Volume 18 Number 4

Journal

AMERICAN COLLEGE OF DENTISTS

December 1951

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

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

Address of the Editor:
John E. Gurley, D.D.S. 350 Post Street, San Francisco, 8, Calif.

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: Chicago, February 3 & 4, 1952

Next Convocation: St. Louis, September —, 1952

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

JOURNAL
American College of Dentists

CONTENTS

GEORGE HOYT WHIPPLE, M.D.
A Dental Professional Benefactor

EDITORIALS

ON LOOKING AHEAD

Periodically it becomes necessary to pause even in the course of heavy and rapid traffic, whether on the streets of a large city or in the mind of a man or the minds of men interested in the onward rush of the dental profession with its ministrations to a needy public, and explore the possibility of that which is ahead or may be in the future. One must never look back with an idea of revelling in the 'good old days', for there are none. He must see in the past, a very narrow base or even only a point upon which all that follows was built. Then he will be able to see the fine line of truth wending its way upward, finally coming to the level of today or to that which is at the present. He will observe that the line representing the present is much longer in its horizontal direction than was that from which the start was made.

Having come now to this point it is behooving to stop and take another look ahead, to that line which will again be longer than the preceeding, though parallel in its horizontal direction. This is as it should be and the question now confronting us is, what shall we do that the public may be better served?

That the public must be better served is in reality a question that cannot be honorably debated, especially if we the members of the profession will be honest with ourselves and will think in areas through which we have passed in coming into the present, and in terms of the needs of little children and young people.

Considering dentistry to have been initiated in the time of Hippocrates, coming on through the years of Vesalius, Fauchard, Hunter, Wells, Morton, Pasteur, Hayden, Harris, Brown, Lister, Koch, Miller, Truman, G. V. Black, and a host of others, it is easy to point out three distinct eras—curative or repair, control and preventive. It is true that no definite line of demarcation obtains between any two of these, but the particular point of emphasis is easily determined. We are now securely within the field of 'control', with no small proportion of 'repair' waiting to be done. At the same time we well know about preventive measures beckoning to us. Therefore, it is necessary that we pause, be glad to be able to make satisfactory repairs; be hopeful that people may listen to our appeals

for control and further, that they may try out our suggestions; and finally, that they may listen to us and take steps to 'prevent'. This latter action is almost more incumbent upon members of the profession than upon the public. We must be more interested, more solicitous, and more positive even to the point of being dogmatic.

While great gain has been made, there is yet much to be done. There is too little willing attention being given to children and too little thought being given to oral prophylaxis and eradication of caries. There is also too little attention being given to the material used as a filling, and the protection of the pulp in placing the filling.

Fellows of the College should be the first to think in these terms. They should be the first to exercise more care in treatment and to treat children more willingly and more thoroughly. Will we take this Look Ahead and Will we do our part to bring in the era of prevention?

INTERNATIONAL DENTAL CONGRESS

The eleventh International Dental Congress will be held in London July 19 to 26, 1952. This announcement has just been made augmented by an explanatory booklet of some sixty pages. In this is found complete information in what appears to be minute detail. Further information may be had by addressing the Secretary, XIth. International Dental Congress, 13 Hill St., London, W.I.

DR. HENRY OTIS LINEBERGER

We are always shocked by the sudden passing of a friend but we are both shocked and saddened in the passing of our last presiding officer. Dr. Lineberger passed away on Friday, December 7. We will miss him, but he has left a splendid heritage and although we sorrow in the passing, we rejoice in the life he lived.

ON BINDING

Tear off the cover, bringing the supplementary pages (four) to the front and binding the volume.

PRESIDENT'S ADDRESS[1]

HENRY O. LINEBERGER,[2] D.D.S., *Raleigh*

The American College of Dentists expects its Officers, Committees, and Members to render a service to the dental profession. To some officers and committees certain very definite assignments are given. The President, in addition to duties prescribed in the By-Laws, is expected to outline definite plans in an inaugural address and report on the condition of the College in a Presidential Address the following Convocation.

When the new officers, whether they be national or sectional, assume their duties the first thing which impresses, and encourages them, is the fact, that we have a Secretary, Dr. Otto W. Brandhorst, and a Secretarial Assistant, Miss Fern Crawford, who are always willing and anxious to cooperate and carry a major portion of the load. I wish to express publicly and without reservation, my appreciation for all they have done to lighten my duties during this year.

The Board of Regents, the Section officers, the committees as well as the membership in general have all been most considerate. In many sections of the country the program as outlined on the national level has been carried out in further detail by the local sections.

The Public Relations Committee, Holly C. Jarvis, Chairman, arranged for an officer or Regent of the College to visit every Section. He was especially considerate of the President and while I was forced to spend some time in the hospital, he very kindly took over my engagements, either met them himself or arranged for someone to represent me. All sections have reported interesting meetings.

The Washington, D. C. Section, being the host for this Convocation, has had an unusually active year under the guidance of Chairman and Councillor Henry A. Swanson. Our thanks go to them for a job well done.

To the class of new Fellows just coming into the College, I would extend a most cordial welcome. You have for many years served the dental profession in a most acceptable manner. The College

[1] President's address, delivered at the Annual Convocation of the College, Washington, D. C., Oct. 14, 1951.

[2] Deceased, Dec. 7, 1951.

will, I am sure, open up new fields for service and it is hoped that you will not lessen but increase your service to the dental profession and to your State and Nation.

The activities of the College are necessarily woven into a continuing program from year to year. Each year, we should pause as we carry the torch and plan for the future, and reflect on the fact that we are building today on basic structure laid by loyal Fellows and Founders of this College. While it is true that our basic concept remains the same, it becomes the duty of each administration to interpret present day technicalities and modes of procedure in the light of an ever-changing world. This is demonstrated most forcefully in today's program. Moses gave us our original laws of behavior and they are just as true today as they were thousands of years ago. However, those responsible for this program felt that presentations on Ethics, the Dental Oath, and a Guide of Conduct, might be most acceptable at this time.

Around the theme "PREPARATION FOR SERVICE" has been arranged a most interesting and thought provoking program. To all those appearing on our program, who have given so freely of their time and talent, we wish to express our sincere thanks.

COUNCILLORS

During the year the President and President-Elect, serving as Councillors of the College, have contacted each Section Chairman, who also serves as Councillor of his Section. Most Section Councillors have given full reports of the various activities of their sections. The reports indicate most sections have held several meetings and have in general had a most active year. It is felt that this relationship is most helpful to the College as a whole and should be encouraged and expanded. A survey shows that most areas of this country are now affiliated with some section. Canada has shown an interest in forming a section or sections just as soon as it is possible.

ELECTION OF MEMBERS

The election of new members to Fellowship in the College has for sometime been a subject for discussion. This responsibility is delegated to the Board of Censors, a secret committee. This Board secretly designates local censors in different sections of the country, who in turn furnish the Board of Censors confidential information on

each applicant. If an objection is raised against an applicant, he may be held out for further information. The appointment of local censors has to a great degree satisfied most criticisms. However, personal antagonism must not be permitted to enter fellowship considerations.

Again, it is most important that the secrecy of nominations not be violated. Delay in approval, or even the disapproval of a nomination, becomes embarrassing only when the secrecy has been violated and the nominee is aware of the situation.

All applicants passed by the Board of Censors are referred to the Board of Regents for individual approval. A Regent may hold out an application, but he must give definite and sufficient reasons for doing so. When this procedure is fully understood, it appears to be the best plan for selecting new members yet devised.

JOURNAL

The Editor of our Journal, John E. Gurley, is unable to attend this Convocation. I am sure we will all agree that he is doing a splendid job as Editor of our Journal. Our thanks and commendations go to him.

When one reflects on the great services rendered Dental Journalism by Fellows of this College, we just naturally think of men like, Gurley, Robinson, Palmer, Gies, O'Rourke, Cannon Black, Rickert, Brandhorst, Merritt, Archer, Hambly, Hillenbrand, Morrey and many others. Every Fellow should be, and I feel is, thoroughly familiar with the campaign for better dental journals which has been sponsored over the years by this College. Our position regarding proprietary and non-proprietary publications and the contributions to same is considered a basic position by the membership of this College.

SOCIO-ECONOMICS

The members of the dental profession are deeply indebted to Raymond E. Myers, Chairman, Socio-Economics Committee for the extensive survey he made of "The British Dental Plan in Operation" in July and August of 1949. He found very little to commend the plan as it was first set up. In a report to this College one year later he states (quote) "I have nothing hopeful or good to add to what I said then; a year ago my message was one of Woe, now it is

Woe-Woe-Woe." If all the schemes which were contemplated in the compulsory Health Insurance Plan, had gone through, our fate would certainly have been similar to the British situation.

Raymond Myers, knowing that something had to be done, set out in his own home city of Louisville, to do something about the situation. The Kentucky Section of the College, working with the Louisville Dental Society, established a clinic at the Dental School, for deserving children. The program is most comprehensive. I hope you will get a copy of the plan and if possible set up something similar in your community. If we will take care of our local needs there will be no national problem.

LEGISLATION

There has been much discussion concerning legislation at the National level, and very little on the State or local level. The A.C.D., does not have a Legislative Committee, but the activities of many of our Fellows on A.D.A. and State committees are certainly worthy of note. Those of us who have interested ourselves have found a real challenge on the side of better government and the American way of life. Many Americans, and that includes members of the dental profession, take their freedoms for granted, and are not availing themselves of the opportunities to cast a ballot. Statistics show that in a precinct where many doctors live, less than 33 percent of the registered voters take the time to vote. While in the same city in precinct called -X, and to a degree controlled by the man with the little black bag, 62 percent of the registered voters cast a ballot. We stand for better government, better schools, and a better way of life, all of which cost money. The opposition is little interested in some of these better things. His demands on the officials are few. He merely requests that a blind policeman be assigned to his precinct or that sometimes the business partner of the official show a willingness to accept a retainer's fee from the man with the little black bag.

This apathy toward government is coming at a time when we need the support of our officials in expanding our fluoridation program, our State Dental Health program and the tremendous amount of legislation pending before the U. S. Congress affecting the dental profession. It is fine to have our Legislative Committee but often times an individual dentist in a remote county has tremendous in-

fluence with his Congressman or U. S. Senator. For that reason we should all make it a point to know our representatives and keep them advised as to dentistry's program and our personal viewpoint. We must not lose our most cherished freedom simply because we do not avail ourselves of the opportunity to use it.

PROSTHETIC DENTAL SERVICE

During the year the American College of Dentists cooperating with the American Dental Association published and distributed several thousand copies of the report of the Committee on Prosthetic Dental Service, which was compiled by Clarence A. Nelson, Chairman. F. W. Herbine, Chairman of the A.D.A. Council on Dental Trade and Laboratory Relations assisted in the compilation by furnishing many letters and reports from his files. The report was a very comprehensive review of the activities from the date the committee was first established in 1934 with Walter H. Wright as Chairman, down to the present. The unionization of dental laboratory technicians is increasing the demand for the report. The accreditation of dental laboratories has proved to be the best method for solving the problem. If you do not have accreditation in your State, look into its possibilities. Help solve the problem before it becomes acute. Don't let apathy on your part be a cause for the breaking down of pleasant relations between the dental profession and the dental laboratories.

EDUCATION

A study of the program for this Convocation, and the activities of the College over the years, show the unmistakable fact that we are and have been interested in dental education in all of its ramifications. Our national and sectional committees are making a most worthwhile contribution in this field. We are privileged today to have several outstanding Dental Educators review the progress dental education has made in recent years and to chart for the dental profession a course for the future. The dental educators have given far in excess of the call of duty in order that the dental profession might take and maintain its proper place along with the other Health Service Professions. To the dental teachers both past and present, we in the dental profession owe most that we are and hope to be. I am wondering if we in the profession, who are enjoying

lucrative practices, have not accepted favors and incurred obligations for which we have not wholly repaid.

