from the beginning of the study it was evident that the concerns expressed so clearly by both Fleming and Peterson were to be echoed in an examination of the undergraduate curriculum. Equal in importance to the demand for a critical study of the scope and sequence of technical, “dental” experiences was the feeling that the “other” roles of a dentist be studied.

The Survey made rich use of the wisdom of graduates. Six alumni committees were designated to discuss certain aspects of the objec-

¹ Director, Curriculum Survey, College of Dentistry, University of California, 1954.

² *J. Am. Col. Den.*: 19, 325, 1952 (Dec.).

³ Secretary, Dental Educational Council.

⁴ *J. Am. Col. Den.*: 20, 207, 1953 (Dec.).

tives and the curriculum of the college. One committee in particular was assigned the specific task of drawing up a list of personal, non-technical attributes considered to be indispensable for the "ideal dentist." This committee, consisting of eight graduates from the classes of 1918 to 1952, tackled its assignment with vigor and dedication. Its conclusions were unequivocal: "The young dental school graduate should have certain personal qualities beyond his technical competence. He must have certain ideals, certain standards, certain attitudes if he and his profession are to grow in stature."

This committee went on to affirm that the insuring of these personal qualities was a responsibility that should not be put aside by his Alma Mater. Needless to say, these spokesmen wanted to maintain a continuous pride in the quality of dental workmanship practiced by their fellow alumni of a newer generation, as well. A genuine concern for quality of clinical dentistry has been and must continue to be paramount. The concensus of these statesmen, however, was that such technical competence was in no danger of decreasing merely because more attention was to be paid to the broad education of the future dentist. They believed that too many of their honored profession do not have Dean Fleming's "Marks of an Educated Person," even though they might be quite satisfactory as far as their operative, prosthetic, and other skills and understandings were concerned. The lack of open-mindedness, experimental attitudes, and freedom from prejudice was too pronounced in themselves and their professional colleagues to be overlooked or ignored.

This alumni committee's indictment of dental education was not restricted to that carried on at their own college. These men were genuinely loyal to California, determined to assist the college in contributing even more to the up-grading of the profession. Their convictions were directed generally against all colleges of dentistry. Their conclusions could in no sense be considered as unique to the University of California.

These views as to the incompleteness of dental education were shared by the other five alumni committees, by many individual graduates who corresponded and conferred with the Director of the Curriculum Survey, by many members of the faculty, significant numbers of students, and by a number of selected laymen. Dental literature, too, supports the general thesis that dentists (and certain

other professional groups) are not as broadly educated as they should be.

By why get agitated about a broad education for dentists? Isn't that aspiration just a "frill," just frosting for the cake? Can one really point up specific values resulting from the kind of dental education where breadth is stressed? Many values could be cited, not the least of which is the realization that the intensesness of his work and the constraints of his practice make it imperative that the dentist be philosophically attuned to the world around him. Ours is undeniably a culture caught in a maelstrom of strain, conflict, frustration. However much we may try to conceal our "schizophrenic" symptoms from ourselves, our American culture cannot deny the existence of such chronic oppositions as:

self-interest versus social interest
inequality versus equality
planlessness versus planning
absolutism versus experimentalism

It would be hoped that the dentist who is broadly educated in the great educational foundations would find it easier to grapple with such chronic oppositions as he shapes his personal life and professional practice. His philosophy would help him recognize the traps that exist in holding fast to quickly-gained "absolutes" and "truths." He would recognize increasingly that facts are true only in their frames of reference—which means that they would be false in others. Fact-learning by itself will become a fruitless venture as this truly educated dentist gives his allegiance to larger and larger contexts and theories. The satisfaction he may have had at one time in adding isolated facts to his body of knowledge will give way to disdain when he admits with George Stewart in *Man: An Autobiography* that "A fact is a homeless waif, until a theory takes it in and gives it shelter."⁵

In the Curriculum Survey, the upshot of the preliminary investigations was a faculty decision to recognize the importance of "non-technical" qualities by including them in an overall statement of objectives for the undergraduate program. This statement of objectives—which forms the goals toward which selection of students, the curriculum, and the whole instructional program lead—de-

⁵ Stewart, George R. *Man: An Autobiography*. New York: Random House, 1946. P. 290.

scribes the dentist as a person who must play two roles: (1) the dentist as a practitioner of a special health service (clinical dentistry); and (2) the dentist as a member of a health profession, a citizen, and a person. Admittedly, the two roles overlap and interact with each other on many occasions. Setting them down as two separate roles has virtue chiefly in giving proper attention to those qualities in Role 2 which too often are taken for granted, ignored, or considered to be somebody else's business.

The faculty of California's College of Dentistry has now given its endorsement to this statement of objectives. The "means," however, are often harder to establish than the "ends." To illustrate the size of the undertaking which lies ahead, the major headings under Role 2 are listed below:

1. Pride in dentistry
2. Relations with fellow dentists
3. Professional support and leadership
4. Conduct in public
5. Local civic welfare
6. National citizenship
7. Physical well-being
8. Mental well-being
9. Morals
10. Culture and breadth
11. Social skills
12. Communicative skills
13. Intellectual vigor and maturity
14. Work habits

Those fourteen headings suggest the qualities possessed by an ideal dentist, recognizing individual differences among men and women and not subscribing to a stereotyped ideal in the process, of course. Considerable detail must be provided under those headings before a full understanding of the goal is possible.

How can such dentists be produced? The well-rounded person depicted by our dental statesmen as an ideal toward which we should aspire could probably trace his breadth to a number of sources. He would be the product of an educational system which included these foundational studies:

1. The study of culture—the social sciences, not omitting anthropology and sociology
2. The study of human behavior—the biological and psychological sciences

3. The study of man's expression—the fine arts
4. The study of the universe and particularly the earth—the physical and biological sciences
5. The study of man's goals and values, his objects of allegiance—philosophy and religion

Such general education for the well-rounded dentist is no more ambitious than that regarded as so desirable for all men who have the capacity to undertake it. This is a view of what is so often called "general" or "liberal" education. How poorly such a goal has been realized for the general citizenry, we need not admit in apology, but somehow we expect fewer deficiencies among professional men and women. The average laymen, too, expects that his dentist, physician, teacher, lawyer, and minister will be broadly educated in the above foundations—albeit to varying degrees in the separate areas.

The skeptic proclaims almost immediately, that such qualities cannot be obtained without gross sacrifice of the "fundamentals," the technical skills of the dentist-to-be. One cannot be both broadly educated and technically skilled, the "practical" man opines.

Such an argument cannot be dismissed lightly, for everyone is interested in providing the public with better and better dental diagnosis and therapy. No one would defend a system of granting the coveted D.D.S. degree to a man primarily because he was "a gentleman and a scholar, well versed in the arts."

This writer believes that the complex job of achieving this more-completely educated dentist can be tackled by schools of dentistry with reasonable assurance of success and without jeopardy to the achieving of technical competence. The success, it is ventured, will probably depend upon getting suitable answers to some very searching questions, the most important of which appear to be:

1. Is the faculty really convinced of the importance of achieving more broadly educated dentists? If a faculty does not subscribe enthusiastically to this ambition, failure is almost certain.

2. Is the faculty broadly educated itself or at least moving decisively in that direction? The dental school faculty which is made up predominantly of narrowly-trained, highly competent specialists who live, breathe, and talk dentistry exclusively is not very likely to dedicate itself to the task of producing broadly-educated dentists.

3. Does the school curriculum itself and the total school environment contribute to the broad education of students? Obviously, this

does not mean separate courses in the already overcrowded program for "open-mindedness," "the scientific method," "public speaking," "dentist-patient relationships," "citizenship," or other important outcomes.

4. Are students selected for admission to the dental school on the basis of overall promise as future dentists—including qualities related to Role 2? This is a difficult question, for selection at its best is compounded of many uncertain and inadequate yardsticks. Progress has been made in recent years in some facets of selection, however, and there is reason to be optimistic on this score.

5. Is the faculty performing efficiently as *teachers*? It was no surprise to discover throughout the Survey that much criticism was directed against the quality of teaching itself. As editor, (Gurley), of this Journal expressed it a short time ago⁶ "Teachers in professional schools are virtually required to carry two majors—dentistry and teaching." For many members of the faculty the major in teaching becomes a badly neglected minor—a fact readily admitted by faculty members themselves in all schools. This question must have a strong affirmative answer before much headway will be made in broadening the educational pattern in dental schools. Here, too, the writer is optimistic about continued progress in "helping dental school teachers learn how to teach."

6. Is sufficient effort being made to improve educational practices on lower levels? We hold no brief for the university professor who dismisses all student failures and narrowness with blanket indictments of "poor teaching in the elementary and secondary schools and lower division of the college." At the same time, there is no reward in blinding ourselves to ineffectiveness of teaching at those levels when it does exist. This writer—who accepts proudly the label of "educationalist" and often rises to the defense of modern education against those critics who make unfounded, destructive charges about it—knows that there are student weaknesses which can be traced back to impoverished or ineffectual educational practices on lower levels. Only one example need be cited, that of the generally recognized inability of university students to attack problems scientifically. Dean Fleming's cherished ideals of "open-mindedness" and "willingness to experiment with and test new ideas" almost certainly

⁶ Personal communication.

are frustrated because students do not grow up in an educational environment calculated to produce those abilities.

Many other pertinent questions could be raised. A forward-looking profession must face all of them fearlessly in trying to find workable answers. This is a formidable task, but certainly not an impossible one if the profession is to be peopled more and more with dentists who can be recognized by their fellows and by laymen as men of competence, breadth, and vision. Fulfilling such a task requires educational statesmanship in its highest form. The American College of Dentists must continue to initiate that kind of statesmanship.

"A few men build cities—the rest live in them.

"A few men project subways—the rest ride in them.

"A few men erect skyscrapers and factories—the rest toil in them."

WILLIAM J. HUTCHINS

President Emeritus, Berea College

COMMENCEMENT ADDRESS¹

REAR ADMIRAL LAMONT PUGH (MC) USN², *Washington*

I am honored to have been invited here this morning and I am flattered to have been asked to speak.

I have attended many graduations and I am interested to note that most graduating speeches appear to follow an orthodox pattern. I am sure I could elect to grind out something of a graduating song and dance act in one of several keys and I could recite to you how my respect for the profession of dentistry has become greater and greater as time has passed, and how, with no thought of appearing disrespectful or ungrateful to the providence that gave me my first and second sets of teeth, that the profession of dentistry has provided me with a third deal (partial deal, I might say), that is for more satisfactory and durable than either of the preceding; how that their services to me have not been confined entirely to my teeth but include the *scarab* which comprises the set in a ring I wear. This *scarab* contains several fillings and with a few more disintegrations, with subsequent restorations by my dental friends, I expect ultimately to acquire a *scarab* consisting entirely of a series of inlays that will be better looking than the original and far more durable. I could tell you how I have discovered certain attributes of the artist which constitute the major ingredient in the make-up of the dentist. I could tell you what good judges of good and handsome women I have observed our Navy dentists to be and moreover, how successful they appear to have been in prevailing upon these ladies to grace their homes. I could also remind you of my evaluation of the Dental Corps of the Navy in terms of provision of a stimulus for the Medical Corps to continue looking ahead, lest it be left looking like an "also ran".

I want also to compliment the Dental Corps of the Navy upon its foresightedness and enterprise in the creation of a mannikin which has been on display several places, thus educating not only dental officers but the public as well, on emergency first aid handling of various types of injuries. This, I think, is a detail meritorious of much praise and genuine credit. It is, I might say, in keeping with the spirit of

¹ Graduation exercises, Naval Dental School, Bethesda, Md.

² Surgeon General U. S. Navy.

progress, ingenuity and resourcefulness which I have come to recognize as a characteristic of the profession of dentistry in the Navy.

I could remind you of how profoundly I have been impressed by the quality and quantity of dental care that I have observed being provided to Marines in the theater of combat. I could remind you that this Dental School is essentially unique in its existence and its mission. I could remind you that among the most willing, capable, versatile, and redoubtable members of my staff in the Bureau of Medicine and Surgery have been members of the dental profession. Their willingness and versatility have by no means been confined to matters of interest to the dental profession per se, but to the Medical Department of the Navy and to the Naval Service as well. And finally, their contributions to the best interests of the Navy naturally accrue to the best interests of the Nation.