The schools and colleges of our country are today in great need of financial assistance. The dental schools are no exception. Many schools are unable to pay adequate salaries. They are unable to carry on needed improvements. Research is far from what is desired, and the much needed Dental Students Loan Fund is practically non-existent. I am happy to report that some sections of the College, cooperating with their State societies, have established Dental Foundations and others are right now setting machinery in motion to furnish their Dental Institutions and Dental Health Service Programs, the aid they so desperately need. Your school or the Dental School in your State would appreciate your financial assistance. I can think of no more worthwhile activity than the establishing of a Dental Foundation for your Dental School. The Dental Profession is progressing, and our schools are the leaders in our progress. We who are not teachers should recognize our obligations and do our part to keep the Dental Schools equal to any of the other professional schools of our country. We only grow when we are engaged in a program which requires the best in everyone.

PREVENTIVE DENTISTRY

This Committee, John C. Brauer, Chairman, has an opportunity to make a distinct contribution to dentistry by clarifying the many complexities and areas of confusion regarding preventive dentistry. The planned function of the committee for this coming year is excellent, namely: (1) preparation of a definition of preventive dentistry, (2) appraise critically the current available scientific information in all areas related to preventive dentistry, and (3) define and assess quantitatively the effectiveness of preventive practices.

DENTAL SPECIALTIES

The American College of Dentists may well be proud of its service to dentistry at large, and among these contributions has been the fine work of the dental specialties committee. This committee, headed by Ralph L. Ireland, has been serving in a dual capacity in conjunction with the Advisory Board for Dental Specialties in establishing a proposed pattern of state licensure. The true function

and objective of the College has again been exemplified in assuming leadership in this area.

MEDICO-DENTAL RELATIONS

Every member of this College as well as every dentist everywhere should be interested in the work now being done by the Committee on Medico-Dental Relations, Albert L. Midgley, Chairman. We are a Health Service profession and at all times interested in the over-all health affairs of our country.

In addition to the committee reports which have been mentioned or will be presented on the program this morning there are certain other committee activities such as: Hospital Dental Service—Ozias Paquin, Jr., Chairman; Oral Surgery—Leslie M. FitzGerald, Chairman, which will be of interest to a more or less limited group.

All committee reports will appear in an early issue of the Journal and I urge you to study them. There are many programs now operating or suggested at the National level which are applicable to your section. Many of the Fellows are not here to attend this Convocation and to receive the information and inspiration which will be available to you. I suggest, therefore, that you take the transaction of this meeting back to your section and do all you can to stimulate the Fellows at home. If you will do this the tremendous amount of time and effort put into this program, our committee activities and the compilation of these reports, will not have been in vain.

I bespeak for my successor the same fine cooperation which you have given this administration. It has been demonstrated over the years, that policies of this College are sound. The program offers a challenge to every Fellow. If we all do our part there will continue to be an ever expanding and more influential American College of Dentists.

THE PROFESSIONAL MAN IN OUR TIMES[1]

LLOYD E. BLAUCH, PH.D.[2], *Washington*

I come to talk with you today on a topic that has many aspects but as I thought through the subject, it seemed to me we might have a profitable half hour if we limited it to a few items of major consideration to professional men.

The Professional Man

It is well to note at the outset that the professions in America are not always sharply distinguished from other vocations or occupations. Indeed, the status of various vocations is not fixed, and in a dynamic social order the occupational pattern undergoes rapid change.

The professions represent highly specialized services which can be provided only by those who have had prolonged training on a fairly high intellectual level. This broad definition covers about 6 per cent of the working force in our population—upward of 4 million persons. Taken together they constitute the smallest of the occupational census groups in our country. In spite of their relatively small number, however, the day to day functioning of our society depends largely upon them. To the professions we look for healing our sick bodies, for protecting us in the exercise of our just rights, for providing our religious and moral direction, for teaching us the ways of civilization, for designing our buildings and bridges, for discovering nature's secrets and increasing our control over natural phenomena, and for helping us in a hundred other ways to live happier and more satisfying lives.

The professional man is distinguished by several marked characteristics, among which I would name six. 1) He has acquired a specialized intellectual technique which enables him to perform a particular service. 2) He uses independent judgment in his service and assumes large personal responsibility for it. 3) He associates with others engaged in the same type of service, from them he draws inspiration and acquires new ways of performing his services; to

[1] Delivered to the American College of Dentists, Washington, D.C., October 14, 1951.

[2] Associate Chief for Education in the Health Professions, Office of Education, Federal Security Agency.

them he freely contributes his ideas, his discoveries, and his inventions. 4) From an intellectual point of view, he is considerably above the average of men. 5) His actions tend to be regulated in the public interest either through his own group, or through the State, or through both. 6) And finally he is a "dedicated" man. He has been set apart to render to his fellow men a special service. He has been thoroughly indoctrinated in his responsibility to those who commit their problems to him. In him is placed a great trust to act always in the interest of those he serves and for the common good.

Do I hear you say that not all who call themselves professionals possess all these six characteristics? If that is so, I must say that they are not truly professional. Nothing less can be the ideal for any group that aspires to be called a profession.

Our Times

Let us now look for a moment at our times. What are some of their characteristics that are especially pertinent to the interests of professional men? I shall indicate only six.

First, we live in an age of great wealth, particularly in our own country; we have an abundance of material things which has enabled us to support and develop the professions to an extent that was never before possible. The opportunity of the professional man to gain a livelihood from his work is reasonably well assured.

Second, in our times knowledge is increasing at an accelerating rate. The scientific and theoretical foundations of the professions are being well developed and the promise for the future is large. The professional man in our day lives in what should be for him an exciting time.

Third, we note that in our times there appears to be a tendency toward collective action in social and economic affairs. You will understand that in making this observation I am acting as a reporter, not as an advocate. If one may conclude from the trend of events, it seems likely that as the population increases, as social and economic life becomes more complex, and as individuals come to organize themselves into associations, we may see collective action applied to an increasing number of activities.

In our own country some aspects of our life have been under collective control from the time that organized government was established, and slowly we have placed other aspects—one after another

—under such control. The result to date is that we have a mixed economy with considerable emphasis on individual initiative and freedom of action. What the future may have in store for us with respect to this matter is not altogether clear at the moment, but I entertain the hope that we shall act intelligently in the future as we have on most occasions in the past and that we shall usually make the right decisions. This tendency to collective action nevertheless merits the most careful thought on the part of all of us. Professional men as well as all others are affected by it; they will have to participate in determining the direction and extent to which it will go.

Fourth, our country, willy nilly, is now deeply involved in international affairs. Our role in this matter has been forced upon us by the swift rush of events. And we are not altogether happy about it. Indeed we are much troubled by the responsibility that is now ours. Today we are pouring out our treasure in many billions of dollars both to develop and maintain military strength among the free nations and to help the half starved and disease-ridden peoples of the world to a better standard of living. In all these developments professional men have a large share and a large stake.

A fifth characteristic of our times is a terrific clash of ideologies. A few days ago I came upon a new book entitled, *European Ideologies —A Survey of 20th Century Political Ideas*. Here are explained the systems of fascism, nazism, anarchism, agrarianism, socialism, Zionism, communism, phalangism, and a number of other idea-systems, all of which now have numerous devotees. I believe that we shall have to agree with the editor of the book, who observes that "the United States in its world orientation can no longer fulfill its responsibilities without a clear perception of the idea-forces that are moving or controlling other peoples."

The sixth and last of the characteristics of our times that I want to mention here is the curse of war. Years ago as I studied history and learned about the great military conflicts of the past, I thought of them as something far away both in time and in place. They seemed to belong to the years gone by, and the future would have none. This was, of course, a very naive notion. I have lived long enough to learn otherwise.

Quincy Wright in his authoritative study of war, published several years ago, reported that during the first 30 years of the present century European powers alone fought 74 wars, each an average of

4 years long. Since Professor Wright made his study, the world has seen a number of other wars including the infernal conflict of World War II and now we have the fearful Korean struggle. How many human beings have been killed directly or indirectly in the course of this frightful history it would be almost impossible to find out.

Figures for World War I indicate that 65 million men and women were under arms in the belligerent nations, that the casualties reached the staggering total of $37\frac{1}{2}$ million, and that of this number $8\frac{1}{2}$ million died.

Data on the loss of life in World War II are far from complete but the best estimate I have been able to obtain is to the effect that approximately 14 million men in the military forces and about 25 million civilian men, women, and children lost their lives in those terrible years from 1937 to 1945.

Not only do modern wars result in a terrifying loss of life; they devastate the world's natural resources. The staggering consumption and destruction of petroleum, steel, and timber, to name only a few resources, leaves the world tremendously poorer than before. The eventual outcome must be obvious to any thoughtful person. Truly the world now finds itself in a tragic era, the like of which never has been recorded in history.

And now comes Professor Howard Mumford Jones of Harvard University to lay upon the educators of our people a share of the blame for this awful tragedy. In his recent book on *Education and World Tragedy* he contends that we have educated men to become professionals and other specialists by developing in them a very high degree of technical skill, but that we have lagged in developing in those same men the power to understand the attitudes and ideas of men and of nations, the wisdom to deal with this tragic situation.

Concerns of Professional Men

The statements made so far in this paper present a limited background for a number of concerns which the professional man has and should have in our times.

First, we note two concerns that are directly related to himself. Most professional men desire to become masters in their profession. Such mastery cannot be accomplished fully in the professional school. All that the student can do there is to become acquainted with the basic facts, and the elemental skills of the profession, and to develop

some ability in solving the kinds of problems with which the profession has to deal.

This means, of course, that the practitioner of a profession must continue to grow if he would be successful. On graduation day he has acquired merely an introduction to his life work; he is little more than a journeyman who has completed the first stage of his education; there is much more that he will have to learn in order to become a master. Soon he discovers also that much of what he has learned is outmoded because new facts, principles and methods of service are continually becoming available.

As I associate with professional men I find that, in general, they place high value on continuing improvement. They take great pride in superior workmanship and achievement and they have a good deal of contempt for the incompetent, sloppy, and careless workman. This is, of course, as it should be. The inward satisfaction that comes from service to others that is well done is one of the professional man's best rewards. He likewise cherishes the approbation of his fellow practitioners for the achievement that comes only from close study and conscientious application to his tasks.

In order that he may attain success, the professional man has at hand several means such as society meetings, clinics, graduate and postgraduate courses, and extension courses. The movie, the radio, and the telephone are being employed to help him, and shortly television and other inventions will make their contributions. Our times not only make the professional man's improvement possible; they make it absolutely necessary and obligatory upon him.

The professional man has a concern for his economic security. Only a very few professional men could live without an income from their work. Their profession is the source of their livelihood. They have invested heavily in their education; they are expected to maintain a fairly high standard of living; they must make additional investments in their continuing education. Society, however, assumes that the basic motive of the professional workers is to live a life of service. Indeed, this motive is basic to the maintenance of professional status. There are, of course, tremendous pressures upon the professional man to weaken his commitment to this high standard, and for some—indeed all too many I fear—the temptation proves too great.

Here we have a moral problem of the first order. The professional

man must decide whether he is in his profession merely to earn a living. Will personal welfare be his highest motivation? Or will he recognize his professional responsibility to be a servant of humanity? Shortly some of you will pledge yourselves to a very high ideal of service. Well do I remember the profound emotion the pledge stirred in me when first I heard it. I assume that you have been elected to membership in the American College of Dentists because your fellow professionals regarded you as living up to its high tradition. I am sure you realize that the pledge in which you affirm your adherence to that tradition is not to be taken lightly; for the ideals it expresses if lived up to, help to make a profession honored and respected among men.

But I started to say something about the need for economic security—an ever present reality for practically all professional men. I think we shall have to agree that in the social order under which we live the worker who makes a social contribution, be he a professional or some other, deserves a just recompense. As you well realize, both the amount of recompense and the method of payment vary with the different professions. And you also recognize the fact that there are many unsolved problems related to this matter.

Currently the professions are confronted with the problem of retirement and old age. For many years each individual was expected to provide for his old age through the accumulation of personal savings or through such means as voluntary insurance and annuities. About 20 years ago it became apparent that for an aging population in an era of rapid economic change greater provision must be made for economic security in old age and that the provision must be a collective undertaking. In accordance with this idea the Federal Government in 1935 established what is popularly called the social security system, one part of which provided for Federal old-age and survivors insurance.

As originally established, the old-age and survivors insurance plan left out large numbers of persons, including the self-employed, and those who were employed by churches, colleges, universities, States, and municipalities.

Slowly, as the social security system has proved its worth, it has been extended, upon the request of other groups, to include them, but self-employed dentists and some other self-employed professionals are still excluded. Some of these are now considering coverage for

themselves. No doubt you know of H.R. 4943, a bill introduced in the House of Representatives on July 25, 1951, by Congressman Christian A. Herter, of Massachusetts. It would place self-employed dentists under the Federal Old-Age and Survivors Insurance System.

Recently another proposal has been made, which would assist somewhat in making provision for old age for self-employed persons, although it appears primarily as a tax-relief measure. Presented in the Congress by Senator Ives and three congressmen from New York, it would amend the Federal Internal Revenue Act and would apply to taxpayers belonging to bona fide agricultural, labor, business, industrial, or professional associations. It would recognize retirement funds established by organizations of these taxpayers and would permit each such taxpayer every year to pay into the retirement fund of his organization 10 per cent of his earned income or $7,500, whichever would be less. Such payments would be exempt from Federal income tax. He could not withdraw his contributions to the retirement fund until he reached the retirement age which would be at least 60 years, except if he should become permanently disabled before that age. Upon retirement he would draw his benefits in one of two ways, either in a lump sum or in annual installments. As he drew his benefits he would pay Federal taxes on them. He could also have the trustees of the fund purchase for him a retirement policy from an insurance company. Action on the proposal has been deferred for the time being. The proposal is now being studied by the Joint Committee on Internal Revenue Taxation.

The plan has been under discussion for several years. It had its origin in the contention that the income tax laws discriminate against earned income, particularly income directly earned by a professional from the rendition of his own services. Basically, the plan is a method of projecting some portion of earned income to a later period and thus permitting it to be averaged so as to bear a lower tax. Inasmuch as the dental profession is now considering this plan, I need give no more details about it now.

Apparently there are merits in both proposals, that is, (1) in the Herter Bill and (2) in the proposed amendment to the Internal Revenue Act. I assume that as the professions debate the pros and cons of the two proposals they will consider them in the light of the benefits to both the professions *and* the population as a whole. It should be clearly understood, of course, that the adoption of either

proposal does not preclude the other one; both may be adopted if they commend themselves to the professions.

As I see it, the professions have waited rather long in finding a satisfactory plan of old age security for their members. They seem to be in much the same position as the young Swede who appeared at the county judge's office and asked for a license. "What kind of a license?" asked the judge—"A hunting license?" "No," was the answer from the Swede. "Aye tank aye bane hunting long enough; aye want a marriage license!"

The *second* group of concerns I want to mention are those which the professional men have for their professions. They are jealous of the reputation of their professions, and they make great effort to safeguard and protect it. This spirit asserts itself in a number of ways.

Professional men are concerned as to who shall be admitted to their ranks; that is, as to who will be their competitors and their successors. The newcomers to a profession, if they are competent and high-minded, help to create an atmosphere in which the highest standards of service prevail, but those who are incompetent and low-minded tend to demoralize a profession and degrade its standards of service. Moreover, all men who are proud of their profession have a strong desire to leave it to worthy successors.

Professional men are concerned about their professional schools. These schools to an increasing degree determine the character of the profession. In a very significant way they serve as the gateway to the professions; they make the decisions as to who may enter and who must remain outside. The schools determine what principles, techniques, and methods of thinking the future members of the professions will learn, what professional attitudes they will develop, what ideals of service they will espouse. Moreover, the schools carry on a large share of the research and other creative activities, the results of which vitalize and renew the professions. It is understandable, therefore, why professional men are concerned about their schools.

This concern for professional schools is well illustrated by the activities of the dental profession in North Carolina and New Jersey. In North Carolina a new dental school is now in operation and its establishment is due almost entirely to the urging of the profession in that State. In New Jersey the profession has for some years been

asking that the State establish a dental school, and recently a selected committee has presented a splendid report on this matter to the legislature. All this is done with full knowledge that more dental graduates mean more competition, but also with recognition of the fact that a good professional school in the geographical midst of a professional group is a great asset to the group.

Professional men are concerned about research and creative work in their profession. The profession recognizes that systematic and persistent effort to extend the boundaries of knowledge and develop new methods of service is a basic factor in its development. It must turn to the laboratory and the seminar for a continuing fresh supply of facts; the steady stream of ideas emanating from these sources keep the profession from degenerating into mere routine, from losing its intellectual character.

Dentistry affords a notable illustration of professional concern for research. For years the American Dental Association has devoted sizable sums to research on dental problems at the National Bureau of Standards and more recently some additional money to investigations at the National Institutes of Health. The American College of Dentists has for some time had a committee on research, and the College has devoted some of its funds to the promotion and support of research. These efforts reflect a distinctly professional attitude; they have been no small factor in strengthening the profession and raising it in public esteem.

Related to the concern of the professional man for research and creative work is his concern for a well developed literature. In a genuine profession there are no trade secrets. The discoveries are published so they may be shared by all and become the common property of those who are able to use them. They are freely given to the world in the interest of a better service to humanity. Truly, the professional man is much concerned about the development of a fine body of professional literature—a source of both strength and pride to him and his confreres.

Such are a few of the concerns which the professional man in our times has for his profession. We come now to the *third* type of concern of the professional man in our times—his concern for the general welfare, for humanity as a whole. Professionalism is not without serious social consequences. The trend toward highly specialized vocations in our occupational life is resulting in deep cleavages in our society

with a resultant lack of unity and concern for the affairs of society as a whole. The professions tend to draw into them a large share of the intellectually more capable people. In these fields the educational and professional activities almost completely engage the time and energy of the practitioners. It is but natural, therefore, that the members of the professions tend to lose concern with the broad field of public affairs except as their own immediate interests are involved. Some—indeed all too many—professional men feel that in their work they make a sufficient contribution to the community and the Nation.

Now we shall have to admit that the management of our social and civic institutions and the administration of public affairs have become at least partly specialized and professional functions, but the major decisions in these matters in our democratic society are made not by the specialist but by individuals who represent the public interest. That is the tradition which we have fostered and developed among our people for several hundred years.

We are satisfied that a part of the strength and greatness of America stems from our practice of discussing at the grass roots level the problems of our common life and the national welfare. Out of the ferment of discussion we finally arrive at policy. We are committed to the idea that the wisdom of the many is superior to the wisdom of any elite group, that the strength of the Nation and the freedom of our people are more secure if they are entrusted to the many rather than placed in the hands of the few. But such a system of determining policy cannot operate without leadership. In other words, in such a social order as that under which we live there must be leading citizens.

The professional man *is* a leading citizen; he can be no less and serve in his profession. I assume it is not necessary to argue this proposition. I merely assert that the professional man does have special responsibilities as a member citizen of his community and his Nation. As one to whom society has given much by way of education, opportunity, prestige, and honor, he owes a special obligation as a citizen leader. The smaller and the larger communities turn to those of their members who carry heavy responsibilities in business and professional life to lead them in the conduct of their social, civic, and cultural life. These men are expected to serve on municipal councils and boards and in other governmental elective and ap-

pointive offices. They serve on community chest boards, boards of education, health councils, boards of cooperatives, church boards, and public improvement and planning committees, all of which are devoted to promotion of the public welfare.

To be sure, these needs of the community and the Nation are not always fully served by the educated members of society. Arthur T. Vanderbilt, Chief Justice of the Supreme Court of the State of New Jersey, and formerly Dean of the New York University School of Law, has recently said:

"After twenty-seven years of active participation in politics, most of that time as the leader of the majority party in one of the largest counties in the nation, I venture to express the conviction that one of the greatest causes of the sickness of society is the aversion of its natural leaders, among whom I include its professional men, to performing their obvious duties as citizens.[3]

Justice Vanderbilt continues further: "We have all been so accustomed to applying the doctrine of the division of labor and the principle of delegation of authority in business matters that we have failed to realize that there are some fields in which division of labor and delegation of authority can have no place. In a democracy, particularly in a democracy in a technological age, one simply cannot delegate one's duties as a citizen and hope to have our complicated machinery of government work effectively. The fact that we are busy with the practice of our profession does not alter this, nor may one's public duties be postponed to a more convenient season. Many professional men with the very best of intentions have endeavored to achieve private success first with the high ambition that this may be followed by a career of public service. How rarely does it work! There is nothing more pathetic than the successful professional man who wants to serve his community but who has never schooled himself in the world of political realities. A day of public service and of real interest in the world of politics at the age of twenty-five is worth infinitely more to the community than a month of any old man's leisure."[4]

Let me read another statement, this one by the Provost of the Carnegie Institute of Technology, Elliott Dunlap Smith:

[3] *Education for Professional Responsibility*. (Pittsburgh, Pa., Carnegie Press, Carnegie Institute of Technology, 1948), p. 151.

[4] Ibid., p. 154.

"Our complex and far-flung democracy is a democracy of men who work. Unlike the democracies of the past, it has no leisure class which is its governing class. If its imperiled freedom is to survive, its keenest and most disciplined minds—and by and large this means its professional men—must devote their moral energies and intellectual powers to becoming leaders in solving its problems."[5]

If professional men withdraw from civic duties, who will be left to deal with the great social, economic, and moral issues that affect all of us? Are these matters to be left to the people of lesser educational attainment and understanding? That might easily occur as increasing numbers of our superior people engage in highly specialized callings such as the professions. Such a course would certainly have most unfortunate results.

The greatest problem that confronts us today is not how can we obtain improved professional service, important as that may be. Rather, it is, how can we manage to survive in this modern age of overwhelming social and economic problems, of conflicting ideologies, of increasingly deadly and devastating wars. These are the things to which all intelligent people must give attention. We need to cultivate *all* our brains to deal with them. Professional people cannot escape responsibility; they must help to carry the burden in these more general problems. They will be derelict indeed if they do not inform themselves on these larger issues, arrive at sound judgments concerning them, and participate in the formation of public policy for dealing with them.

Do I hear someone say: "How can I do these things with all the other responsibilities I have?" My reply is: "How can you, a rational and educated man, avoid them, particularly in such perilous times as those in which we live?"

In Conclusion

Today is Sunday. At places this paper may have sounded somewhat like a sermon. It is not intended to perform such a function. Rather, I hope it has presented a few ideas that may be of interest and help to you as you render professional service to your fellow men and as you live in a wonderful and tragic world, sharing its good things and helping to bear its burdens.

[5] Ibid., p. 188.

A SURVEY ON THE TEACHING OF PRACTICE MANAGEMENT

J. LEWIS BLASS, PH.G., D.D.S.[1], *New York*

It seems obvious that the maximum usefulness of a course such as practice management can be realized only by a consideration of changing economic and social factors. It thus follows that a periodic evaluation of this course is desirable in order to determine any necessary modifications.

With this idea in mind, a survey[2] was undertaken in 1948 in order to investigate the curricular changes since 1935 when a course of practice management was outlined by the American Association of Dental Schools . . . "A Course of Study in Dentistry."

Responses from 32 schools indicated that the subject material could be grouped into 50 subdivisions. Four of these respondents were in the process of establishing new courses and had no curricula available for the survey. Since jurisprudence is taught as a separate course in most schools, it has been omitted from consideration. Similarly, the recommended two hour session for consideration of service to children has likewise been expanded into a separate course in most schools. Incidentally, these separations in themselves suggest how changing conditions determine the importance of a topic. The specific subdivisions shown in 1, Fig. 1 indicate the proportion of schools covering the given topics. The data may be regarded as a reflection of present-day evaluation of the listed topics although the type of response obtained provides only approximate indications. Nevertheless, some idea of the most important topics which should be included in all courses, and even the proportion of time which should be allotted to these subjects may be obtained by examining the bar charts, 1, 2, 3, 4, 5, Figs. 1 and 2.

The number of hours for the course per school is indicated in Fig. 2. It will be seen that there is considerable variation among the schools. It is of interest, furthermore, to compare the number of

[1] Associate Professor, Periodontia, Lecturer in Practice Management, New York University College of Dentistry.