It is gratifying to me to note that the members of this graduating class all belong to the Regular Navy. I am pleased to note the presence here of one, a native of Brazil, our good neighbor to the south. I trust that he has profited in a full measure by his attendance here and that he will carry back to Brazil a full measure of good will for the Naval Dental School, the Naval Dental Corps, the Navy, and the United States.

Graduation, whether it be the first or the thirty-first, connotes one thing in common, the negotiation of another hurdle. It is by successive and successful negotiations of hurdles that we make progress. Regardless of whether the course upon which we set out is to be long or short, we cannot begin it without taking a first step. Each succeeding step taken and each succeeding obstacle overcome bring us added rewards found in satisfaction of service and in pride of accomplishment. Pride of accomplishment is a most important matter. It is an attribute which finds a particularly prominent and peculiarly striking expression in the profession of dentistry. It is in fact one of those qualities I like to think of as being common to both dentists and artists. When this attribute is lacking in an individual mediocrity or inferiority dominates his life. When it is lacking collectively in the people of a nation that nation tends towards mediocrity and inferiority.

We have heard much of late about what's wrong with the Armed Services and I think many of the points or details that have been

held up for public view have been well taken. Among those qualities listed which are becoming short in their supply in America are leadership, dedication, pride in service, and pride in accomplishment. When asked how he explained his victory over the Russian Fleet at Tsushima Strait in the early part of this century, which was really one of the great naval battles in modern history, Admiral Togo of the Japanese Navy is credited with having explained that the Russians lost principally because they lacked three things: marksmanship, seamanship, and leadership. Hence, it is gratifying to me to see a group of members of the Regular Navy who may be said to constitute a special group to whom we may look for leadership and restoration of those qualities which have come to be in such lamentably short supply in our Navy.

This leads me to devote most of the remainder of my time to the life of a remarkable American. He was born in Philadelphia in 1746, the fourth in a family of seven children. After attending private school and receiving his academic training at the College of New Jersey at Princeton, he studied medicine under a private tutor in Philadelphia then went to the University of Edinburgh, where he graduated in 1768 at the age of twenty-two.

In 1769 he returned to Philadelphia and began a long and remarkable professional career that was to be packed with variety and color. He early revealed a flair for writing. During his life he published a number of pamphlets on a wide variety of topics, ranging all the way from a treatise upon the maple sugar industry and the medical practice of the American Indians, to one upon the preservation of the health of soldiers. This latter was a pioneer work on military medicine and was used by the surgeons of the Continental Army as a standard guide during our Revolutionary War.

As a physician he was said to have been an extremely successful general practitioner and to have had a tremendous practice. Among his more notable professional accomplishments or contributions as a disciple of the healing art were those related to his interest and activity in dengue fever, about which condition he published in 1780 an article bearing one of the earliest descriptions of this disease. In 1793 he played what is described as the role of a hero during an outbreak of yellow fever which reached epidemic proportions in Philadelphia. However, his most important contribution to medicine was

through his authorship of the first formal book on diseases of the mind. Thus would there appear to be valid reasons for regarding him as the first American psychiatrist.

As a politician he became involved in some of the most bitter conflicts of opinion of his day. Among other things he advocated the replacement of George Washington as Commander-in-Chief of the Colonial Armies. In fact, he wrote a letter to Patrick Henry strongly insisting that Washington be ousted in favor of General Horatio Gates. Patrick Henry turned the letter over to Washington but Washington had a great deal of respect for the innate ability of his critic and opponent for he appears to have taken no definitive action against him.

The prowess of this remarkable man as an educator is indicated by the fact that he was foremost proponent of the establishment of a medical school at the University of Pennsylvania. He was also instrumental in the establishment of Dickinson College at Carlisle, Pennsylvania, and the College of Physicians at Philadelphia.

But as notable as were the achievements of this paragon of mankind in his various and varied fields as a doctor, as a scientist, as an author, as a pamphleteer, as a reformer, as a progressive educator, as a teacher, as a soldier, and as a politician, it was in his role as a statesman that he made his most indelible mark. In 1776 he became a member of the Continental Congress and in 1777 he became Surgeon General of what was then known as the Middle Department, i.e. one of the three military divisions during the American Revolution. This title was later changed to that of Physician General. As a member of the Continental Congress he signed the Declaration of Independence, along with four other physicians, and in 1799 he was appointed Treasurer of the United States Mint in Philadelphia.

An accomplishment of much note for which he is given full credit rests in his successful insistence that the soldiers of the American Army, for whose health he was responsible as Surgeon General, be vaccinated against smallpox. In this advocacy he met violent opposition. Washington, however, regardless of the doctor's personal criticism, supported him, whereas General Gates, along with several other general officers, strongly resisted the effort.

There is another count upon which this celebrated American patriot is deserving of honorable mention. In 1776, a most significant year in our history, he married the daughter of Richard Stockton,

another Pennsylvania signer of the Declaration of Independence. Of that wedlock thirteen children were born, nine of which grew to adult age. Two of his sons were physicians. One of them became a lieutenant in the Medical Corps of the United States Navy. The other, I might add parenthetically, became Secretary of State and Attorney General of the United States and was also Ambassador to Great Britain and to France.

On the 19th day of May, 1813, this man died. He was buried in the graveyard of Christ Church, 5th and Arch Streets in Philadelphia, at a spot about fifty yards from the grave of Benjamin Franklin, whose name immediately precedes his on the Declaration of Independence. The first name of the man whose biography I have sketched was, as a number of you may have already guessed, also Benjamin—Doctor Benjamin Rush.

The question might now and quite logically be raised as to why I have chosen Benjamin Rush as the central figure of my address. To that question I would reply that a certain appropriateness can be found in the fact that he was almost the first, if not the very first member of the medical profession to insist that there was a definite relationship between dental decay and certain systemic diseases of individuals. But aside from that fact; aside from the fact that one of his sons entered the Medical Corps of the Navy; aside from the fact that the only statue on the compound of the Bureau of Medicine and Surgery of the Navy is one of Benjamin Rush; and aside from the interest inherent in the fact that a review of his life of two centuries ago, brings to light the same brand of strife, strong personal differences, contentions, and political intrigue, as of today; aside from all of these interesting facts and fancies, there is ample justification for choosing the man, Benjamin Rush, as the central figure of my discourse this morning. Here was a man richly imbued with many outstanding attributes and among the most outstanding of those attributes were the qualities of a great civic leader and statesman. It is of foremost noteworthiness that he manifested on every hand an abiding passion for service to others rather than an interest in self-aggrandizement. This was in all probability his most dominant and indeed his most noteworthy attribute. It was undoubtedly the quality most responsible for his interest in medicine and dentistry.

The total of a nation's assets in personnel and in material things, both qualitative and quantitative, can be no greater than the sum of

its component parts. The history of America bristles with great individuals. The history of England similarly bristles, as does, in fact, that of the whole Western World when men are put to the test. On a night in April, in 1775 a man by the name of Paul Revere risked not only a good business in gold, copper, silver, and brass, but his life, in the interest of a principle. It has been due to great individuals and to the kind of freedom in which great individuals thrive that this and other nations have grown great, and not under the stifling miasma of a police state nor in the atmosphere of self-satisfaction and "ignoble ease".

It is therefore, highly incumbent upon us to bear this in mind and to exert unremitting effort to the end that our kind of freedom, and our way of life, will endure and that great individuals can continue to live at liberty within our midst, that they may with freedom move among us and in response to the dictates of their personal convictions stand up and be counted.

It has been said that a politician is a man who looks forward to the next election while a statesman is a man who looks forward to the next generation. There is no element in the woof and warp of our sociological, economical, or political order better qualified to distinguish between politics and statesmanship than that represented by members of the medical and dental professions. There are none among our citizens better qualified to appreciate the importance of our sociological or economic integrity than is that group. I use the term "economic integrity" advisedly and would point out that there is a distinct difference between economic integrity and economic security. Security is a term considered by many to have been overworked of late. Opportunity used to be acclaimed as another great American resource. With a shift, however, of our political emphasis from opportunity to security our social, economic, and moral status began to decline. While I do not believe I am at all given to the tendencies of an alarmist, I do want to say there are extant in our Nation today, not only among those comprising the uniformed forces, but also many civilians, certain manifestations that augur ominously for the welfare and indeed survival of this Nation as a foremost world power.

If asked what in my opinion is most significantly lacking from the present-day woof and warp of our moral fiber, I would say it is the lack of enthusiasm and indeed willingness to make personal sacri-

fices, to endure personal hardships. to the end that our Nation may remain powerful. There are hanging on the walls in my office several framed abstracts from different sources. One that faces my desk, due to my increasing presbyopia, I can almost read where I sit, is from a speech of Theodore Roosevelt. It reads as follows:

“I wish to preach not the doctrine of ignoble ease but the doctrine of the strenuous life. Far better it is to dare mighty things, to win glorious triumphs, even though checkered by failure, than to take rank with those poor spirits who neither enjoy much nor suffer much, because they live in the gray twilight that knows not victory nor defeat.”

I would close with that quotation but with a desire to pay tribute to another of my fellow countrymen, I shall add a quotation from Woodrow Wilson:

“Live by enthusiasm. Don’t be driven by necessity, and if you fail, make failure a stepping stone.”

Each succeeding step taken and each succeeding obstacle negotiated will bring you nearer and nearer to that part of your course where the shadows will lengthen and the evening will come. Then may you have earned that satisfaction that singularly can be had with the realization that you ran a good race, that you fought a good fight, and that above all you kept the faith.

People who don't let grass grow under their feet are most likely to be in clover.

PROFESSIONAL INTEGRITY AND RESPONSIBILITY

COL. JACK M. MESSNER, USAF, (DC)¹

The Base Dental Surgeons Course which you have completed is one of the most comprehensive administrative courses yet made available to a Dental Surgeon. Summing the course up, briefly, you have received the technical 'know-how' necessary for the administration and operation of most any kind of dental activity. You have observed that your lectures embodied the very subjects that concern all Commanders, and which are the administrative procedures necessary to the operation of separate dental organizations.

Whether you are a Dental Surgeon without Command responsibility or Commander of a Dental Squadron, with full command responsibility, your success is not in any way assured or guaranteed just because you have successfully completed this course. The subject not included in this course, but which is most essential to your future success is one which can not be taught. But what seems to be a lack of it may often mean only that it has not been developed or given a chance to show itself. I refer to those attributes of leadership which characterize a man with dynamic qualities, integrity of character, and a willingness to accept responsibility.

The quality of being dynamic means striving always to drive ahead, to break new trails, to engage in new ventures, to discover new things, to move into the unknown. It is a desire for change, skepticism of things as they are, an urge to stay ahead, and to do better. It is a wish for growth and an abiding fear of stagnation. It shows in an urge to accomplish. But unless the Dental Surgeon also has an urge to forge ahead and to do new things, he is simply administering things as they are and maintaining the *status quo*. In the end he will probably administer his organization right into the ground. Governments and institutions may be the gathering places for this passive administrator. His eye may be on a pension, not on real progress. Then there is the man who would sacrifice the principles and ideals of his profession for a promotion or some other personal gain. To such individuals the words of Robert Louis Stevenson may be apropos;² "You cannot run away from a weakness; you must

¹ Graduation Address, Wing Base Dental Surgeons Course, Gunter Air Force Base, Alabama, February 5, 1954.

² The Amateur Emigrant; Bartlett's Familiar Quotations.

sometimes fight it out or perish; and if that be so, why not now, and where you stand”?

He who cannot face the truth, believing in the strength of his profession, will cause his community to suffer professionally and he will never enjoy success in the eyes of his colleagues. If you are not loyal to your self you will never be loyal to another. Follow the admonition of Shakespeare who said;³ “This above all—to thine own self be true, and it must follow, as the night the day, Thou canst not then be false to any man”.

I wish to emphasize another point here—it is you—the members of this Class—the backbone of the dental profession in the United States Air Force. It is you who must have the courage of your convictions and a keen desire for successful achievement. A man usually prefers success in a specific field. Regardless of his specialty, the Dental Surgeon must continuously channel his thoughts and efforts to the development and progress of his profession. This endeavor has the unselfish purpose of providing better oral health to the people to whom we are responsible.

Let me warn you, your path will be blocked many times by those who do not understand or comprehend, that what you are doing is for the benefit of someone else, and that you are not cultivating yourself for selfish personal gain. And may I add that often it is the individual to whom we render service who offers us the most resistance. At times you will be most discouraged and you will make mistakes. You may even meet resistance by those in your own profession who have become tired and weary and whose vision has grown dim with the passing of time. I like to think of Henry Van Dyke who said;⁴ “Courage is a virtue that the young cannot spare; to lose it is to grow old before the time: it is better to make a thousand mistakes and suffer a thousand reverses than run away from battle”.