[2] This constitutes a personal study of the subjects. Appreciation for helpfulness is extended to all those who replied to the Survey Questionnaire, especially to Deans and teachers of practice management whose responses made this report possible.

alloted hours—25 hours not including 5 hours allotted for jurisprudence—nor 2 hours for "Service for Children" recommended for such a course in 1935 by a "Course of Study in Dentistry."

At the time of the survey (October, 1948) the mean number of hours alloted was 17.2 hours with the greater number of the courses (70%) limited to less than 16 hours. Two views may be taken of these figures: 1) The number of hours suggested in 1935 is unrealistically large with reference to present-day needs, or 2) the value of a course in practice management is not sufficiently appreciated.

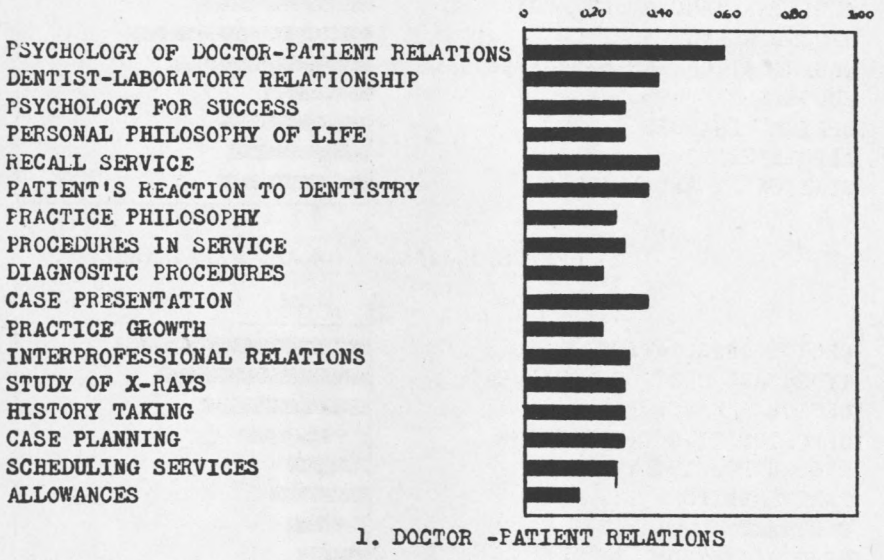
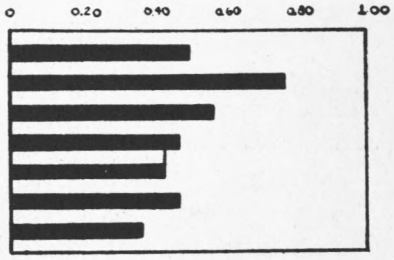


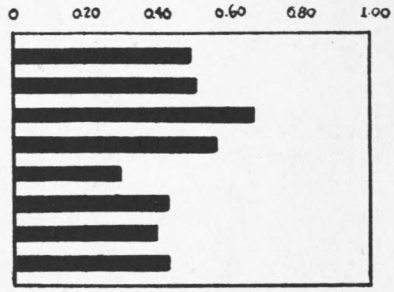
FIG. 1. Breakdown of courses in practice management giving the proportion of schools covering subject material listed above.

It is our conviction, however, that the latter interpretation is more indicative of the true situation; clearly, current socio-economic problems imply a more perceptive approach to the problems of practice management and hence an even greater emphasis should be given this phase of training than is suggested by the American Association of Dental Schools plan of 1935. Thus, we are led to propose that the content of courses in practice management be examined objectively in order to revise the existing standard in the light of present day needs.



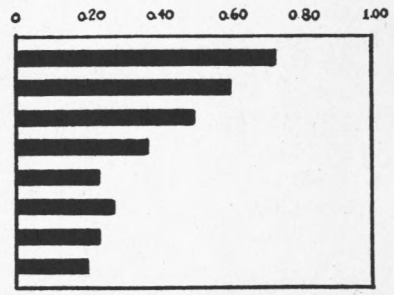
COSTS OF CONDUCTING PRACTICE
FEES
CREDITS AND COLLECTIONS
TYPES OF BUSINESS INSURANCE
OTHER INSURANCE
TAXES
PROFESSIONAL BUDGET PLANS

2. BUSINESS CONSIDERATIONS



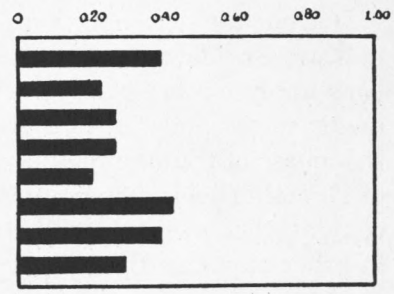
BOOKKEEPING
ASSISTANT AND OTHER PERSONNEL
RECORD FORMS
ORGANIZATION AND MANAGEMENT
BUDGETS
OFFICE FINANCES
APPOINTMENTS
STATIONERY AND PRINTING

3. OFFICE ORGANIZATION AND MANAGEMENT



CHOICE OF LOCATION
TYPES AND COST OF EQUIPMENT
OFFICE ARRANGEMENT
OPPORTUNITIES OF PRACTICE
INCOME POSSIBILITIES
PARTNERSHIPS
CONTRACTS
SPECIALIZATION

4. PRACTICE OPPORTUNITIES; ESTABLISHMENT



SAVINGS AND INVESTMENTS
SOCIO-ECONOMIC RELATIONS
PERSONAL COSIDERATIONS
THE DENTIST'S HEALTH
CONTACTS
CIVIC AND FRATERNAL ACTIVITIES
PROFESSIONAL SOCIETIES
BUSINESS VS. PROFESSION

5. PERSONAL AND ETHICAL CONSIDERATIONS

FIG. 2

Some approaches to the effective teaching of practice management are included in the following views expressed by Deans or teachers of practice management of dental schools. These comments were in response to the question, "Do students apply practice management principles in their undergraduate work?"

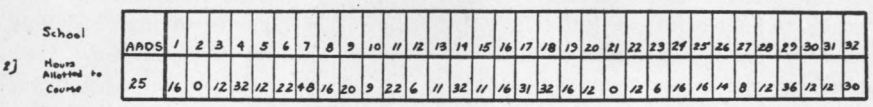


FIG. 3. *1*. The mean number of hrs. is 17.2. *2*. Approximately 42% of the courses do not exceed 12 hours in length. *3*. Approximately 70% of the courses do not exceed 16 hours in length.

"We try to make our subject a practical one in that problems of patient management, psychology, approach and so forth are carried out on the clinic floor by our Junior and Senior students in handling the clinic problems as if they were in their own private offices. We try to have our students talk to the patient and make him recognize the advisability of putting long range service ahead of a temporary replacement, for example."

Dr. Harry B. McCarthy,
Baltimore College of Dental Surgery
University of Maryland

"The students infirmary records are correlated with the lecture course and I am enclosing sample day, month and year sheets which are used. From these I believe they come to value the time factor as related to successful practice."

Dean Leon J. Gauchar
University of Buffalo College of Dentistry

"Students have an opportunity to apply the practice management ideas with their clinic patients. They are asked to discuss the treatment planning together with finances with their patients. They collect the fees from the patient and make the necessary ledger entries on their patient's record. The oral diagnosis department does not go into the field of practice management. Postgraduate consultation is made available at any time the graduate returns or corresponds with me regarding his problems."

Dr. George E. Steninger
University of California College of Dentistry

"We have two methods in our undergraduate dental clinic which we feel contribute a great deal toward understanding of the problems of practice management. In the first place, student dental hygienists from the Forsyth Infirmary work in our clinic. Senior dental students who have demonstrated their ability in the field of oral prophylaxis are permitted to refer patients to these hygienists and to supervise them as they would do in a private office. Second, we have students assistants

from a training school who work in the clinic. Senior dental students are permitted to use the help of these girls. We feel that our students therefore have an excellent opportunity to understand the role of the hygienist and the assistant in a private office."

Dean Jeames M. Dunning
Harvard School of Dental Medicine

"The student learns to carry through his clinical practice in a manner comparable to his teachings in the course and as he will be expected to do in his office later. Complete mouth examinations and complete charting of all cases are done on all patients in the clinic. Full mouth x-rays are insisted upon for all patients who attend the clinic. The handling of patients, the arrangment of appointments and time for execution of laboratory procedures in connection with clinical work is left to the student and his conduct of these affairs becomes a part of his clinical training."

Dr. Raymond L. Hayes
Howard University College of Dentistry

"In the clinic each student is required to make a complete examination of each of his patients, chart all work necessary, and make a fee estimate based on a theoretical overhead. Then he is required to keep the time on each operation so that he may know, at the conclusion of services, what it has cost to deliver the services. Hence he will know whether the service was rendered at a profit or a loss."

Dr. J. B. Carr
Indiana University School of Dentistry

"The students are advised to keep a record of the individual operations until they have a good idea of time and costs under operating conditions of his own office. From this, each can establish his fee schedule."

Dr. Robert L. Sprau
University of Louisville School of Dentistry

"An essential objective of practice management would seem to be a keen sense of responsibility toward the patient and the establishment of mutual understanding and confidence between the professional man and his patient. In all our clinics at all times we try to inculcate this professional attitude. Whatever the lecturer may say, it will carry little weight unless the principles are carried out in daily practice. In some of our departments, for example Periodontia, the student is encouraged to talk fees with the patient."

Dean J. L. T. Appleton
University of Pennsylvania School of Dentistry

"The students apply practice management principles in their undergraduate work in bookkeeping wherein each point represents one dollar."

Dr. C. H. Kendall
Northwestern University School of Dentistry

The integration of practice management principles with oral diagnosis is accomplished in some schools to the degree indicated by the

following comments which were in response to a question on that point.

"The principles of practice management as embodied in the course are followed in the Division of Oral Diagnosis insofar as the 'comprehensive principle of diagnosis is concerned."

Dr. Irvin L. Hunt
Columbia University School of Dental and Oral Surgery

"The curriculum of the College of Dentistry does not include a course in Practice Management. The principles of this subject that we consider essential to the education of a student are incorporated in the course in Oral Diagnosis. A part of the instruction is given by lecture, a part at the chair by instruction offered during examination and diagnosis."

Dean Allan G. Brodie
University of Illinois College of Dentistry

"The necessity of complete X-rays and full mouth examination is stressed in each clinical case. Fees are charged for the mouth examination and diagnosis letting the student know this is to be a fundamental and integral part of complete dental service. The stressing of oral diagnosis, x-rays and accurate records prepares the student to appreciate these services and to realize their importance in successful dental practice."

Dr. Raymond L. Hayes
Howard University College of Dentistry

"During the senior year each student must spend a definite amount of time in the examination room. They make the examination, take x-rays, and then discuss the case with a member of the staff and then with the patient."

Dr. Peter P. Laude
State University of Iowa College of Dentistry

"Regarding the principles of Practice Management integrating with the department of Oral Diagnosis, I can say that we make no visible attempts to make the course fit in with the Oral Diagnosis. However, you will find after you have studied the charts made out for each individual patient, that each student learns to make a very complete and careful diagnosis of each patient, and I think that has been one of the principles which has been stressed in courses in Practice Management. We do not make the complete examination in Oral Diagnosis because of the principles in Practice Management, but we make it because we think that every patient should have a very careful and complete examination regardless of what principles the dentist may employ in the business side of his work. Our careful examinations of patients are presented because we feel that it is a service that every dentist should render to every patient. Therefore, we make no visible and pointed attempts to integrate Practice Management with Oral Diagnosis. We make no provision for post graduate teaching on the problems of Practice Management."

Dean W. H. Crawford
University of Minnesota School of Dentistry

"The principles of Practice Management are integrated with the department of Oral Diagnosis to the degree that both departments stress the values of proper oral diagnosis and treatment planning as a necessary adjunct to proper dental service and the conservation of time and effort."

Dr. J. F. McParland
University of Pittsburgh School of Dentistry

"In the department of Oral Diagnosis the students write up the history of the patients and the general examination which is made. This is reviewed again after x-ray examination, and in cases involving much restoration a survey of the case is completed and discussed with the instructors."

Dean Harry Bear[3]
Medical College of Virginia School of Dentistry

---

[3] Deceased.

THE MID-CENTURY STATUS OF BASIC SCIENCE EDUCATION FOR DENTAL GRADUATES

FRANK J. ORLAND, D.D.S., AND J. ROY BLAYNEY,[1] D.D.S., *Chicago*

By a gradual process of evolution, dental education is now beginning to place more emphasis upon teaching programs for the dental student which integrate the basic sciences with clinical observation. Concurrently, it also is becoming increasingly clear that the student must be equipped with new knowledge in dentistry emanating from the best in research. Such educational programs, if they are to be conducted effectively, call for teachers and researchers in dentistry capable of imparting to the student this kind of training and knowledge. Unfortunately however, individuals with these capabilities are not found universally in the dental schools of today.

The purpose of this discussion at the mid-century mark is twofold. On the one hand, an effort is made to determine the extent to which dentists interested solely in teaching and research have participated in higher academic training as measured by the attainment of certain academic degrees in the basic sciences. On the other hand, an attempt is made to evaluate the influence this group of individuals with such higher learning in the sciences may be exerting on the broad fields of dental education and dental research. As a result of such a discussion it might be possible to learn with greater objectivity whether more and better planned programs should be instituted for training dental graduates in the several basic sciences for the purposes of teaching and research in dentistry as a lifetime career.

Upon completion of certain prescribed academic studies and research in the basic sciences, it has been customary for institutions of higher learning to grant degrees symbolic of such work. Dental graduates undertaking and completing such a program have received the Master of Science or Doctor of Philosophy degree just as other individuals without a dental background. Obviously, the content of the prescribed courses of study, the nature of the original investigation carried out, and the knowledge assimilated for future application by the individual are the most important elements in

[1] From The Walter G. Zoller Memorial Dental Clinic, The University of Chicago.

such higher learning. Furthermore, it may be that the kind of academic degree granted, does not and cannot indicate *per se*, the attributes of the individual for future teaching and research. Still, it remains a truism that the academic program leading to a Ph.D. degree implies greater time and effort spent in the achievement of a more comprehensive understanding of a whole field. With the attainment by a dental graduate, of a basic science understanding as symbolized by a doctorate, similar to that in dentistry, the individual can be expected to be equally proficient in both fields. Those who achieve this dual status may have the capabilities of bridging a wide chasm in dentistry. Both dental education and dental research seem at present to be in dire need of integrating the several basic sciences with clinical observations, thereby spanning this chasm.

The question often has been raised in teaching and research circles as to how many individuals there are in American dental schools and institutes with such dual training and background. The impression had been that such individuals were no longer uncommon in dental institutions at the midway mark of the twentieth century, but little definite information has been available. Even the relatively recent comprehensive writings on dental education as those by O'Rourke and Miner[1], Blauch[2], and Horner[3] supplied almost no data on this subject. However, a list of dentists with Ph.D. degrees was compiled in 1939 by Asgis[4] and was discussed in his writings. According to that listing there were only twelve such individuals in the United States and Canada at that time. Several of these men, it has been learned, are no longer among the living and younger men were surmised to have grown into their ranks. In the 1949 report of the Committee on Teaching of the American Association of Dental Schools[5] it was stated there were eight new teachers having both a D.D.S. and a Ph.D. degree. To obtain complete and current information with which to provide dentistry with a kind of mid-century inventory of some of its dual trained personnel in the fields of teaching and research, a simple survey was conducted by means of questionnaires and accompanying letters directed to the individuals concerned.

Because of the international aspect of higher education, it was problematical in the early stages of the survey as to its logical delimitation. Finally, it was decided to limit the data for this report to those individuals who received one or both of their doctorate

degrees in the geographical area of the United States and Canada and who are now connected with American institutions of teaching, or research, or are in private practice. Pertinent data from the survey is depicted in the accompanying tables and charts.[ii]

As is evident from the scatter diagram, Figure 1, the total number of living individuals in any one year with "duo-doctorate" degrees has increased markedly in the last decade. For the year 1950 alone, there were five new individuals added, making a total of thirty-seven.[iii] It is notable there were no women among this group having both professional and academic doctorates. During the ten year period, 1940–49 inclusively, there was a total increase of sixteen individuals. Three were lost by death during this period, thus reducing the increase of nineteen by three.[iv] By contrast, there were only ten added during the decade of 1930–39 inclusively, and only four during 1920–29. There were only two men known to be in this category during the decade 1910–19 and none were ever listed as possessing both a dental degree and a Ph.D. before this time in the history of American dentistry.

Another question often raised concerns the universities which are considered to be foci for academic training of dental graduates. The mere number of individuals receiving a Ph.D. degree in basic science departments of a university is at least one kind of index, though not necessarily a criterion of excellence in such training *per se*. A total of eighteen different universities granted earned Ph.D. degrees to thirty-four dental graduates, while one university granted such basic science degrees to three individuals who had not yet received their doctorate in dentistry at the time. As is apparent from the data, Figure 2, there are two main centers to which dental graduates have gone for advanced study. It is a significant observation that neither of these, the University of Chicago nor the University of Rochester, has an undergraduate dental school. It is common knowledge, however, that both the Zoller Memorial Dental

[ii] Individuals are referred to by initials only, a complete list of names is appended.

[iii] It is possible, but very improbable that any individuals with these criteria were overlooked in this survey. Every known, pertinent publication, professional and academic index, as well as men active in graduate dental education were consulted.

[iv] R. H. R. received his Ph.D. in 1905 and D.D.S. in 1913 both from the University of Pennsylvania. J. A. M. obtained both the D.D.S. degree in 1916 and a Ph.D. in 1917 from the University of California. S. G. M. was granted his D.D.S. by the University of Pittsburgh in 1921 and his Ph.D. by the University of Minnesota in 1934.

Clinic and the School of Medicine and Dentistry, respectively, have planned programs for assisting and encouraging young dentists pursuing their advanced studies in the respective universities. Under

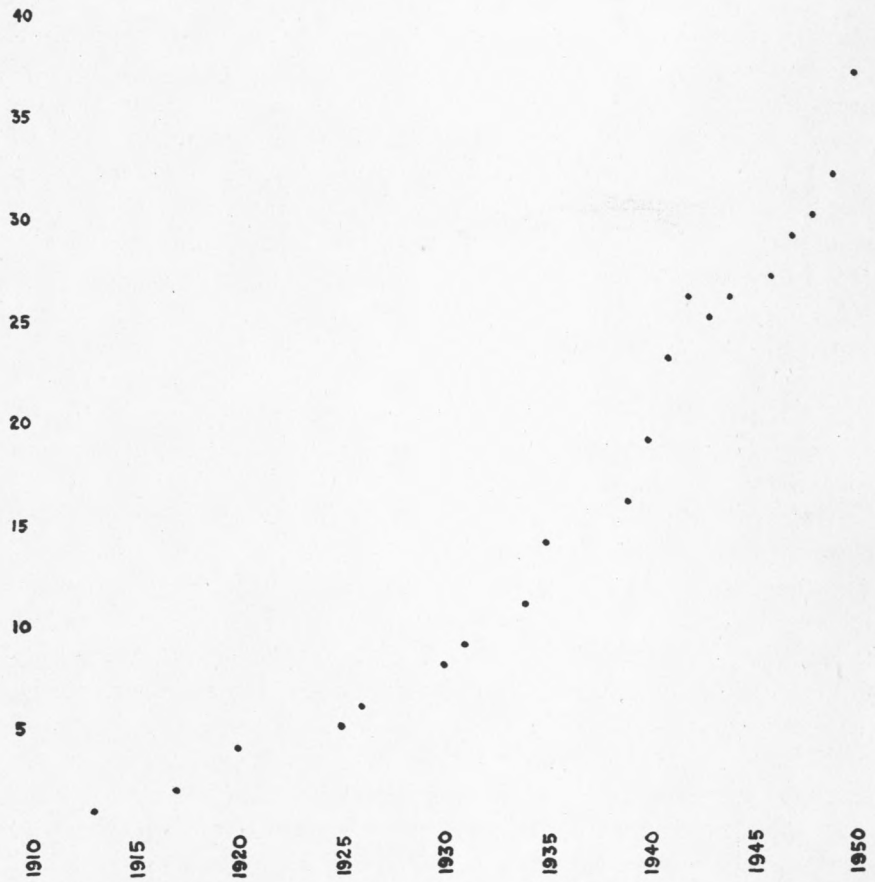


FIG. 1. Scatter diagram of the yearly total increment of individuals having earned doctorates in both dentistry and a basic science. Three individuals who are no longer among the living were excluded from the study the year they died, 1942, 1943, 1944, respectively. The total number of living individuals, therefore, was thirty-seven by the end of 1950.

the medical training program at Yale, the M.D. rather than the Ph.D. was usually acquired by the dental graduates.

Have dental graduates who turned to such academic studies attended any particular dental schools? Data compiled, Figure 2, indicates a list of schools providing dental training, and the number of such individuals taking advanced degrees in each. It may be

coincidental, though it may also have some significance, that strong schools of dentistry, providing a well-rounded undergraduate curriculum attract better educated predental students, and with a

UNIVERSITY	DENTAL DEGREE	PH.D. DEGREE
Berlin		HMH
Chicago		IS, EBJ, PB, NBW, FJO
Columbia	BOAT	BOAT
Creighton	MLD	
Harvard	CDM-D, EBJ, NFS	
Illinois	HS, IS, FJO, DFM	AGB
Indiana	JFV	
Iowa	VDC, REM	REM
Johns Hopkins		HK
Louisville	HH	
McGill	LPS, SWL	LPS
Michigan	DCL	
Michigan State College		DCL
Minnesota	BOAT, APL, WLB	HS, APL, WLB
New York U.	AJA	AJA
New Zealand	CDM-D, BGB	
Northwestern	HMH, GWT, SSA	GWT, TMG
Ohio		AGE, HH
Oslo	RFS	
Pennsylvania	AGB, HK, SJK, NBW	WGD
Pittsburgh	WHW	WHW
Punjab		CDM-D
Rochester		BGB, VDC, MLD, RFS, JFV, DFM, GWB, SWL, NFS
Toronto	HKB, RGA, FML	HKB, FML, RGA
Tufts College	AGE, BGB	
Vanderbilt	WGD	
Washington U.	TMG, GWB	
Western Reserve	PB	
Yale		SSA, SJK

FIG. 2. Universities from which doctorates in dentistry and the basic sciences were obtained by thirty-seven individuals active in the United States and Canada.

more adequate faculty these stronger schools are thus much more likely to have their graduates pursue careers in research and teaching. By contrast, those dental schools which are able to provide only a bare minimal training in dentistry and related sciences leave almost no choice for its graduates, but dental practice.

Programs leading to a Ph.D. degree for the dental graduate have

been long and protracted, usually on a part-time basis and probably seldom well directed. This situation is deduced from data, as shown in Figure 3. Most of the thirty-four individuals who already had their dental degree permitted many years to elapse before getting their Ph.D. program seriously under way and finally consummating it. The three men who received their Ph.D. first, however, spent only an average of three years in obtaining the D.D.S. degree. By contrast, an average of ten years elapsed for the thirty-four men between the granting of their dental degree and Ph.D., or a sum total of 341 years. Of these, seven individuals received their second doctorate in five years or less; fifteen men spent seven years or less between degrees; whereas, fourteen individuals, probably working sporadically or only after a considerable lapse of time, received their doctorate in a basic science after a ten to twenty-one year period following graduation from dental school. These facts clearly indicate that few dental graduates have pursued a full time, direct program leading to a Ph.D. degree. Instead, most graduates in dentistry have spent time in some other dental endeavor first, or have followed only a part time academic program leading to their basic science degree.

From the standpoint of dentistry's distant future it also may be of interest to note that slightly more than one-third of the thirty-seven active individuals listed in Figure 3 are now between thirty and forty years of age, while slightly more than two-thirds are under fifty years old.