On this, your day of departure from this splendid school, I would have you know that each of you will be expected to contribute to the building of a better Dental Service. This is your profession; this is your Air Force; and no one is going to do it for you. It is up to you and let me add, you should not be satisfied with anything less than the best. Your success can only be attributed to infinite patience,

³ Hamlet, Act 1, Scene 3.

⁴ Courage; From Poems collected under the title, *The Bright Side*, Chas. R. Skinner, Noble and Noble, Publishers.

hard work, and a desire for success that does not recognize defeat. To accomplish this, you must find within you a highly motivated conscience. You must have unshakable self respect, resolution, and moral and physical courage. Integrity of character is that quality which makes you perform the more difficult task when you know it to be the right one; that quality which forces you to be selfless instead of selfish. Was it not Theodore Roosevelt who said;⁵ "Far better it is to dare mighty things, to win glorious triumphs, even though checkered by failure, than to take rank with those poor spirits who neither enjoy much nor suffer much, because they live in the gray twilight that knows neither victory nor defeat"?

In addition to your integrity of character and your technical 'know-how', you must have a keen sense of responsibility. You must not be satisfied just to accept responsibility, go and look for it, seek it, and when you have it, you will accept it with a force that gives you the courage to "stick your neck out", to act contrary to advice when conscience demands it, and to take full blame when all goes wrong.

Some years ago, my father passed on to me a poem which is familiar to all of you. It hangs in my office to remind me each day that I should be what I am not. It reads like this:⁶

If you can fill the unforgiving minute
With sixty seconds worth of distance run,
Yours is the Earth and everything that's in it,
And—which is more—you'll be a Man, my son!

⁵ Address before the Hamilton Club, Chicago, April 10, 1899, from Bartlett's Familiar Quotations.

⁶ Rudyard Kipling: If; from Home Book of Quotations, Burton Stevenson.

DR. WILMER SOUDER RETIRES FROM NATIONAL BUREAU OF STANDARDS

Dr. Wilmer Souder, consultant to the National Bureau of Standards, retired from federal service on February 28, 1954. He was associated with the Bureau for 39 years, being the organizer and first chief of the Bureau's Dental Research Laboratory and the Identification Research Laboratory. He is internationally known for his



DR. WILMER SOUDER

work in both crime detection and dental materials. He is a leading authority on metrology, the science of precise measurement. This work has formed the basis for his subsequent accomplishments in the fields of dental materials and crime detection.

He has contributed extensively to the field of dental materials,

introducing physical and engineering concepts in the analysis of such materials. His research papers have been published both here and abroad, and he is co-author of the book, "Physical Properties of Dental Materials."

For recognition of his work in dental materials, he has received honorary memberships in the American College of Dentists, the American Dental Association, the District of Columbia Dental Society and the First District Dental Society of New York. The U. S. Department of Commerce awarded him a medal and citation in 1951 for his meritorious service in instigating research on dental materials.

Dr. Souder is an active member of the International Association for Dental Research (President 1940-41), American Chemical Society, American Association for Advancement of Science, Washington Academy of Sciences, the International Association for Identification, and the International Association of Chiefs of Police. He is also a member of the Cosmos Club, Federal Club, Masonic Fraternity, and Christian Church. The Dental Profession is greatly indebted to him for his many services both in research and committee activities.

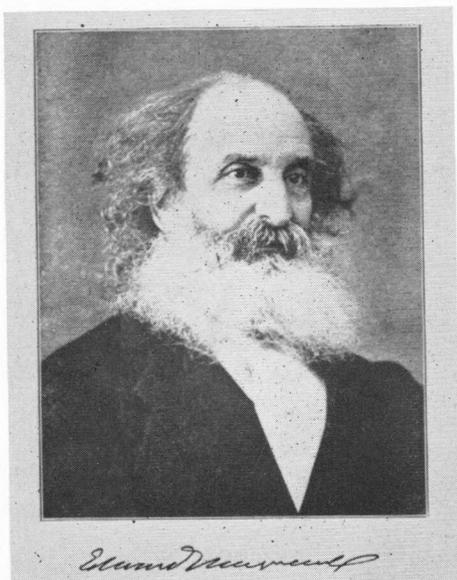
BY THE EDITOR

AMERICAN ACADEMY OF THE HISTORY OF DENTISTRY

The following four stories were presented to the American Academy of the History of Dentistry in Cleveland, at the Annual meeting, 1953. Since the Academy has no publication of its own as yet, and due to the fact that there is much of professional significance in these papers, the Journal welcomes the opportunity of publishing them. (Ed.)

THE UNITED STATES ARMY DENTAL CORPS

WILLIAM C. STONE, JR., A.B., B.S., D.D.S.¹, *Randallstown*



In these troubled times of undeclared war in the Far East and powder-keg diplomacy in Europe, the dental profession is again concerned with national efforts in building a defense organization. Provisions for the resultant enlargement of the Army Dental Corps are incorporated in the United States Senate Bill, S. 1, 82nd Congress, January 24, 1951.² Members of the profession are aware of the need for and appreciate the value of good dentistry in the Army. Many have served in one or both of the World Wars and are acquainted with the various

functional duties of the Army dental surgeon. It would appear timely, therefore, to inquire as to the lesser known history of the Dental Corps of the United States Army.

¹ In 1939-48, Lieut. Colonel, U.S.A., Infantry.

² "Testimony of the American Dental Association before the Armed Services Committee of the Senate on S.1, 82nd Congress, January 24, 1951." *J.A.D.A.* XLII (March, 1951), pp. 351-353.

EARLY EFFORTS TOWARD ESTABLISHMENT OF DENTAL CORPS

The idea of an Army Dental Corps originated with Dr. Edward Maynard, an inadequately publicized figure, about whose career is woven the prologue, if not indeed the first chapter, of the history of the Dental Corps. In 1842 he was one of eighteen distinguished dentists who comprised the first group to receive the honorary degree of Doctor of Dental Surgery from the Baltimore College of Dental Surgery. In 1856 he was appointed to the Chair of Theory and Practice at that institution.³ By the early date of 1850 Doctor Maynard had so impressed President Fillmore with the need of an Army Dental Corps that the matter was brought before his Cabinet in Council. Following this Cabinet discussion

The Secretaries of War and the Navy took some action in the matter. Nothing resulted from the former and the latter went to work so stupidly and vexatiously as to make it necessary to countermand his orders in the matter as soon as his term of office expired, which happily occurred within a few days and before his new 'regulation' was issued.⁴

During the Pierce Administration (1853-1857) Doctor Maynard resubmitted his proposal. From the letters, which were supported by related material in the study, it appeared that the interest and the impetus in the proposal were more pronounced in the Office of the President itself, diminishing and yielding in succession as communications followed in official channels.⁵ The Secretaries of War and the Navy took no decisive action on the proposal.⁶ This obvious indifference on their parts may have been due to one or more of the following reasons:

1. The lack of flexible organization within their respective departments.
2. The hesitancy to increase the number of persons in their respective services.
3. The revelation that service physicians were insufficiently trained in the science and practice of dentistry.

³ J. B. ROBINSON, *Foundations of Professional Dentistry*, p. 70.

⁴ C. HARRIS "Importance of Army and Navy Dentists." *American Journal of Dental Science*, Second Series, IX (September, 1859), p. 444.

⁵ National Archives: Records of Department of Navy, Bureau of Medicine and Surgery Letter Book 1853, Letters Received, p. 10, 18.

⁶ *Ibid.*, Letter Book, 12: 326-327, 329-331.

4. The possible confusion which might block passage of an existing bill affecting the Corps of Surgeons of the Army.

As no official action was taken, the proposal died aborning. Doctor Maynard had sown the seed for the establishment of the Army Dental Corps, however, and faithfully cultivated it until his death in 1891. The favorable time for successful legislative action did not arrive until ten years afterward.

GROWTH OF ADVOCACY TOWARD ESTABLISHMENT OF DENTAL CORPS

As soon as his associates learned of Dr. Maynard's proposal they began allying their efforts with him either individually or as organizations. The Buchanan administration witnessed the first formal action to be taken by a dental organization. On July 21, 1858, Dr. H. J. McKellops presented a motion to the Western Dental Society in Quincy, Illinois, and two weeks later repeated this motion before the American Dental Convention in Cincinnati, Ohio. These motions inspired the adoption, by the latter organization, of the following resolution:

Resolved, that the Convention appoint a committee of five to memorialize Congress on the necessity of appointing dentists for service in the regular army, the committee to act in concert with that of the Western Dental Society.⁷

The chronicles of dental history yield no information as to the activity or as to the success of this joint committee in the accomplishment of its mission.

The Lincoln administration (1861-1865) witnessed the Civil War, and with it an increased attention to the dental services furnished to the soldiers. The Confederate Army positively recognized the need and value of army dentistry. Dental surgeons were included in its tables of organization, not only as staff members of the larger military hospitals, but also as regularly assigned officers of the combat regiments. These assigned dental surgeons were entitled to rank and promotion privileges equal to those granted medical surgeons. The dental surgeons received the necessary instruments and dental supplies through priority requisition procedure. The real benefits of this recognized dental organization were positively re-

⁷ H. J. McKELLOPS, "Importance of Army and Navy Dentists." *Dental Cosmos* XLIII (April, 1901), pp. 430-431.

flected in the reduction of non-combat loss of soldiers from dental disorders.⁸

There was no organized Corps of Dental Surgeons in the Union Army. Accounts of this period, however, disclosed a sincere concern by individuals and organizations of the profession as to the dental services furnished the soldiers of the North. In his paper read before the New York Dental Society, March, 1861, Dr. W. B. Roberts suggested that each regiment have a dental surgeon assigned in addition to the medical surgeon. As evidence in support of his proposition he pointed to the unfortunate non-combat losses in the British Army resulting from a lack of dental care. He contrasted the more favorable conditions of the French Army whose soldiers were supplied with tooth brushes and compelled to clean their teeth. Doctor Roberts reported that in the Union Army the condition of the soldier's teeth was deplorable, that the procedures of oral hygiene were non-existent, and, finally, that the soldier had neither the time nor the money to attend to dental disorders by his own volition. He concluded by recommending that a Corps of Dental Surgeons be attached to the Union Army as an integral part of its Surgical Department.⁹

Doctor Roberts' report rekindled the Maynard fire and in August, 1861, the American Dental Convention appointed a second committee to bring this matter to the attention of the President.¹⁰ President Lincoln listened graciously to the proposal and explained the operational procedures of the Army in the field. The current policy was to designate a few hospitals in certain cities as military hospitals. This procedure furnished sufficient numbers of medical surgeons, but it did not supply enough dental surgeons to meet the requirements. The committee then proposed that the Army contract for additional dental surgeons and assign them as staff members to existing military hospitals. President Lincoln was most receptive to this proposal and forwarded it to Surgeon General Hammond for consideration. From this point on, the committee experienced a cool indifference which amounted to non-acceptance of its proposal.

⁸ B. W. LEIGH, "Dental Surgery as Applied to the Armies of the Late Confederate States." *American Journal of Dental Science*, Third Series, I (August, 1867), pp. 180-189, 440-448.

⁹ W. B. ROBERTS, "Remarks on Dentistry in the Army." *Dental Cosmos* III (August, 1861), pp. 51-53.

¹⁰ C. McQUILLEN, "Dentistry in the Army and Navy of the United States." *Dental Cosmos* VI (September, 1864), pp. 69-72.