It is required of all candidates for doctorates in the basic sciences to produce formal dissertations on some meritorious investigation of their own. This research, which is of the individual's own choosing, is often indicative of profound interest in a particular field and may engage one's interest for years afterwards. It is therefore useful for inventory purposes to know the fields in which research, usually of a fundamental nature, has been completed by former Ph.D. candidates who are also dentists. Listed in Figure 4 are the thirty-seven subjects of investigation. In anatomy there have been six theses. There were also six on bacteriological topics with one in both bacteriology and biochemistry. Two other men did their research in biochemistry. Departments of education granted two degrees for work on principles of education related to dentistry. In the field of pathology, there were six theses with yet another listed

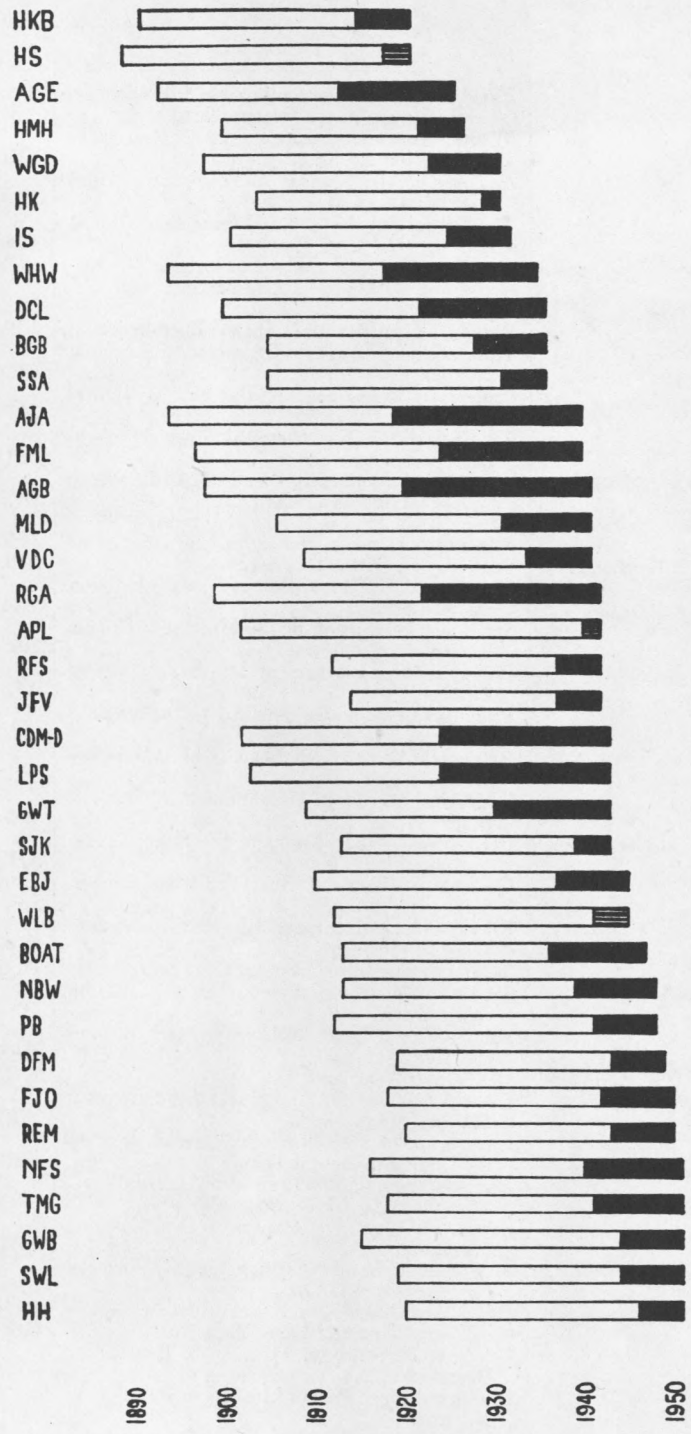


FIG. 3. The span of time elapsing between the acquisition of the dental degree and the Ph.D. is indicated by the shaded portion of each bar. Three individuals (HS, APL, and WLB) received their Ph.D. before their D.D.S. degree. Year of birth is indicated by the left end of each bar.

DEPARTMENT	SUBJECT OF PH.D. THESIS	INVESTIGATOR
Anatomy	Effect of Hypophysectomy on the Rat Incisor	IS
	Growth Pattern of the Human Head	AGB
	Mitotic Rate in the Rat Incisor as Related to Growth and Eruption	EBJ
	Analysis of the Inferior Alveolar and Mental Nerves in the Cat	BOAT
	The Dental Pulp as a Special Connective Tissue	PB
	The Congenital Cleft Palate Deformity	TMG
Bacteriology	Filamentous Bacteria of the Mouth	BGB
	Active & Passive Immunization with *H. pertussis*	LPS
	Immunological Reactions of Oral Lactobacilli	NBW
	Correlation of Antigenic Characteristics Among Lactobacilli	FJO
	Proteolytic & Acidogenic Bacteria in Dental Caries	GWB
	Cytological and Cytochemical Study of *Fusobacterium polymorphum*	HH
Bacteriology & Biochemistry	Relation of Foods and Bacterial Antibiosis to Production of Dental Caries	DCL
Biochemistry	Chemical Changes in Caries of Dentin	MLD
	Mineral Metabolism of Teeth Using P^{32}	JFV
Nutrition & Biochemistry	Proteins of Various Tree Seeds	APL
Biology	Growth and Differentiation of Larval Grafts on the Adult Newt	WHW
Botany	Secondary Succession in the Minnesota Climax Forests	HS
Education	Principles in Education of Dentists & Dental Teachers	AJA
	Principles of Education Applied to Dental Education	GWT
Hygiene	Relation of Diet to Skeletal and Dental Development of Swine	HK
Medicine	Endocrine Factors in Development of Teeth & Bones	WGD
Clinical Medicine & Pathology	Pathogenesis and Etiology of Enamel Hypoplasia	SJK
Pathology	Changes in Teeth of Rats Fed Diet Low in Salts	SSA
	Salivary Gland Extirpation in Rats Related to Dental Problems	VDC
	Studies on the Metabolism of the Teeth	RFS
	Studies of Periodontium and Dental Caries in the Hamster	DFM
	Submaxillary Mucoid & Defense Mechanism of the Mouth	NFS
Pathology & Bacteriology	Dental and Associated Tissues	HKB
Physiology	Inheritance & Physiological Studies with *Solanum tuberosum*	WLB
	Effect of Diet and Nutritional Deficiencies on the Body and Dental Tissues	CDM-D
	Electromyographic Analysis of Muscles in Temporomandibular Movement	REM
	Salivary CO_2 and Its Relation to Oral Calculus Formation	SWL
Preventive Dentistry	A Proposed Dental Service for the Defense Forces of Canada	FML
	Dental and Dietary Conditions of Ethnic Groups in West China and East Tibet	RGA
Psychology	Effect of Attitude on Free Word Association Reaction Times	AGE
Zoology	Chewing Mouth Parts of Insects in Relation to Nutrition	HMH

FIG. 4. Research topics upon which Ph.D. theses were written (up through 1950) by dental graduates active at the present time.

in both pathology and bacteriology, faculty of dentistry. Degrees were granted to four individuals in physiology. From the abridged titles listed in Figure 4, it becomes obvious there is some overlapping of subject matter in this subdivision by departments in which the research was done.

As previously stated, an effort was also made in this survey of dentists with a second doctorate in a basic science to learn what role these men were engaged in regarding dental education and dental research. Of the thirty-seven now living, twenty-three individuals are on the staff of schools of dentistry, active in teaching, research, and/or administration. Of these, four are deans and one, an associate dean. As far as could be determined, eighteen of these twenty-three men are engaged in the dental schools on a full time basis. Three others are associated, also full time, with other dental teaching and research institutions: a dental dispensary, the Army medical department and a dental clinic. One individual, a recent graduate, holds a post-doctoral fellowship from the National Institute of Dental Research in bacteriology. Another is doing research with the Atomic Energy Commission. Still another individual was with the United States Public Health Service until very recently. Another holds a research and editorial position with a commercial establishment engaged in dental product manufacture and dental publication. Four of the thirty-seven are at present engaged in full time private practice of dentistry and three of these were active in teaching and research at one time. Only three men seem to have left the field of dentistry entirely. As must be apparent from the information in Figure 5, all thirty-seven of these individuals are well distributed geographically over a wide area in the United States, though not so in Canada. Nevertheless, five dental schools have two individuals with such duo-doctorates on each of their respective staffs.

DISCUSSION AND INTERPRETATION

On the basis of the foregoing survey it is readily apparent that dental graduates have been devoting themselves in increasing numbers to intensive study leading to a Ph.D. degree in the basic sciences. Most of these individuals have later gone into teaching and research in dentistry as a career.

Although the academic degree of Doctor of Philosophy in its original sense in German universities was granted purely for profi-

INDIVIDUAL	PRESENT ACTIVITY	LOCATION
RGA	Oral Diagnosis & Periodontology	College of Dent., Univ. of California
SSA	Restorative Dentistry	School of Dent., Univ. of Texas
AJA	Oral Surgery, Oral Medicine, Public Health, Dental Culture Private Dental Practice	College of Dent., New York Univ.
BGB	Administration, Bacteriology	Eastman Dental Dispensary
HKB	Periodontology	Faculty of Dent., Univ. of Toronto
AGB	Dean, Orthodontia Private Practice Orthodontia	College of Dent., Univ. of Illinois
GWB	Chief, Dental Research	U. S. Army Med. Dept.
PB	Pedodontics	School of Dent., Western Reserve Univ.
WLB	Oral Diagnosis and Director of Dental Clinic	Creighton Univ. Dental School
VDC	Private Dental Practice	Seattle, Washington
MLD	Pharmacology; Private Medical Practice	Creighton Univ. Dental School
WGD	Chief, Publicity Branch, Military Personnel Procurement	U. S. Army & Air Force
AGE	Personal Adjustment Counselor Vocational & Educational Rehabilitation	Detroit V. A.
TMG	Orthodontia Private Practice, Orthodontia	Dental School, Northwestern Univ.
HH	Bacteriology, Postdoctoral fellow of the National Institute of Dental Research	Dept. of Bacteriology, Ohio State Univ.
HMH	Private Practice of Plastic Surgery	Los Angeles, California
EBJ	Anatomy	School of Dent., Univ. of Oregon
HK	Dental Epidemiology & Public Health	formerly with the U.S.P.H.S., Paris
SJK	Periodontology and Pathology	School of Dent., Med. College of Virginia
APL	Private Dental Practice (Teaching Univ. of Minn., 1941–49)	Minneapolis, Minnesota
DCL	Private Practice Oral Surgery and Research in Biochemistry	Jackson, Michigan
FML	Prosthetic Dentistry	Univ. of Southern California Dental School
SWL	Physiology	School of Dent., Univ. of Pittsburgh
CDM-D	Dean, Clinical Dentistry	Tufts College Dental School
DFM	Dental Education, Oral Pathology and Histology	School of Dent., Univ. of Minnesota
REM	Orthodontics; Research, Teaching, and Administration	Faculty of Dent., Univ. of Toronto

INDIVIDUAL	PRESENT ACTIVITY	LOCATION
FJO	Oral Microbiology	Zoller Dental Clinic, Dept. of Bact. & Parasit., Univ. of Chicago
RFS	Histology and Pathology	School of Dental Medicine, Harvard Univ.
IS	Associate Dean, Oral Histology, Dental Education	College of Dent., Univ. of Illinois
HS	Private Practice Orthodontia	San Diego, California
LPS	Director of Research, Novocol Chem. Mfg. Co. Assoc. Ed., Dental Items of Interest	Brooklyn, New York
NFS	Research, Atomic Energy Project	University of California, Los Angeles
GWT	Pedodontia	Dental School, Northwestern Univ.
	Private Practice, Pedodontia	
BOAT	Periodontology, Oral Histology and Embryology	School of Dent., Univ. of Washington
JFV	Dean, Biochemistry	School of Dent., Univ. of Alabama
NBW	Bacteriology	School of Dent., Univ. of Pennsylvania
WHW	Dean, Denture Prosthesis	College of Dent., New York Univ.