The Surgeon General could not be contacted either personally or by mail. By the time the committee succeeded in obtaining an interview with Acting Surgeon General Barnes, the Army had formulated its unfavorable response. Acting Surgeon General Barnes replied that his office could do nothing about the measure at that time. He pointed out that his staff was presently overtaxed with measures of war; that the Union Army was moving in combat operations and therefore was in no position to receive extensive dental care; and that such a proposal must first be coordinated with the Surgeon General of the Navy. He dismissed the matter by reminding the committee that existing legislation and regulations provided remuneration for medical services only and not for dental services, concluding that the necessary amendments to existing legislation had a low priority and little chance of passage at the time.¹¹

EARLY RECOGNITION OF NECESSITY FOR DENTISTS IN ARMY AND NAVY

One of the results of war is the improvement of procedures and techniques in medical practice. Consequently, in 1868, a bill authorizing the appointment of dentists in the Army and the Navy was drafted and presented before both Houses of Congress. The bill was then referred to the Committee on Military and Naval Affairs, which took no positive steps to advance it to law. A second bill was similarly introduced, which also became lost in the desk drawers of congressional committees. Again, the indifference displayed by the government agencies and the offices of the Surgeons General of the Army and the Navy apparently stemmed from the state of disunion between dentistry and medicine and from the reluctance of the medical surgeons to admit their own limited and inadequate training in dentistry. The appointments of physicians who were specialists in the science and practice of dentistry would precipitate drastic changes in assignments, procedures, and regulations.

Following the Civil War, as following all wars, the attention of the civilian population turned to the reconstruction of business and to the rehabilitation of the men recently discharged from the service. In the Army the attention of the commanders centered on analyzing the lessons of war and on performing the military house-keeping of its posts, camps, and stations. It was not surprising, there-

¹¹ G. H. PERINE, "The Necessity of Dental Appointments in the Army and Navy." *Dental Cosmos* XXII (September, 1880), pp. 467-468.

fore, that the question of appointments of dental surgeons faded into obscurity. There were a few advocates, however, who managed to keep the feeble flame of progress burning. Such an enthusiast was Dr. George H. Perine, of New York, who advocated the cause in the *Dental Cosmos* of January, 1882:

The necessity of proper dental treatment in the army and navy has been long conceded, and a decided change in the medical department of both branches of the service is believed to be an absolute necessity. There is certainly no reason why candidates for medical appointments in the government service may not be selected from those possessing a thorough knowledge of dental surgery. . . . At present the extraction of teeth appears to be the only remedy resorted to in the service for the relief of aching teeth, and the operation, which is generally performed by an apothecary or hospital steward, is not infrequently attended by unpleasant, if not decidedly distressing results to the patient, for it must be acknowledged that in inexperienced hands the forceps are often productive of serious injury.

The government insists that men entering its service shall possess sound teeth, and yet it makes no provision for their care or preservation. The injustice of this order of things must be apparent to every intelligent person who gives the subject a moment's thought.

It is to be hoped that the profession throughout the United States will awaken to the importance of dental appointments in the government service, and that with a view to bringing about the much desired change, they will individually exert their influence with the different Congressional representatives, thereby insuring the passage of a bill (which will be presented to Congress) authorizing such appointments as will supply the present want so apparent in government hospitals, garrisons, and on shipboard.¹²

Doctor Perine served to stimulate interest not only in government circles, but also in the civilian dental profession and among the military surgeons in the field. Doctor W. E. Driscoll furthered this proposal by suggesting that copies of appropriate regulations be prepared and distributed to the dentists of the entire country, with a request for study and recommendations. The dentist would then present the initial copy of proposed regulations supplemented by his personal recommendations to his representative in Congress.¹³ An Army dental surgeon on frontier duty described the positive benefits gained from his program of dental examination, restoration,

¹² G. H. PERINE, "Army and Navy Dental Appointments." *Dental Cosmos* XXIV (January, 1882), p. 56.

¹³ W. E. DRISCOLL, "Hints and Queries." *Dental Cosmos* XXIV (March, 1882), p. 168.

and preservation. He proposed that the national dental convention make these facts known to the Surgeon General of the Army.¹⁴ J. L. F. felt that the Secretaries of the Army and the Navy should assume the responsibility for preparing the regulations.¹⁵ On June 6, 1882, the *American Medical Association* adopted the following resolution:

Resolved, That a committee of three be appointed by the Chair for the purpose of considering the subject of the appointment of medically educated dental surgeons in the army and the navy; that Dr. E. Maynard, of Washington, and the Surgeons-General of the army and navy, be requested to co-operate with this committee, and that the committee furnish them with statistical reports illustrative of the needs of the soldiers and sailors in this direction.¹⁶

So, once again the tug-of-war was resumed. Periodically the measure would be considered, and at times it appeared that positive action would be taken. No decisions were made, however, as there seemed to be no method of breaking the checkmate positions of the opposing factions. In October, 1891, Doctor H. B. Noble reported that in a discussion between the committee and the Surgeon General of the Army, the latter considered the measure not feasible at that time. The Surgeon General stated that the strength of the Army was greatly reduced, that conditions on the Western frontier were not suitable nor did they warrant assignment of dental surgeons, and that the larger units were garrisoned near cities where dental surgeons were available. Doctor Noble commented that congressional legislation might force the services to appoint dental surgeons. He felt, however, that dentists assigned to the services under these conditions would be prosecuted and deterred in the proper execution of their duties.¹⁷ During the closing ten years of the century, the general public and the officers and men in the services were realizing, more and more, the need for proper dental care of service men. The proposal for the appointment of dental surgeons in the services was gaining general popularity and support throughout the nation. The strengthening support of the proposed legislation by the men in the

¹⁴ W. F. HUTCHINSON, "Dentists in the Army and Navy." *Dental Cosmos* XXIV (May, 1882), p. 280.

¹⁵ J. L. F., "Hints and Queries." *Dental Cosmos* XXIV (May, 1882), p. 280.

¹⁶ "American Medical Association—Section on Dentistry." *Dental Cosmos* XXIV (September, 1882), pp. 488-489.

¹⁷ H. B. Noble, "Report on the Appointment of Dentists to the Army and Navy." *Dental Cosmos* XXXII (October, 1891), pp. 851-852.

services, coupled with the demands of the public, steadily increased the pressure on government officials and the Surgeons General to institute definite measures of dental care.

DENTAL LEGISLATION

For over half a century the dental profession had labored patiently, perseveringly, and conscientiously to secure the appointment of dental surgeons in the Army and Navy. They were to experience one more defeat, however, before achieving success. In 1888 the committee appointed by the American Dental Association presented a bill to Congress favoring the creation of a corps of dental surgeons in the Army and Navy. It proposed that contract dental surgeons be appointed under terms and conditions applicable to army contract medical surgeons. This bill was introduced into the House of Representatives by Mr. Hull and was known as the Hull Bill. The Bill was referred to the Committee on Military and Naval Affairs, where it was defeated, the primary objection being the commissioning of the dental surgeons as officers. The criticism arose from those who believed that the position of the contract surgeon lacked military dignity, and consequently would not demand the respect of the men in the services. The dental profession was primarily motivated by the humanitarian desire to relieve the suffering which was being endured by men of the services. The profession was content to secure the appointment of dental surgeons on a contract basis, feeling that their rank in the service would in no way affect the humanitarian character of their work, and resubmitted the proposal after deleting the granting of commissions. This formulated plan, embodied in a bill designated as H. R. 972, was introduced into the House of Representatives by Mr. Otey on December 5, 1899. The Otey Bill was passed and referred to the Committee on Military Affairs and ordered to be printed.¹⁸ The Otey Bill became law on February 2, 1901.

The following is a part of Section 18 of the new Army law, approved February 2, 1901, known as "Public—No. 30":

That the Surgeon General of the Army, with the approval of the Secretary of War, be, and he is hereby, authorized to employ and appoint dental surgeons

¹⁸ "Dental Surgeons in the Army and Navy." (Editorial) *Dental Cosmos* XLII (January, 1900), pp. 101-103, 108.

to serve the officers and enlisted men of the Regular and Volunteer Army in the proportion of one dental surgeon to every one thousand of said Army, and not exceeding thirty in all. Said dental surgeons shall be employed as contract dental surgeons, under the terms and conditions applicable to army contract surgeons, and shall be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and shall pass a satisfactory professional examination: *Provided*, That three of the number of dental surgeons to be employed shall be first appointed by the Surgeon General, with the approval of the Secretary of War, with reference to their fitness for assignment, under the direction of the Surgeon-General, to the special service of conducting the examinations and supervising the operations of the others, and for such special service an extra compensation of sixty dollars a month shall be allowed: *Provided further*, That dental college graduates now employed in the Hospital Corps, who have been detailed for a period of not less than twelve months to render dental service to the Army and who are shown by the reports of their superior officers to have rendered such service satisfactorily, may be appointed contract dental surgeons without examination.¹⁹

In accordance with the provisions of Section 18, Public Law 30, thirty contract dental surgeons were appointed in the Army. These men, seven of whom are living, were accorded the privileges of officers and wore the Army uniform. They held no rank until March 3, 1911, when the formal establishment by law of the Army Dental Corps as part of the Army Medical Department created for them the rank of first lieutenant.

From these contract dental surgeons the Army Dental Corps has grown to its present active duty strength of over 1,300 dentists holding rank in all grades from first lieutenant through major general. During World War I some 4,600 Army dental officers were on duty at one time and approximately 15,000 dental officers were on duty at one period of World War II.²⁰

The Army Dental Corps celebrates its forty-first anniversary this year. Its progress reflects the accomplishments and achievements resulting from the determined efforts of the members of the dental profession. The United States Army Dental Corps is, today, the finest military organization of its kind in the world. Let no one of

¹⁹ "Dental Legislation: New Army Law Authorizing Appointment of Dental Surgeons." *Dental Cosmos* XLIII (February, 1901), p. 311.

²⁰ WALTER D. LOVE, "Army Dentistry Forty Years Old." *J.A.D.A.* XLII (March, 1951), pp. 313-314.

us forget that day, one hundred years ago, when the Corps was only the dream of one dentist—Dr. Edward Maynard, Father of the Army Dental Corps.

THE UNITED STATES ARMY DENTAL CORPS

History in Outline

- I. Introduction
 - A. Nation Organizing for Defense
 1. Undeclared War in Far East
 2. Powder-keg diplomacy of Europe
 3. U. S. Senate Bill, S. 1, 82nd Congress, January 24, 1951.
 - B. Dentists Acquaintance with Army Dental Corps
 1. Many served in Dental Corps in either one or both World Wars.
 2. Many acquainted with functional duties.
 3. Some will be called or recalled for service in Dental Corps.
 4. Few know much of the history.
- II. Early Efforts toward Establishment of Army Dental Corps
 - A. The Administration of President Fillmore
 1. Edward E. Maynard, D.D.S.
 - a. One of the first eighteen to receive honorary D.D.S. at B.C.D.S. in 1842
 - b. Appointed to Chair of Theory and Practice at B.C.D.S. in 1856
 - c. Impressed President Fillmore to present matter of Army Dental Corps to Cabinet in Council in 1850.
 - d. Cabinet reaction
 - i. Secretary of War—no action taken
 - ii. Secretary of Navy—action taken so haphazard as to require recession
 - B. Pierce Administration (1853-1857)
 1. Maynard resubmitted proposal.
 - a. Gains attention and interest in Office of the President
 - b. President resubmits proposal to Cabinet
 - c. Action of Cabinet
 - i. Secretaries of War and Navy take no action because:
 - Lack of flexible organization
 - Hesitancy to increase members of staff
 - Service physicians oppose, refusing to admit inadequate training and experience in specialty of Dentistry
 - Attendant confusion could block passage of pending bill for Army Medical Corps
- III. Growth of Advocacy toward Establishment of Army Dental Corps
 - A. Buchanan Administration
 1. Motion to resubmit proposal
 - a. Dr. H. J. McKellops drafts and presents
 - b. Acceptance by Western Dental Society, July 26, 1858
 - c. Resolution made and proposal presented to President by American Dental Convention
 - B. Lincoln Administration (1861-1865) Civil War
 1. Confederate Army
 - a. Dental Surgeons as staff members and field operators
 - b. Dental Surgeons granted permanent commissions
 - c. Received promotion and rank commensurate to Medical Surgeons
 - d. Reflected reduction of non-combat losses

2. Union Army
 - a. No organized Corps of Dental Surgeons
 - b. Report of Dr. W. B. Roberts to New York Dental Society
 - i. Noted the non-combat losses of Union Army
 - ii. Comparison of Union non-combat losses with non-combatant losses of British Army
 - iii. Commended French Army Policy on Oral Hygiene
 - iv. Recommendations
 3. Action taken during the Lincoln Administration
 - a. President turned matter over to Surgeon General Hammond
 - i. Evident coolness to measure amounting to indifference
 - ii. Pointedly failed to make appointments and interviews on the question
 - iii. Finally passed the buck to Assistant Surgeon General Barns who made decision not to take any action
- IV. Early Recognition
- A. Congress Bill of 1868
 1. Granted authority to appoint Dentists in Army and Navy
 2. Referred to Committee on Military and Naval Affairs
 3. Died in Committee Room
 - B. Congress Bill of 1869
 1. Blocked due to:
 - i. Indifference to measure by Government Agencies
 - ii. Indifference by Secretaries of War and Navy
Stemmed from disunion of Medicine and Dentistry
Reluctance of Medical Surgeons
 - C. Post Civil War Activities
 1. Reconstruction of Business
 2. Rehabilitation of service men to civilian life
 3. Army interested more in:
Analysis of lessons of War
Post, Camp, and Station Housekeeping duties
Automatic reductions in rank of officers
 4. Result: Measure faded into near obscurity
 - D. Efforts of Dr. George H. Perine
 1. At ADA Convention, 1892 presented paper admonishing members of the profession
 2. With Dr. W. E. Driscoll, prepared and distributed questionnaire to members of the profession, with advice to have each member individually bring matter before respective congressmen
 3. Contract dental surgeons within the Army took up fight
 - E. New Committee to Congress
 1. Failed to impress Secretaries of War and Navy
 2. Did make favorable impression with Congressmen
 - F. Rising public opinion forcing attention to proposal
 1. Referred to Committee
- V. Dental Legislation
- A. McKinley Administration
 1. Hull Bill
 - a. Authorized Contract Dental Surgeons
 - b. Contract Dental Surgeons to have Rank and Privileges
 - c. Army opposed bill on matter of commissioned rank

2. Otey Bill. February 2, 1901.
 - a. Authorized appointment of thirty Army Dental Surgeons
 - b. Stated requirements for eligibility
 - c. Authorized increases of one dentist per thousand men
 3. Army Dental Corps
 - a. Established by law March 3, 1911
- VI. Conclusion
- A. Growth
 1. Originally thirty appointed Dental Surgeons: seven still living
 2. World War I strength of 4,600
 3. World War II strength of 15,000
 4. Present strength of 1,500 and increasing
 - B. Forty-one years of service as reflected by best of skill and development
 - C. Must remember one hundred and one years ago that the Army Dental Corps consisted of one Dentist and his dream. The Nation and the Profession salutes Edward Maynard—Father of the Army Dental Corps.

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THE RESEARCH INSTITUTE OF THE HISTORY OF DENTISTRY OF BERLIN (1927-1933)

CURT PROSKAUER, *New York*¹

The Berlin Research Institute of the History of Dentistry (*Forschungsinstitut für die Geschichte der Zahnheilkunde*) was the first and the only one of this kind in the world, until it was destroyed in 1944 or 1945. It no longer exists. I shall give you first a short survey on the development of this institute, or better, a statement of the idea to establish such an institute.

It was started in 1907, in a sort of embryonic anlage without the faintest idea of future possible developments. I was at that time a second year student of dentistry at the University of Breslau. I saw in the window of an art dealer a photograph of an oil painting then in the Royal Art Gallery of Dresden. This was by the 17th century artist, Gerard Dou, representing a dentist shortly after the

¹ Curator, Museum, Columbia University School of Dentistry.

act of drawing a tooth from the mouth of a boy who, wretched and suffering, bending down his head, touches with his finger the place where the tooth had been. The dentist, standing behind the sill of the window on which his opened case of instruments, a barber's basin and his diploma, are lying, looks through the window with the expression of pride in his features, showing in his raised hand the extracted tooth.

This was the first picture representing a dentist which I purchased, and which caused a chain of reactions during the next twenty years, leading to the establishment of the Berlin Research Institute.

Since this picture made a great impression on me I looked for other works of art representing the same or similar subjects, not in the least realizing that there existed many paintings, drawings, copper plates, lithographs, sculptures and other techniques of art representing the dentist and his patients. At first I relied, and not without success, on a chance to find them. A few years later, however, in 1911, an article appeared in the German Monthly Journal for Dentistry (*Deutsche Monatschrift für Zahnheilkunde*) by Rudolf Koch on *Zahnärztliche Motive in der bildenden Kunst* (Dental Subjects in Art) which gave me important information on the existence of such works and therefore the possibility of searching for them more systematically.

Another publication of greatest influence on my interest in the development of dentistry and its literature was the *History of Dentistry* by the Italian dentist, Vincenzo Guerini. This comprehensive and very accurate work of a man with a wide cultural background, covering many fields of science, was for the first time based on original source material and not, as usually then and sometimes now, compiled from other publications. It is still a classic in the field of the literature on the history of dentistry.

From then on I had the good fortune to secure a large collection of old dental books, dental pictures and instruments in the original, and photographs which I exhibited for the first time in 1921 in Breslau at the Annual Meeting of the *Centralverein Deutscher Zahnärzte* (Central German Dental Society), the association which corresponds in Germany to the A.D.A. in the United States. This exhibition gave me an opportunity to discuss the subject of the foundation of a Museum and of an Institute of the History of Dentistry before a large audience with the result that Professor Partsch,

the Director of the Dental Institute of the University of Breslau, gave me permission to place my collection in a large room of the Institute under the official name of *Zahnärztlich-Historische Sammlung am Zahnärztlichen Institut der Universität Breslau* (Dental-Historical Collection at the Dental Institute of the University of Breslau) where a Research Institute and a chair in the History of Dentistry might be established.

The inflation in Germany after the First World War with its appalling consequences made a speedy end to all these plans. There was a rush to the dental schools with a relatively short study of dentistry by a large number of young men who could not find any employment in commercial fields, especially by officers discharged from military service. For this large number of students all available space was needed so that space used by the collection had to be given up. The complete lack of any funds for new foundations made the establishment of a Research Institute of the History of Dentistry impossible.

However, every thing has its two sides! The rush to the dental schools and the development in German dentistry of the newly created title *Doctor Medicinae Dentariae* (D.M.D.), resulted in an extraordinarily large number of doctor theses which were obligatory for receiving this title. A large part of these theses were required in the field of the history of dentistry. Most of them were written under the guidance and supervision of Karl Sudhoff, the world-famous Head of the Institute of the History of Medicine at the University of Leipsig, and based, without exception, on the original texts.

Sudhoff himself had just published his excellent *History of Dentistry* in 1921, the still unsurpassed work in this field. It is, indeed, regrettable that this brilliant book is not yet available in an English translation.

Sudhoff's work and that of his students introduced a dental-historical movement, the heroic age of the history of dentistry in Germany, which flourished during the twenties and the beginning of the thirties until Hitler came to power. The quantity and the quality of these publications and some exhibitions of my collection in various cities of Germany, and in 1926 in Philadelphia, on the occasion of the Seventh International Dental Congress, stimulated interest of some influential men of the *Reichsverband der Zahnärzte*

Deutschlands (The German Organization of Dentists) in the history of dentistry. The result was that in 1927² the German dental association took over my collection and established a Museum and a Research Institute of the History of Dentistry of which I became Director.

The founding of this Institute was an important step, not only in the development of the history of dentistry, but also in the history of dentistry. Up to that time it was a matter of individual interest of some historically minded dental practitioner who was responsible for the development of dental-historical literature and for collecting dental-historical material.

The collection, located in the *Deutsches Zahnärzthehaus*, in the Bülowstrasse in Berlin was installed in especially designed show cases. The office of a dentist of about 1820, consisting of his operating room and his laboratory, equipped, not with replicas, but with the original old furniture, apparatus and instruments of that time, was set up.

The Museum depicted the evolution of dentistry, from fetish, amulet and charm worship, through worship of Apollonia,³ the saint to whom people pray for relief from toothache, up to empiricism, followed later on by rational and experimental procedure. We tried to represent each stage in development through old instruments, old dental books, documents, paintings, engravings, copper plates, lithographs and photographs representing dental scenes in the various centuries. Artificial teeth and dentures, sculptures, medals, portraits of dentists, clippings from old newspapers with advertisements of dentists, handbills, various representations of Saint Apollonia, and many other items in both original and copies, are displayed.

Highlights in this collection are a richly ornamented pelican of about 1550; a copy of the 1536 edition of the first dental book, the *Zene Artzney*, which exists in six copies only (the first edition was published six years earlier); the earliest known full denture about the end of the 15th century; the original document of regulations given in 1716 to the barbers, surgeons and dentists by the Roman-German Emperor Charles VI, written on parchment and bound in red velvet; the famous Meissen porcelain group by Kaendler of 1741, represent-

² Not 1928 as indicated on that program.

³ See J. Am. Col. Den. 12, 101; 1945, June.

ing a dentist, his patient and assistant; and the largest collection in existence of tooth-picks, starting with luxuriously decorated tooth-picks of the renaissance and comprising toothpicks up to the middle of the nineteenth century. It also contains many objects donated by dentists to whom appeal had been made in dental journals and in personal letters to donate whatever they possessed in obsolete instruments and apparatus, old ledgers, letters, books, photographs, journals and other items out of practices of older generations of dentists.

The Museum has helped to bring dentistry into broad comprehensive relations with medicine and with the general development of culture, and to improve the understanding of the public of the value of dentistry.

All this material of the museum is catalogued, described and classified on index cards. We made photostatic copies of all dental historical articles and notes of interest found in available dental journals, medical journals and journals of other disciplines, as for instance those of archaeology, palaeography, ethnography, anthropology, general history, history of art, and many others. It is very convenient to have needed reference articles in photostatic copies on the table instead of a heap of bulky, bound journals. Besides this advantage for our own work, these photostats were also of great help to those who worked outside our Institute as we could so easily send them out.

As you will understand from these remarks, the goal of our Institute was not only to have a good dental-historical museum and a good functioning workshop for ourselves, but, still more important, to have a place where students could get help and reliable information founded on source material for their dental-historical work.

Shortly after the establishment of the Institute we published in the official publication of the *Reichsverband der Zahnärzte* (German Dental Society), the weekly *Zahnärztliche Mitteilungen* (Dental Magazine), every month short articles and important notes in the field of the history of dentistry, called *Beiträge aus dem Forschungsinstitut für Geschichte der Zahnheilkunde* (Contributions from the Research Institute of the History of Dentistry) which increased interest in this subject. It was our goal to transform this appendix into an independent journal devoted exclusively to the history of dentistry.

Another project planned for the future was the cataloguing of all dental books published before 1900, listing the names of the various libraries and, if possible, of the large private collections where these works could be found, a task similar to the outstanding American publication, the *Union List of Serials*.

It is not possible to give more details about everything we had done or planned to do in a short paper. But it is to be hoped that the seeds which were laid will bear fruit. Not much has been done since. In 1944 or 1945 the rich library and the valuable collection was destroyed or looted. The organization which was a center of research and an agency for information came to an end.

REVIEW OF OHIO'S CONTRIBUTIONS TO DENTISTRY¹

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No time or place could be more opportune for holding the Third Annual Session of this Academy of the History of Dentistry than in the Buckeye State, as the purpose of our Academy is fully in accord with the spirit of historical research which prevails in every section of Ohio at this time. Although we have been informed that our state was never officially admitted, be that as it may, we are celebrating what we are pleased to call our Sesquicentennial, as the loyalty of our State has never been questioned and it has liberally responded to the nation's call for troops whenever a crisis arose.

As an inducement to settlers in this state, formerly known as the Northwest Territory, Federal land grants were made from the public domain to persons who had lost property incident to the Revolutionary War. Many New Englanders settled in the northern and central part of the State. The Virginians were more favorable to the southern section. The fusion of these different groups through marriage, brought forth a generation of thrifty and home-loving people who, through our system of public education, readily adopted the American way of life. This population was chiefly Anglo-Saxon, intermixed with some German settlers from Pennsylvania and Virginia, and Scotch-Irish from the Shenandoah Valley. These

¹ Read at the Third Annual Session of the Academy of Dental History, Cleveland, Ohio, September 26, 1953.

settlers were destined to carve out of the primeval forest a state beautiful, as its name "Ohio" indicates, and one which we, of native birth, take pride in referring to as the "Garden spot of the world".

It was realized that in a democracy, citizens must be educated. A system of popular education was established in the New England States where the necessity of spending more money for schools, and employing better teachers, was seen. Some of the states established a common school system by law, whereby provision was made for public education. In the west, a free school system was aided by liberal gifts. When a state entered the Union, one square mile of the public domain in each township was set aside for public schools. These school lands, having been given for school purposes, if sold, the money received was invested and the income spent in supporting the schools.