FIG. 5. Current activities of individuals with duo-doctorate degrees

ciency in research, present-day American Universities still confer the degree for research, but as pointed out by Hutchins[6] it also constitutes an essential prerequisite for all who aspire to teach at the higher levels in a university. Blauch[2] has stated "A teacher's instruction may be, and often is, profoundly influenced and greatly benefitted by the research he does. One who carries on research is usually enthusiastic about his subject. He is likely to approach problems in his field with honest skepticism and an open mind, and to place no dependence on dogma or authority. He sees knowledge as something that is dynamic, transitory, ever changing as long as intelligent people devote themselves to discovery. He has a genuine scientific outlook. His intellectual power grows from day to day. These are precious qualities and greatly to be desired in teachers."

Thus individuals thoroughly trained in dentistry with a university discipline in a basic science as signified by a doctorate should be expected to have such a mental grasp of the basic sciences as to enable them to integrate fundamental knowledge with clinical ob-

servations in the oral cavity for the benefit of their students. That there is a need for integration has been attested to by a number of dental educators including Schour,[7] Horner,[8] Nuckolls,[9] and Brodie.[10] Moreover, men with dual professional and academic training should also be able to interpret the replete mass of current and past literature, at least in their own fields, in order to exercise some measure of selectivity as to what constitutes a valuable research contribution. Such evaluation would be greatly appreciated by the genuine student whether he be an undergraduate or a graduate engaged in the practice of his profession. After all, the function of a teacher at the middle of the twentieth century, is not to hand out information, that can be obtained from books, but to provide interpretation and thus stimulation by contact with a personality which embodies the attainments to which the student aspires. It cannot be assumed that every dental graduate who earns a doctorate in a basic science becomes *ipso facto* an inspiring teacher and an excellent researcher. Neither can it be said that everyone undertaking both fields of endeavor are educational hybrids, adequate in neither dentistry nor in the basic science of their specialty. Furthermore, there have been a few dually trained individuals who have elected to follow exclusively one or the other rather than some appropriate combination of their two fields of learning. However, the vast majority of men who have earned a doctorate in both dentistry and a basic science are known to be active, and sometimes perhaps even eccentric, in their ideas concerning dental education, research or administration.

Although the dental arts and sciences may have had their meager beginnings among the multifarious activities of the barber-surgeons centuries ago, dentistry has now elevated itself to a relatively high level as an oral health profession. Advances in dental knowledge have been attained largely by applying to dental problems certain basic information made available by research in other fields such as physics, chemistry and particularly biochemistry, bacteriology, pharmacology, physiology and histopathology.

Dental education itself was appraised and re-directed by the report of William J. Gies[11] to the Carnegie Foundation in 1926. This report on the current inadequate state of dental education did much to re-crystallize thinking and provide for better teaching and more research in the schools, following the lead of medicine.

A quarter of a century has elapsed and considerable progress has been made in advancing teaching and research in dentistry. With more and more universities underwriting dental education and with more governmental and some private funds available for research, dentistry is attaining a new status. The responsibility of a dental school, as emphasized in an address a few years ago,[12] goes beyond the training of a student to practice a profession. The objective of higher education is not limited to the dissemination of factual material, but includes an inquiry into the vast unexplored areas of pertinent natural phenomena. Teaching and research in professional schools must go hand in hand.

To staff our university dental schools for teaching as well as to provide personnel capable of making the best use of funds now available for research, calls for adequately trained individuals. Those trained solely in a basic science have been admirably qualified in certain phases of dental research and teaching. However, as Horner[8] has stated, they have little knowledge of the clinical implications of their specialties. For them to become adequately oriented in the dental field takes time and an unusual degree of interest on the individual's part. Moreover, all too often these persons will leave the field of dentistry when other opportunities present themselves. To train individuals already schooled in dentistry in the basic sciences or conversely to provide complete dental training for one already trained in a basic science, though it takes considerable effort for such a mastery of two fields, provides dentistry with individuals very likely to remain permanently in the field of dental education, research, practice or administration. Gies[13] expressed the thought that "supplemental graduate programs" leading to the Ph.D. would provide for dentists a more desirable background as a prerequisite for effective research in dentistry than would the adquisition of medical training in conjunction with training in dentistry. Moreover, it could be added that to teach and do research in the field of dentistry, it is much more relevant for dental graduates to have training in the basic sciences rendering them capable of interpreting clinical findings in medicine related to oral conditions, than it is for them to have a medical training enabling them to make the clinical findings themselves.

To further the view of developing, for young dentists, individual careers in dental science, there was established in 1930 with the aid

of the Rockefeller Foundation and later supported by the Carnegie Corporation, the fellowship program at the University of Rochester. Bibby[14] showed the value of this early fellowship training program and how it progressed. With the relatively great number of dental graduates that have studied at the School of Medicine and Dentistry, University of Rochester, it is not astonishing to learn that among geographic foci of dental research, Rochester, as analyzed by Volker[15], has been leading in sheer numbers of research reports.

There was also the Dental Study Unit at Yale, actually inaugurated in 1929, which functioned actively for a time but had for its primary educational purpose, according to Anderson[16], the training of dentists so they might serve as liaison agents between the medical and dental professions. Furthermore, Burket[17] has shown most men studying under the "Yale Plan" acquired the M.D. degree, though two received a Ph.D.

More recently other fellowship programs have been instituted for young dental graduates so they may be encouraged to take up studies in the basic sciences on a graduate level leading to an M.S. or a Ph.D. degree. The Zoller Clinic at the University of Chicago, while not stressing its numerical achievements, has over a thirteen year period been instrumental in the training of several men in the basic sciences for lifetime careers in dental education and research. The Zoller program is also unique insofar as clinical experience can be concurrently integrated with the fundamental knowledge acquired in attaining an academic degree from the University of Chicago.

During the past few years, the University of Illinois College of Dentistry has also been developing among its dental graduates several potential Ph.D. candidates in the medical sciences. Several other universities have been working out similar programs. With the creation of the National Institute of Dental Research in 1948, additional opportunities are being offered through Public Health Service Fellowships for dental graduates to prepare themselves for teaching and research. The W. K. Kellogg Foundation has shown interest in dental education by offering fellowships to Canadian and Latin American dental students for teacher preparation.

From the survey, it is apparent that fellowships and special university centers can greatly stimulate and facilitate such graduate study on the part of dentists. Two questions must thus be asked.

Should more young dental graduates be encouraged by fellowships to train in the basic sciences? As a necessary corollary, should more university programs for such training be instituted? A double affirmation to these questions must be given, if it can be agreed that individuals trained in both dentistry and in a basic science can fill by a new synthesis of knowledge that educational gap which now exists between clinical observation and fundamental facts constantly emanating from the sciences. From the foregoing survey, the preponderance of evidence, though not always entirely objective, seems to indicate that some of these dually trained individuals are already active and very likely, more will be enabled to be equally active in such an integration process as dental education slowly evolves.

"From the University standpoint, at least," Hutchins states[18], "a professional discipline to be a professional discipline must have intellectual content, and have it in its own right." If the dental curriculum is to remain at the university level and to develop an intellectual content so as to become even more of an integral part of the university, then the trend toward more dental personnel becoming equally well trained in the basic sciences of the university is deemed essential. Concurrent with and as a result of this trend, the critical position of dental education in American universities as outlined by Jump[19] can be favorably resolved insofar as there will be greater appreciation by the dental faculty of dental students with broad cultural and basic science backgrounds. Furthermore, in a functional democracy we cannot afford to have, as Hutchins has bluntly stated, a nation of "uneducated experts."

Just as has been the experience in medicine where advances in the solution of clinical problems have come largely from professionally trained individuals who have had extensive or intensive periods of study in the basic sciences, so it can be expected that dentistry, too, will best advance by the long-term investment of encouraging capable young dental graduates to take some part of training in the basic sciences.

It is not to be expected that every dental graduate aspiring to teach or engage in research need dig so deep intellectually as to achieve a Ph.D. degree. The special survey on the mid-century status of basic science training for dental graduates presented in this paper and discussed in the context of American dental education today, merely served as a reasonably objective indication of the

growing trend toward intensive study in the sciences. A background in both dentistry and the basic sciences, as well as a knowledge of educational methods should be stressed in the preparation of individuals for future teaching and research in dentistry. The Committee on Teaching of the American Association of Dental Schools[5] has aptly phrased the same, great present-day need: "The growing demand for a better application of the basic sciences to clinical dentistry has increased the need for better teachers, for it can be accomplished only by those who are well trained in both clinical dentistry and science."

Names, indicated by initial throughout the text are as follows:

R. Gordon Agnew
Sumter S. Arnim
Alfred J. Asgis
Wendell L. Bartholdi
Basil G. Bibby
Harold K. Box
Allan G. Brodie
George W. Burnett
Philip Burwasser
Virgil D. Cheyne
Martin L. Deakins
William G. Downs, Jr.
Adolph G. Ekdahl
Touro M. Graber
Heiner Hoffman
Harold M. Holden
Ellis B. Jump
Henry Klein
Seymour J. Kreshover
S. Wah Leung
Frank M. Lott
Axel P. Lund
Don C. Lyons
*S. Glenn Major
*John A. Marshall
Cyril D. Marshall-Day
David F. Mitchell
Robert E. Moyers
Frank J. Orland
*Richard H. Riethmuller
Reidar F. Sognnaes
Isaac Schour
Norman F. Simmons
Harvey Stallard
Lyon P. Strean
George W. Teuscher
Bernerd O. A. Thomas
Joseph F. Volker
Ned B. Williams
Walter H. Wright

* Deceased during the decade, 1940–49.

REFERENCES CITED

1. O'Rourke, J. T. and Miner, L. M. S.: *Dental Education in the Uuited States.* W. B. Saunders Co., 1941, Philadelphia and London. p. 251.
2. Blauch, Lloyd E.: *Teaching in Colleges and University with Special References to Dentistry.* American Association of Dental Schools, 1945, Indianapolis.
3. Horner, Harlan H.: *Dental Education Today.* The University of Chicago Press, 1947, Chicago.
4. Asgis, A. J.: *Professional Dentistry in American Society.* Clinical Press, 1941, New York. p. 94.
   ibid: Dental Items of Interest, *62:* 245–260, 1940.
   ibid: South African Dental Journal, 644–647, Nov. 1948.
5. American Association of Dental Schools: Proceedings of the Twenty-sixth Annual Meeting, 1949. p. 136–137.

6. HUTCHINS, R. M.: *The State of the University 1929–1949*. University of Chicago Press, 1949, Chicago. p. 17.
7. SCHOUR, I.: Inaugural Address: The Problem of Integration in Dental Research, Teaching and Clinical Practice. J. Dent. Res. *20:* 221–230, 1941.
8. HORNER, HARLAN H.: The Needs of Dental Education. J. Dent. Educ. *9:* 93–105, 1944.
9. NUCKOLLS, JAMES: The Integration of the Basic Sciences in Clinical Operative Dentistry. J. Dent. Educ. *11:* 61–65, 1946.
10. BRODIE, ALLAN G.: Inaugural Address: Our Common Field of Research. J. Dent. Res. *27:* 717–723, 1948.
11. GIES, W. J.: *Dental Education in the United States and Canada. A report to the Carnegie Foundation for the Advancement of Teaching*. D. B. Updike, The Merrymount Press, 1926, Boston. p. 141, 155.
12. BLAYNEY, J. ROY: Inaugural Address: Dental Education and the International Association for Dental Research. J. Dent. Res. *28:* 627–631, 1949.
13. GIES, W. J.: Is the M.D. Degree a Prerequisite for Effective Research in Dentistry? J. Am. Col. Den. *8:* 1–8, 1941.
14. BIBBY, B. G.: Ten Years of Fellowship Training for Dentists. J. Am. Col. Den. *7:* 145–159, 1940.
15. VOLKER, J. F.: Foci of Dental Research in the United States. J. Dent. Educ. *5:* 277–280, 1941.
16. ANDERSON, BERT G.: The Dental Study Unit at Yale. J. Am. Col. Den. *4:* 1–5, 1937.
17. BURKET, LESTER W.: Present Activities of Graduates of the Dental Study Unit at Yale. J. Dent. Educ. *5:* 70–74, 1940.
18. HUTCHINS, R. M.: *The Higher Learning in America*. Yale University Press, 1937, New Haven. p. 56.
19. JUMP, ELLIS B.: The Dental Curriculum in American Universities. J. Dent. Educ. *11:* 89–99, 1946.