Our State has witnessed a great transition in dentistry from an art practiced by itinerants to the now recognized profession. It was in this State that the first known school of instruction was founded where ways and means of creating institutions were discussed for properly instructing those desiring to become proficient in dentistry.

In behalf of the officers and members of our State Dental Association, we bid you a most cordial welcome to a State rich in its historical traditions, which become more treasured with the passing of the years. The spirit of fraternalism and unselfishness, so characteristic of the dentists throughout our state, has been largely responsible for the many dental organizations that have existed in Ohio since the organization of the Mississippi Valley Association of Dental Surgery in 1844.

The Mississippi Valley Association of Dental Surgeons, organized in Cincinnati, August 1844, was a sectional society; but by the organization of various State Societies within the territory which it had so faithfully served, it was discontinued in 1896. It was early recognized that some medium was necessary for the publication of exchange of ideas, clinics and discussions at the annual meetings. In October of 1847, the Dental Register of the West, edited by James Taylor and sponsored by the Association, appeared and was the second dental publication in the world. Dr. Taylor was succeeded by that Nestor of dentistry, Dr. Jonathan Taft, who continued as editor for forty-three consecutive years. Dr. Taft was

widely known through his attendance at dental meetings and his participation in their programs. His personality and popularity made him conversant with many historical facts relative to the profession and the men who practised it. This information he frequently used to supplement many items published in the Dental Register.

To illustrate, the obituary of Dr. Edward Taylor,² carried the following added paragraph: "Dr. Taylor was born at Bainbridge, which place might properly be called the starting point of the following pioneers of the profession in the Mississippi Valley: Drs. John James and Chapin Harris; Dr. Jones of Dayton, Dr. Wampler of Illinois, Dr. Church of Baltimore, Drs. Joseph, James and Irwin Taylor." This information was seemingly of little importance to Dr. Taft or his readers at that time but proved of great importance later when research was made in regard to dental education. This information, relative to Bainbridge, led to subsequent research in the newspaper files disclosing the fact that the John Harris mentioned by Dr. Taft, had conducted a "School for Medical Instruction" from 1825 until 1830, all of which was embodied in an article published in the Journal of the American Dental Association,³ establishing the Village of Bainbridge, Ohio, as the "Cradle of Dental Education".

Dr. John Harris, who had practiced medicine and dentistry at Madison, Ohio, a suburb of Cincinnati, moved to Bainbridge about 1825 where he continued his practise. For the purpose of procuring students, he published notices in the Chillicothe "Supporter and Gazette" under the heading "Medical Instruction" dated October 25, 1825; also "Dental Surgery" on February 7, 1828. One of the requirements of his students was: "No student will be received who has not at least a first rate English education". All but one of Dr. Harris' students chose dentistry.

Previously, the preceptor plan had been in universal vogue but within this school consideration of dental education on a higher plane, ultimately resulted in two members of that school being founders of the first two dental colleges in the world, viz. Baltimore College of Dental Surgery, in 1840, and the Ohio College of Dental Surgery, Cincinnati, in 1845. A replica of Dr. Harris' office and school is on exhibit at this meeting. During the passing of the years, numerous dental organizations had formed within the state, a de-

² Dental Register: 22, 91; 1868.

³ See J.A.D.A.: 19, 368; 1932 (Mar.).

tailed list of which has been recorded in the November 1914 issue of the Dental Summary. Notably among these was the Northern Ohio Association, organized in Cleveland in 1857, which rendered lasting service in promoting the solidarity of the profession in the central and northern part of Ohio. The Association upon discontinuance in 1938 contributed the remaining funds in the treasury to the Callahan Commission of Awards. The Ohio State Dental Association was organized in Columbus in 1866; reorganized in 1909, and at the present time there are twenty-three thrifty component societies with a total membership of over 3,000.

As to our educational institutions, we refer only to those that are chartered and confer degrees. The Ohio College of Dental Surgery, organized in 1845 with Dr. James Taylor as dean, was the second dental college in the world and was discontinued in July 1926. The Cincinnati College of Dental Surgery, was organized in 1893, the Dental School at Western Reserve University, Cleveland, was organized in 1892, and the Dental Department of the Ohio State University was organized in 1892, as a school of dentistry of the Ohio Medical University.⁴

Many contributions have been made to dental literature. In addition to the Dental Register of the West, excluding those of ephemeral existence, one notable medium was the Ohio State Journal of Dental Science edited by Dr. George Watt of Xenia, Ohio, who had been co-editor with Dr. Taft on The Dental Register. Later Dr. Watt resigned as editor, and was succeeded by Dr. L. P. Bethel of Columbus, Ohio. The Journal of Dental Science was subsequently published under the name of "The Dental Summary" which rendered a good service of lasting value to the profession. The Dental Summary was discontinued in 1926 and the Ohio State Dental Association seeing the need of a publication established a Bulletin in May 1927, with the writer as editor. This later became the Journal of the Ohio State Dental Association, and upon the writer's resignation in 1952, Dr. H. B. G. Robinson became editor.

We list the following as contributions by Ohio authors: "Mechanical Dentistry" by Dr. Joseph Richardson of Cincinnati (1860); "Dental Electricity" by Dr. L. E. Custer of Dayton (1901); "Tin Foil and its Combinations" by H. L. Ambler of Cleveland (1897); "Dental Infections" Vols. 1 and 2, 1923, by Dr. Weston A. Price;

⁴ Miami Dental College, Cincinnati, was organized and chartered in 1896, graduating one class, 1898, and discontinued in 1900.

and "Operative Dentistry" 1859, by Dr. Jonathan Taft. ("Index to Periodical Dental Literature") (1886). "Genesis of Dental Education in The U. S." by Dr. Van B. Dalton, 1946.

Among inventions we mention Dr. L. E. Custer's electric furnace for fusing porcelain, small enough to be carried in a hand satchel which took the place of a huge fire-clay furnace; Continuous gum work introduced by Dr. John Allen contested by Dr. William Hunter.⁵

The library of the Ohio State Dental Association, known as the Dental Section of the Columbus Public Library was established in 1905, sponsored by the Ohio State Dental Association and the Columbus Dental Society, has made a steady growth and is now considered the third largest dental library in the country.

Ohio has not been remiss in memorializing names of those who have distinguished themselves in their contributions to their profession. Among these are the John Harris Memorial at Bainbridge, purchased and reconditioned by the Ohio State Dental Society in 1938; the tablet on the town hall in Bainbridge commemorating the village as the "Cradle of Dental Education"; in cooperation with the North Carolina Dental Association, a memorial to John Harris on the Courthouse green at Hertford, N. C., unveiled Oct. 30, 1944;⁶ statue of Willoughby D. Miller on the campus of the Ohio State University, erected from contributions in which every state in the Union is represented; the F. H. Rehwinkle tablet, Grandview Cemetery, Chillicothe; and the dual memorial of John R. Callahan—a bronze bust in the Operating Clinic of the Ohio State University Dental School and the annual award offered to men who have made some outstanding contribution to dentistry.

We believe that our State has developed practitioners and supporters of the profession whose names have become familiar in all countries to the credit of American dentistry. Our State has furnished several presidents of the American Dental Association. Furthermore, the Transactions of the American Dental Association will disclose that the Ohio State Dental Association has supported every measure of that Association for the welfare of dentistry and for the people whom it serves.

When a summary of the events in commemoration of the Ohio

⁵ See Dental Register: 8, 267; 1855 (July).

⁶ He died here July 26, 1849, while on an itinerant trip to the Albemarle Section.

celebration participated in by various groups is made, this session of our Academy and the purpose which it represents, will deserve permanent recognition.

We have seen our profession advance from a position of low public esteem to one of high public regard. We have seen dental education advance from a preceptor basis of instruction, with no educational requirements of any kind, to a level that requires at least six years of college and professional study as a pre-requisite to state examination and licensure. Remarkable have been the achievements of dentistry during the past years. In all humility we must realize that however great our accomplishments, much remains still to be overcome, and in meeting the challenge of the future, we shall be guided well if we place our faith in the Source of all Wisdom and Understanding. May our tomorrows be as fruitful as our yesterdays have been rewarding!

CONSIDERATIONS FOR PUBLICATION OF DENTAL HISTORY

WAYNE K. STOLER, D.D.S. *Valparaiso*

The importance of dental history in education is showing a gradual awakening within the schools of dentistry. Dental history is progressively being offered in curricula to provide the historical background of the profession. Likewise, English students are being assigned to the writing of biographical sketches and historical articles. Also the American Association of Dental Editors has recently urged the dental schools to teach "the responsibilities, ethics and purposes of dental publications."

Since there is no journal devoted to the history of dentistry, and opportunities for publication of historical articles are limited in current professional publications, authors and Publication Committees of component and constituent dental societies must produce their own publications. The uninitiated in this endeavor are immediately confronted with the problem of finance and are often unaware of the numerous factors involved in the approach to an estimate or the total cost of a publication.

Dr. E. E. Haverstick, St. Louis, Mo., author of "The History of Dentistry in Missouri," as a result of his experiences in publications,

forcibly emphasizes the importance of the guarantors' list and the presubscription list, as a successful method of financial support.

THE HISTORY WORKSHOP of the American Academy of the History of Dentistry, Cleveland, Ohio, September 26, 1953, featured the order and subjects to be considered and how to determine the total cost, prior to publication. The author offers a continuity of items for consideration¹ which he hopes will serve as a useful guide to others in their initial experience with the printer in printing and publishing:

1. Complete edited text with location of illustrations.
2. Paper stock: Enamel—Book.
3. Size of publication: Standard 6" x 9"-6 $\frac{3}{4}$ " x 10"-8 $\frac{1}{2}$ " x 11".
4. Size and style of type, and line spacing.
5. Text figures: Illustrations—Pictures.
6. Number and size of illustrations and pictures.
7. Number, size and quality of cuts: Copper—Zinc—Plastic.
8. Type of binding: Hard—Soft—Mechanical.
9. Cover design: Color—Title page.
10. Book plan: Mechanics—Dummy Book No. 1.
11. Editorial services.
12. Proofreaders and Copyholders: Galley reading.
13. Revisions and additions of text to balance printing with cuts.
14. Proofreaders: Page—Index—Dummy Book No. 2
15. Quantity of publication: Size of organization—Complimentary copies—Reserve.
16. Printing Contract: Time and material—Quoted fee plus extras—Down payment.
17. Copyright: Twenty years and renewal.
18. Distribution: Committee—Personal—Parcel Post—Express.
19. Packaging for shipment.
20. TOTAL COST: Quoted figure plus extra—Cost and material.

Extra:

1. Advance sale of copy: Guarantors' list and pre-publication list.
2. Complimentary copies: 45 Dental Libraries—40 Dental Editors.
3. Requests for copy—Acknowledgements.
4. Book Reviews—Commentaries.

¹Quoted in part from *A Manual of Style*; University of Chicago Press, eleventh edition.

AMERICAN COLLEGE OF DENTISTS

Reports of Sections

The following two reports of sections conclude the activities of sections for 1953-54: (*Ed.*)

MARYLAND SECTION

Maryland section held its annual meeting November 30 in Baltimore with a dinner. A short business session was held following dinner, at which time two new members, Dr. Norman Chanaud and Dr. J. Russell Cook, were introduced to the section, having received the fellowship at the Annual Meeting of the College in Cleveland. Officers elected for the following year were as follows:

Chairman—Dr. Edward C. Dobbs

Vice-Chairman—Dr. Brice M. Dorsey

Secretary-Treasurer—Dr. D. Robert Swinehart

Nominating Committee Member—Dr. Ernest B. Nuttall

Policy Committee Member—Dr. Conrad L. Inman

The program of the evening consisted of an address by Dr. Theodore H. Wilson, president of the University of Baltimore, on the subject "Must There Be Tensions."

NORTHERN CALIFORNIA SECTION

The annual meeting of the Northern California Section of the College was held in San Francisco at a luncheon Monday, April 26. Following a short business session short addresses were delivered as follows, with the exception of one delivered by Dr. Willard C. Fleming, which by editorial arrangement is being withheld for extension:

ORGANIZATION OF DENTISTRY

F. J. HERZ, D.D.S.

*San Francisco*¹

This is a subject with its many phases and facets that would require hours to discuss. Ever since man has been on this earth it has been his endeavor to band together for protection and to solve any mutual problem to advance his own welfare.

¹ Former President, California State Dental Association.

The American Dental Association was organized in 1859 at Niagara Falls with certain ideals and objectives. Its members meet on national, state, and local levels for the purpose of exchanging new techniques, reading papers and to labor for the advancement of the profession. Anything pertaining to a political nature was definitely frowned upon. I can recall in the early 1920's when Painless Parker attempted to have a Reciprocity Bill passed in the State Legislature. The California State Dental Society had no funds, nor did it have a Legislative Committee to combat this type of legislation. A number of the members who had the best interests of our profession at heart graciously took it upon themselves to raise enough funds to successfully defeat the bill. Many dentists refused to contribute on the basis that the society should not be in politics.

During the intervening years this thinking has changed considerably. The depression of the 1930 decade, World War II, Cold War since 1945 has expanded the governmental debts on all levels tremendously, which in turn has caused an inflationary spiral, which is still not over. The cost of goods, services, wages, defense and government have made spectacular increases. The income from dental services has increased from \$400,000,000 in 1932 to \$1,600,000,000 in 1953. The hydrogen bombs which were recently exploded are going to have a great impact on our economy, it will probably cause more inflation, as new and more expensive weapons will have to be developed for adequate defense. There is a way to avoid this armament race, and that is conference of the world powers to outlaw war, at the moment that seems to be remote and almost impossible.

What does this mean to us as members of the dental profession?

We are living in a very complex and competitive age. Taxes are heavy on all levels of government, the burden will not be eased to any great extent in the foreseeable future. Many well organized groups are demanding medical and dental plans for their members on a prepayment basis. We must face the issue realistically, it is not a passing phase in our present day life. It will be up to us to determine the type of service we will render in these plans, always keeping in mind the high ideals of our profession as well as rendering the finest service to our patients. We must train our own dentists and employ people who will assist us to negotiate with the professional talent now employed by these various groups. It is going to

take hard bargaining and we must preserve the great strides that have been made during the past century and also that we do not lose control of our own profession. "It can happen, example Great Britain".

Legislation must be carefully observed in the State Legislature and in Congress as well, fortunately in California our Joint Legislative Committee has rendered the profession a great service. We have a dental practice act which is the envy of all the State Societies in the Nation. This did not just happen, for it has required the time and patience of some of our confreres who have spent a great length of time in Sacramento and are constantly on the alert for those measures which would be harmful to us, and striving to see that the beneficial ones are passed.

Our dental societies on all levels are being required to render more services for its membership each year. The California State Dental Society in 1946 approved the recommendation of the President of that year, B. C. Kingsbury Sr., that an Executive Secretary be employed. John Rooks has held that position since 1947, his services have been invaluable. During this time, since 1947, many measures have been enacted which will be of lasting benefit to every member, some of these group insurance accident and health, malpractice, postpayment plan.

The employment of the trained personnel is essentially necessary, we as dentists can not afford the time from our practices in research to resolve these problems that are confronting us every day. They are all time-consuming. Each year the officers of our associations are spending most of their valuable time in our behalf.

All of us have a responsibility to preserve the high ideals that have been established by those who have labored so diligently during this past century. We must be eternally vigilant and never countenance any plans which in any way would lower the high standards of service now being rendered. We must never compromise the lofty position that the Dental Profession now occupies in our American Life.

AN APPRAISAL OF DENTISTRY: ITS GROWTH

JOHN TOCCHINI, D.D.S., *San Francisco*²

Dentistry has had a phenomenal growth in the last 114 years. In early years dentistry was not seriously considered. If you had an abscessed tooth it would be removed—if your teeth protruded it may not have looked well but it was all right. If you lost all of your teeth you could gum your food. Nothing was known of the psychic trauma from malocclusion and of being edentulous. Dentistry has had to move ahead to keep up with the increasing demands for functional and esthetic dentistry.

Since 1840 American Dentistry has maintained a leadership that has not been approached by any other country. The manner in which young men and women are flocking to the dental schools trying to gain admittance is gratifying because the student of today is highly trained academically and this type of an individual can be trained dentally on a higher plane than those of many years ago. The increased emphasis on the biological sciences in the undergraduate curriculum has made the modern dentist very conscious of the whole person, and to think of him as such instead of his mouth full of teeth. This emphasis on the biological sciences has brought about a wider demand for postgraduate training in oral pathology, oral surgery and related fields. It has made the dentist play an important part in the technique of cancer detection.

At present the dental schools in the West have more qualified applicants than they possibly can handle and this means that the future of our profession will be made up of well trained men and women.

As in all well-gearred operations dental education has its problems and stumbling blocks. Its biggest problem is finances. The costs of dental education are constantly rising, making it very difficult for the schools to make ends meet. These increased costs eventually find their way into the pocketbooks of the students and their parents. If the cost continues to rise we may, some day, find ourselves taking only those from rich families—if any rich families will be left. This is a serious problem for the schools, students and professions. What

² Dean, College of Physicians & Surgeons, School of Dentists.

the immediate solution is I do not know. Aid from industry and in some way from the government, without strings attached, seems to be the solution as of now.

However, no problem is insurmountable and I know that the dental educators and the dental profession will solve this one. Perhaps the solution will not be found today or tomorrow but there is the day after tomorrow.

While gazing into the crystal ball one notes the parade of dental progress from the day of the traveling or itinerant dentist to the first dental school requiring only one year of schooling; then to the four years training in the dental school with no predental education; then gradually adding one, two, three and in many cases four years predental training; and from the strictly mechanical training in the dental school to the addition of, at first, a small amount of basic or biological science finally reaching a point of equal emphasis between the sciences and the mechanical skills. In the last few years the addition of research programs is gradually beginning to open a new avenue of thinking—that of the elimination of dental caries. This may lead to a possible reduction of the teaching of technical phases and more teaching in the biological fields. With this addition of research in the biological fields, although in comparatively small amounts, much is being done in the solution of the common dental problem. As more dental research projects are developed the day will come when we can reduce the amount of dental caries to a controllable point or even to a point of near elimination.

RESEARCH IN DENTAL EDUCATION

R. GORDON AGNEW, D.D.S., *San Francisco*³

It is a pleasure, indeed, for me to address this distinguished audience upon a subject regarding which I am sure each one of you shares with me a feeling of deep interest and concern. The American College of Dentists has, throughout the years, been outstanding in its commitment to the widening of the horizons of Dentistry, and in its sensitivity to the evolving needs of the profession. It is, therefore, with the conviction that my topic is vitally related to the interests

³ Prof. Pathology and Diagnosis, University of California College of Dentists.

of the College that I shall seek to present, in very condensed form, some of the conclusions which I have reached after experience in several differing cultures and after visiting schools in many parts of the world.

Significant revolutions are not necessarily accompanied by gunfire, noise and excitement. We have all witnessed, in recent years, a quiet revolution within the field of Dentistry, a revolution with profound significance for the future role and status of the profession within the healing arts and sciences.

It would be quite impossible to enumerate here all of the advances, or the agencies responsible for these advances, which constitute this veritable revolution in the philosophy and practice of Dentistry. One might mention, for example, a) the new or vastly improved dental materials now available; b) new drugs for the elimination of infection, notably the antibiotics, widely increasing the margin of safety in oral medicine and surgery; new drugs for the relief of pain; new anesthetics; the versatile corticosteroids, etc. c) substantial progress in the long battle with dental caries, promising unprecedented levels of control of that disease; d) wider emphases in Periodontology, permitting more consistent results in prevention and treatment; e) advances in orthodontic theory, reflected in improved diagnosis and care; f) recognition of hitherto undeveloped areas of the responsibility of the dentist, such as: the field of myology and myography—the manifold disturbances of the temporo-mandibular articulation—oral-facial prosthesis—pain of jaws, face and head, and the applications of neurology—psychogenic disturbances inexorably demanding consideration by the dental diagnostician,—and many others.

Is there any generalization in this connection possible or defensible? Perhaps, it might be this: The old dualism in Dentistry stands without defense. Dualism, in some form, has long held sway over the minds of men, from the Graeco-Indian influences on theology and philosophy to the type of dualism which has, in the past, exerted a near-dominant influence in our own profession. Men have sought long enough for that mysterious "tissue curtain" (if I may borrow a term from the current political concept of "curtains") which was supposed to separate the dental tissues from the destinies

of the total organism of which those oral tissues are a part. We now see our particular field of operation intimately linked, in health and disease, in causality and effect, with the individual as a whole.

Research has brought about this intra-professional revolution of which I am speaking. In many areas the research has been conducted by the dental research worker within the bounds of his own field; in other important areas Dentistry has benefitted by the achievements of investigators within the medical or basic science fields. For example, it was formerly my custom, in teaching pathology, to quote the famous dictum of Adami that he who understands the pathology of syphilis could be said to have grasped a third of the entire field of pathology. Yet, today, syphilis—scourge of the centuries—hardly qualifies, in view of the antibiotics, as a major health problem.

And now the revolution, spearheaded by research, moves on. Fluoridation of water supplies, conservatively evaluated, promises us substantial reduction in susceptibility to dental caries and sequential loss of teeth and mutilation of mouths. Other approaches to caries control, such as sugar restriction, hygienic measures, etc., in spite of the public resistance inherent in our cultural pattern, will augment the forces making for lessened demand for repair and substitution. Lessened mouth mutilation will reduce one of the important local causative factors in periodontal disease. And, so one might go on, with caution and, I think, reasoned speculation as to the potentially great effects of past and current research upon the professional tasks of the dentist tomorrow.

Will dentistry make, over the years ahead, a smooth and effective transition to new emphases? Medicine, as Trendley Dean recently pointed out (in a recent lecture on "The Council of Dental Research of the A.D.A." given to the International Association of Dental Research, French Lick Springs, March 1954) is making such a transition. The physician finds more and more of his time being given to preventive measures, rather than to therapy. Dean considers that the pediatrician represents probably the outstanding example in Medicine of this shift to preventive services. A recent pediatric survey, within the limits of a wide sampling, revealed that 54% of pediatrician visits on an average day were for health supervision; less than one-half time was devoted to the care of sick

children. He points out, however, that our problem in Dentistry is significantly different from that of Medicine. The change in Medicine has been gradual; as communicable diseases were brought under control, increasing attention was directed to diseases of the cardiovascular system, to oncology, to metabolic, degenerative and geriatric problems. In our profession our interests have been concentrated upon two major disease patterns: dental caries (and sequelae) and periodontal diseases. Further successful research can rather abruptly demand of us new orientation and emphases.

That signpost over there at the crossroads points up a highway, not too new, but poorly charted and "unimproved"—and the legend reads: "Preventive Dentistry". It will take a lot of research to make that road as smooth and safe as the one we have been travelling for so many decades. Only research, laboratory and clinical—"pure" and "applied", and imaginative and skilled reaching will enable us effectively to meet new needs while we preserve all of the achievements of the past. And, we do not have either the men or the facilities to adequately meet the challenge thrown to research. We do not locate and attract enough young investigators, nor do we have the training programs sufficient for their preparation.

How can the dental profession recruit and train research workers? There must be motivation, and the inevitable pedagogical sequence—need, drive, incentive, accomplishment—must be consummated in our schools. Spontaneous interest in research is by no means unknown in the experience of the teacher, but it is rare. "Evoked interest" will ordinarily be necessary; and here the burden lies, not only upon the experienced investigator and the teacher, but upon the profession and its leaders. Working facilities and monetary rewards must be in reasonable equilibrium with contemporary cultural standards. Freedom of activity, without undue pressures, is another essential. There must be freedom to conduct either applied research with relatively early and concrete applications to practice, or "pure" research, not connected with immediate goals, but promising ultimate usefulness of foundational nature.

How can undergraduate students be challenged so that among them there will be some who will choose to prepare themselves for full or part-time research? We who are teachers must avoid the "training-school" atmosphere, dogmatic and "packaged"; we must present our subjects as higher educational disciplines, non-dogmatic

and evocative, whetting appetites and sharpening curiosity. To accomplish this perhaps the dental curriculum must, before long, shift to an eleven-month academic year; or, perhaps, it must ultimately add an interne service for the acquiring of the technical and surgical and other skills needed for practice. Certainly, within the dental schools of today, here and abroad, there is a growing conviction that more and better professional pedagogy is needed. Coupled with improved classroom pedagogy is the need for the teacher to be thoroughly conversant with the basic and preclinical sciences pertinent to his field. A degree of experimentalism and empiricism in these areas would be timely and justified. I am much interested in a personal reference from Dean Tocchini regarding a plan at his school in which the Department of Biochemistry permits a limited number of sufficiently qualified men to conduct extra-curricular supervised work in that field, the student receiving equivalent curricular credit.

How can the interested graduate be trained for intensive research work? It is probable that optimal effectiveness is achieved when the teaching and research functions are combined, in proportions varying with the individual and with the field of study. Fiske, of Toronto, rightly endorses the "long-term investment directed toward a solution of clinical problems" when qualified individuals are helped to secure high standard graduate and postgraduate instruction in the basic sciences, whether this be achieved within the local university or at other institutions, particularly those specializing in the training of research workers and teachers. Postgraduate instruction in pedagogy is rarely stressed as part of the armamentarium of the teacher in professional schools. Its value, however, is enthusiastically attested by those who have taken such studies; and it may perhaps be reasonable to expect that out of the contemporary turbulence accompanying change in the philosophy and practice of the teaching field in general will come demands upon the professional teacher, such as have had no precedent in the past. Finally, again may I stress the inescapably practical problem affecting so many researchers and teachers today across the continent—that of facilities, reasonable emolument and freedom of activity.

How can the busy dental practitioner be challenged to engage in such investigation as may be conducted within the naturally restricted limits of time, energy and facilities? One avenue that is

suggested and endorsed by our two San Francisco schools involves the setting up of "research assistantships" within the dental schools for practitioners "who have an idea", who are sufficiently driven by scientific curiosity to be willing to devote a limited amount of time to an appropriate project regarding which advice and facilities would be provided. Another avenue, of proven value, is that of group organization of research projects, in which the practitioner is enabled to participate in joint projects with laboratory and other workers. A third method is that in which the practitioner carries out pertinent studies or surveys within his own office under the sponsorship and direction of schools or dental organizations.

One essential has not yet been mentioned, although it is vital to all aspects of the major problem—funds. Trendley Dean (q.v.) quotes startling figures as to the gross discrepancy between the funds made available from governmental or private sources for dental research and funds devoted to other areas of health research. For example, the total research grants from the National Institute of Health for the fiscal years 1950 through 1953 increased from circa \$13,000,000.00 to over \$20,000,000.00, but dental research grants only increased from \$200,000.00 to \$221,000.00. At present, dental research receives practically nothing from private foundations.

In conclusion research, therefore, lies at the very heart of Dentistry. It has lifted the profession from empiric levels of symptom treatment to substantial achievement in scientific therapy, repair and substitution, leading to restoration of function, esthetics and, directly or indirectly, to better health. Through its achievements it bids fair, within the not too distant future, to a) restrict what have always been overwhelming demands for restorative and substitutive care; b) focus attention on, and sharpen demands for, emphasis upon biological needs and preventive health care to a degree little recognized in the past. It will be incapable of successfully directing this transition unless the profession, through its leaders a) faces objectively the implications of transition, currently taking place in Medicine and probably inescapable in Dentistry; b) takes vigorous steps to attract, train and effectively use competent research and teaching personnel; c) seeks and obtains the necessary funds, from governmental and private sources, to make possible the above developments.

The American College of Dentists with its stirring history of

awareness and of mature action will be expected to provide skilled and devoted leadership in the years ahead.

You know, in some respects, I think that my grandparents led a rather placid and perhaps enviable life. They had certainties, quite a lot of them, ranging from certainties of the mind and the spirit to certainties in the social structures of mankind. Today, the educated and observant citizen can hold relatively few "certainties". But these he can hold: the certainty of change, of movement, of stimulus and response; the vast potentialities of growth, development, integration and maturation. Who could ask more?

A flying fish flashes up in the air for a minute, flutters, and scintillates in the sun, then falls back into the sea. But who wants to be a flying fish?

Suggested by WILLIAM H. DANFORTH,
in "I Dare You"—
A privately printed book,
1954, page 54.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT
OF SCIENCE

(The 101th Annual Meeting)

The 1954 Annual Meeting of the American Association for the Advancement of Science will be held in Berkeley, California, on the campus of the University of California, December 27-30, 1954. This includes eighteen sections and subsections, one of which up to the present time has been N₂, Subsection Nd, Dentistry. This year, however, Dentistry has been made a section and will occupy a more strategic position in the meeting of that association. It is not any longer a subsection in the medical sciences, being now Section Nd.

There will be an all-day meeting Tuesday, December 28, under the general chairmanship of Dr. Willard C. Fleming, Dean of the College of Dentistry, University of California. The following program will be followed:

PROGRAM OF SECTION Nd

TUESDAY MORNING

9:00 A.M.-12 M. Room 100 Lewis Hall

Symposium: Growth and Development. Cosponsored by the International Association for Dental Research, North American Division; the American College of Dentists; the American Dental Association. Arranged by WENDELL L. WYLIE, College of Dentistry, University of California.

WENDELL L. WYLIE, Presiding

1. Role of Inheritance in Craniofacial Morphology.
RODNEY MATHEWS, College of Dentistry, University of California.
2. Effects of Post-natal Environment on Facial Forms.
ALTON MOORE, College of Dentistry, University of Washington.
3. Present Status of Knowledge Concerning the Cleft Palate Child.
ROBERT M. RICKETTS, formerly with the College of Dentistry, University of Illinois, now in private practice, Pacific Palisades, California.
4. The Effect on Humans of Stannous Fluoride in a Dentifrice as an Anti-Carrogenic Agent.
JOSEPH C. MUHLER, College of Dentistry, University of Indiana.

TUESDAY NOON

12:15 P.M. Luncheon. Faculty Club, Berkeley Campus

TUESDAY AFTERNOON

1:30-5:30 P.M. Room 100 Lewis Hall.

Symposium: Radiation Hazards in the Dental Office. Program of Section Nd Dentistry, Cosponsored by International Association for Dental Research, North American Division; the American College of Dentists and the American Dental Association. Arranged by GORDON M. FITZGERALD, College of Dentistry, University of California.

GORDON M. FITZGERALD, Presiding

1. Hazards of Dental Radiography (motion picture). National Bureau of Standards.
2. Types of Injuries and Tissue Damage from Low-Energy Ionizing Radiation. R. LOWRY DOBSON, Radiological Safety Division, University of California.
3. Radiation Hazards of Concern to the Dentist. WILLIAM E. NOLAN, Radiation Laboratory, University of California.
4. Radiation Protection Procedures in Dental Practice. GORDON M. FITZGERALD, College of Dentistry, University of California.
5. Summary. B. V. A. LOW BEER, Medical School, University of California.

Truth—that which attaches human life to the Absolute

BOOK REVIEWS AND ANNOUNCEMENTS

HISTOLOGY: Edited by Roy O. Greep.

A group of scientists at various Universities have combined their talents to produce a text devoted almost exclusively to microscopic anatomy of the human body. Students and practitioners who want a sound guide on this important subject will find it in this highly dependable and easily read book. The text is a composite of independent chapters on various phases of histology. A wealth of information has been gathered that the professional man may read with comprehension. The publication of this work should stimulate research in this field. It will lead to further analyses, to rechecking of early experiments that yielded only conflicting opinions. Modern theories of histology and histologic techniques with verified results are thus sustained. One gains new insight into histology and its clinical values through such scholarliness as is manifested in this work. The emphasis properly is on human structures. Abundant use of photomicrography of human tissues, and expert medical art, helps the student to see as well as to understand histology in all its modern phases. One chapter is devoted to histochemistry and explains a variety of interesting and widely used histochemical methods. The correlation between structure and function is ably achieved. The newer phases and aspects of electro-microscopy as well as other newer histologic concepts and techniques have been outlined to the end that the student might better appreciate the physiochemistry of the cell. Greep's Histology is an exceptional work, concise and comprehensive, giving succinct descriptions of salient features in which histologic discussions of medical aspects are skillfully fused and graphically presented. The book has 953 pages, 648 black and white illustrations, and over 40 color plates. Price \$15.00.

Published by The Blakiston Co., Inc., Garden City, N. Y.

H. HENRY WEISENGREEN, D.D.S.
*Chairman, Section of Anatomy
Colleges of Dentistry and Pharmacy
University of California*

DENTISTERIE OPERATOIRE: P. Nespoulous and G. Carlier. This is the 2nd ed., 1954, 654 pages and 430 illustrations.

This is the second edition of Volume IV of the popular set of nine French text books treating the various fields of dentistry. These books are known under the collective name of "*La Pratique Stomatologique*" and are published under the direction of Dr. Chompret, eminent French stomatologist.

This volume "Dentisterie Operatoire" (Operative Dentistry) is written by Drs. P. Nespoulous and G. Carlier. It is directed toward the dental students, as well as the general practitioner.

Primarily the authors are concerned with *practical*¹ knowledge in operative dentistry. The technics and treatments described or advocated are based mostly on the wide clinical experience of the authors themselves. There is, however, a commendable effort to transform the older mechanical type of operative dentistry toward a more modern conception of operative technics deeply influenced by the recent progresses made in pathology and physio-biological sciences. In this lies the most essential difference between this edition and the previous one. The handling of acrylic filling materials and the use of many new drugs are also timely additions.

Despite a lengthy description of older technics using formal preparations in root canal therapy, the chapter on endodontia which contains almost a hundred pages presents a wealth of useful information which would be of great value to the general practitioner.

The illustrations, mostly drawings, are sometimes unfortunately too diagrammatic and fail to show adequately the details described and advocated by the authors.

The text is concise, easy to read and to understand. However, the serious reader who is interested in a more detailed investigation to supplement some of the succinct descriptions of technics or treatments will not find bibliographies or references given in this book.

Possibly, the greatest value of this work lies in the fact that it furnishes a wealth of useful information, as well as many different and stimulating points of view in regard to operative dentistry as advocated and practiced by our French colleagues. This, I believe would unquestionably benefit the student of dentistry and the general practitioner in this part of the world.

Published by Masson & Co., Paris, France.

NGUYEN T. NGUYEN

¹ Italics not in the original.

HISTOLOGIC TECHNIC AND PRACTICAL HISTOCHEMISTRY: R. D. Lillie.

Since the author's earlier edition of *Histopathologic Technic* in 1948, the field of histochemistry has greatly expanded and new methods of examination by phase-contrast and electron microscopy have been added. This wealth of new knowledge forms the basis for a greatly enlarged text. One is impressed by the extent to which the present book has been rearranged and reorganized, with the addition of the newer methods and deletion of outmoded technics. Especially has the author through his personal wealth of experience determined what is practical and usable and what is better omitted. No attempt is made to obtain encyclopedic scope. Dr. Lillie has endeavored in 500 pp. to bring selected variants of the newer methods into the book, modifying them by experimentation to find optimal times, temperatures, pH levels and reagent concentrations to arrive at workable conditions. This he has put down in a clearly written style that can be readily followed by the technician.

This book is excellent and can be highly recommended.

Published by The Blakiston Co.

HARRY FRISBIE

SOCIAL ASPECTS OF TECHNICAL ASSISTANCE IN OPERATION (Tensions and Technology Series). This is a little paper-backed book of 85 pages, including a bibliography and two or three other appendixes. It is published by the United Nations Educational, Scientific and Cultural Organization and makes its appearance this year—1954.

It is presented as a report by Morris E. Opler of a Conference held jointly by United Nations and UNESCO, and is a discussion of technical assistance rendered by one nation to another, thus being international in scope.

Its object is expressed fully in the following quotation: "Many if not most technical assistance programmes are concerned with economic development, but the purpose of this economic development is usually social betterment, an attempt to raise the standard of living; so that the final purposes of such activities may be said to have social as well as economic objectives in view."

This book is not without some value to dentists in their human relations and may be had from Columbia University Press, New York 27. Price 75¢.

WHO'S WHO IN THE WEST: This is a biographical dictionary of men and women of the dental profession practicing on the Pacific Coast and in the Western States. This is the fourth edition, containing 'biographical information relating to over 7600 identified with the region involved—in addition to the 3000 whose career and familial data are now first published in it . . .' Published by Marquis—*Who's Who Inc.* (A non-profit foundation) Chicago 11, Ill. Price on application.

TOOTH FORM DRAWING AND CARVING: This is a second edition of this manual by the author, Russell C. Wheeler, formerly Assistant Professor, Oral Anatomy, Washington University School of Dentistry, and from 1937 to 1944 Associate Professor, Dental Anatomy, St. Louis University School of Dentistry. This is a book of 106 pages and well illustrated. Publishers: W. B. Saunders Co., Philadelphia. Price \$4.50.

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