GEORGE HOYT WHIPPLE, M.D.

A Benefactor of Dentistry

BASIL G. BIBBY, D.D.S., *Rochester*[1]

In this day of specialization it is well to remind ourselves that many of the most significant contributions to the advancement of health have come from men who were not specialists in the fields they influenced. As a sample of such contributors, we can mention Pasteur in bacteriology, Abraham Flexner in medical education and Shattuck in public health. In dentistry the achievements of the biochemist, William J. Gies, are of fundamental importance. He drew attention to weaknesses in dental education and by the leadership he gave to dental research and dental journalism did much to correct these deficiencies. George Hoyt Whipple, Dean of the School of Medicine and Dentistry of the University of Rochester, is another non-dentist who has made important and as yet insufficiently recognized contributions to the advancement of dentistry.

Few men can boast a more thoroughly medical background than Dr. Whipple. Both his father and grandfather were physicians before him, and it may be presumed that from his earliest days he was destined to enter medicine. By contrast, Dr. Whipple's association with dentistry is slight. It consists principally of the unsuccessful attempt, between 1923 and 1928, to establish the combined school of medicine and dentistry at the University of Rochester which Dr. Harvey Burkhart had first announced in 1920. However, before he decided with Mr. Eastman and Dr. Burkhart to abandon the project Dr. Whipple had gained a considerable insight into dentistry's needs which when viewed against his background of special knowledge of like problems in medical education delineated for him a program for dental advancement. Thus it was in the late 1920's when most dentists were more concerned about the stock market than the future of dental education that a medical educator decided the future of dentistry could be best assured by providing a supply of dental teachers with a broad and thorough scientific training. In the interest of helping the dental profession to take care of its own scientific advancement, it was decided that these teachers must be dentists. While it was realized that immediate improvements in the

[1] A special contribution, by invitation.

standards of teaching of medical sciences in dental schools could be brought about more quickly by using physicians and scientists as instructors, it was felt that their interest in dental teaching would be only temporary, and that it was improbable they would have a strong interest in the all round advancement of the dental profession. It was Dr. Whipple's belief that all that was needed to equip dentists for this task was to provide them with a suitable training opportunity. The significance of Dr. Whipple's vision was, that, at a time when most dental educators were satisfied with patronizing scientific handouts from medicine, he set up a program which was designed to establish the scientific independence of dentistry, and thereby reinforce its professional autonomy.

The program which Dr. Whipple organized made fellowship appointments available for dentists to study basic science or gain research experience in one of the nation's leading medical centers. This was done with the expectation that, in such an environment, capable dentists would acquire a scientific and educational perspective and demonstrate their ability to do research work of sufficient merit to win the respect and continuing cooperation of scientists in other fields. Thereby, their effectiveness as research workers and their usefulness as dental teachers and to the dental profession as a whole would be enhanced. To emphasize the idea that it was not necessary for dentists to obtain a medical degree to do worthwhile work in the medical sciences, the dental fellows at the University of Rochester were not allowed to work for a medical degree but were given every assistance in preparing themselves for M.S. or Ph.D. degrees.

There were several aspects of Dr. Whipple's program at the University of Rochester which indicate something of the independent thinking of the man who established it. It departed from the dominant idea that it is necessary to have a broad and intensive formal training in science courses before one can do research. Instead, it was dedicated to the idea that given a modest background in science, research activity provides the best way of acquiring more scientific knowledge and keeping abreast of the fundamental progress in the important fields. It admitted the principle that given opportunity an acquisitive and inquisitive mind could make contributions in any field. Finally, it implied that a dental degree was as full a passport as a medical degree to that which has all too frequently been a mystic and restricted province of research in medical science.

Thus did Dr. Whipple open doors which had previously been closed to dentistry.

At one time Dean Whipple and President Rush Rhees of the University of Rochester expected to obtain a substantial endowment to establish a research and graduate dental training institute on a permanent and well financed basis. Unfortunately, principally because of lack of support from influential dentists, this plan failed to materialize. Nevertheless, the training and research project has been continued with such funds as could be made available from various sources and has supplied dental schools with well trained research workers, many teachers in clinical and scientific subjects, more than a score of full professors, and half a dozen deans. While the numbers of these men may be small, their contributions to dentistry have been significant. They have shown that dentists can do high grade research; they have established the fact that dentistry does have a scientific content which is worth the attention of good non-dental scientists; and they have demonstrated that research experience is valuable training for teachers in a changing profession. Twenty years ago, these ideas were completely strange to dentistry, but now largely as a result of the dental fellowship experiment in Rochester they are widely accepted, and many universities and governmental agencies are now offering dentists training and research fellowships in the medical sciences. In pioneering this program, Dr. Whipple rightly assumed that since such scientific developments had done much to change American medicine from an empirical art to a critical science they would do the same for dentistry.

From whence did the idea of the importance of research as an educational tool in training teachers come? Or further, from whence came the independence of thought which enabled Dr. Whipple to lead down a lonely path on which there was no real support from medical educators and only resistance from representatives of American dentistry? There are several influences. One is that the rocky state of New Hampshire background produces minds with convictions which stand firm against the cold winds of contrary opinion. The other is that his education first at Yale and then at Johns Hopkins brought him in contact with the fresh tide of the graduate educational movement in this country. At Yale the Sheffield School was still a pioneering experiment in graduate education, and at

Johns Hopkins University the medical school was starting to revolutionize medical education. It was at Johns Hopkins that full-time teachers and research workers were first used in the medical sciences, and from that focus spread throughout American medicine. It was at Johns Hopkins that Dr. Whipple served for several years as the assistant to William Welch, the father of scientific medicine in the United States. Dr. Welch was a strong believer in research and believed that by doing research men could best come to understand their subject and prove their intellectual ability to become good teachers. Proof of the rightness of Welch's ideas can be found in the fact that his pupils became the deans and professors of many of the leading medical schools in the country. It is certain that not only did he stimulate in his pupils a critical attitude towards the existing state of knowledge in all fields, but he also inspired them to go forth and teach. During his association with William Welch, Dr. Whipple came to understand, as few men have the nature of forces which were reforming medicine and which had come to full flower when he instituted the dental training program at the University of Rochester. Basically, it was believed that research is an integral part of medical education, and that those who were going to teach medicine in a progressive way needed to have a spirit of inquiry, experience in unearthing new facts, and a dissatisfaction with the existing state of knowledge. Where could that be acquired better than by doing research in experimental sciences? That doctrine had worked in medicine—why should it not work in dentistry? The dental fellowship training program at the University of Rochester may be regraded as the introduction of that idea to dentistry.

An aspect of Dr. Whipple's program at Rochester, which is important and unique and which may well be the combined influence of unpretentious New Hampshire and dynamic Johns Hopkins, is that more than anything else emphasis was placed on the development of men. This was the central part of the educational program. Men were encouraged to do experimental research so that they could gain knowledge and scientific perspective and be provided with a chance to demonstrate their ability to others and their fallibility to themselves. They were encouraged to accept responsibilities of the organizational and administrative sort and allowed to learn by their mistakes. Obviously such opportunities are rare for few people have the moral courage to let young men go ahead and make their

mistakes, and even fewer the experienced judgment to offer just the amount of assistance which will build self confidence and not undermine independence.

When the question was raised as to how long it might be before results of graduate training program at Rochester would make its influence felt in dentistry, Dr. Whipple pointed out that it was no five year plan but that as had happened in medicine, it might take 25 or 50 years for the full results to become manifest. When it became obvious to the early members of the Rochester dental group that dental school deans were not interested in men with their experience for their faculties, Dr. Whipple predicted that before many years passed there would be a demand for men with their background. That prophecy has been amply fulfilled and today the faculty positions available to men with experience of the type that was offered at Rochester are far in excess of the number of men available.

Some may be tempted to think that such a program as developed by Dr. Whipple may brand him as an impractical educational theorist. That this is wrong is demonstrated not only by the success of his Rochester program, but also by Whipple's record of solid accomplishment in many other fields, namely, faculty member of Johns Hopkins University Medical School; Directorship of the Hooper Foundation for Medical Research, San Francisco, and Dean of the University of California Medical School. These in order have been his lot. His achievements have been recognized by honorary degrees and awards from many of the leading Universities and scientific societies of this and other countries. Beginning in 1921, he built up in Rochester one of the leading medical centers in the country. Moreover while supervising medical activities extending from the field of atomic energy to psychiatry, Dean Whipple has continued to be an active teacher in the field of pathology. In fact most of those who know Dean Whipple think of him not as an administrator sitting in an office but as a gowned figure at the autopsy table, or as a friendly man sitting on a stool teaching pathology to the medical students. His office, incidentally, is not an oak panelled, lushly appointed suite but a simple desk at the back of which is a laboratory. About the only time one isn't welcome in that laboratory office is during the period when Dr. Whipple is looking over his microscopic slides in preparation for a class lecture. Administrator,

teacher, but what about research? Can that be done, too? Yes, it has been achieved in a remarkable way. A long study of liver function and blood formation contributed sufficiently to the understanding of anaemia that Dr. Whipple was the joint recipient of the Nobel Prize in Medicine in 1934.

That dentistry does not know about Dr. Whipple's contribution to its independence, not only in research and science but also as a separate educational discipline is typical of Dr. Whipple. He has claimed no credit for what he has done, and few appreciate the significance of his contribution. It is unfortunate that more dental educators have not realized that in the person of Dr. Whipple dentistry had a friend whose counsel it would often have been wise to have sought. Dr. Whipple's activities in dentistry seem to show that the cause of dental autonomy is not best helped by insulating dentistry from outside influences but rather by using to the greatest advantage the advice and experience of friends outside the profession.

Dentistry is fortunate, indeed, to have had the interest, thought and help of such a busy man, and the profession can be enriched if its teachers will be guided by Dr. Whipple's ideas and example. He, more than any other man, brings to dentistry the grand tradition of the great teachers of medicine and science. In a sense, a greater scientific medicine is welcoming dentistry into the full partnership which was denied to it by a lesser medical profession more than a century ago.

A DOCTOR'S CODE OF PROFESSIONAL ETHICS, CA. 1376[1]

ARDERNE, TREATISES OF DISTULA IN ANO,. ED BY POWER, PP. 4–9

In the first place, a doctor who wishes to succeed in his profession should always remember God in all his works and should always meekly pray with heart and mouth for his help; and he should from time to time give of his earnings to the poor that they by their prayers may get him grace of the Holy Ghost.

He must not be rash or boastful in speech or in deed. He had better not talk much, especially among great men. And he should answer cannily to all questions so that he may not be tripped up by his own words. If his results do not carry out his words and his promises, he will be looked down upon, and his reputation will suffer. . . .

A doctor should also be careful not to laugh and joke too much; and, as far as he can, he should avoid the company of knaves and dishonest persons.

Let him keep always busy with matters that belong to his profession—reading or writing or studying or praying. The use of books is creditable to a doctor because they both keep him occupied and teach him something. Above all, it is important that he be found always sober; for drunkenness spoils every good thing. . . .

If anyone talks to him about another doctor, he should neither make light of him nor praise or commend him too much, but he may say with all courtesy, "I have no real knowledge of him, but I have heard nothing about him but what is good and to his credit." . . .

A doctor should not look too boldly at the lady of the house or her daughters or other fair women in great men's houses, or offer to kiss them, or touch them with his hands, lest he move to indignation the lord or some one of his household.

So far as he can, he should avoid giving offence to servants, but should try to get their love and good will.

Let him refrain from vice, as well in word as in deed, for if he be

[1] Chaucer's World, compiled by Edith Rickert, Edited by Clair C. Olson and Martin M. Crow: Illustrated by Margaret Rickert: Published by Columbia University Press. Reprinted by permission.

given to secret vice, some time he will be found out and dishonored for his evil practices. . . .

When sick men or their friends come to consult him, let him be neither too haughty nor too familiar, but adapt his manner to the status of the persons: to some respectful, to others friendly. For wise men say that familiarity breeds contempt.

It is a good thing for him to make up excuses that he cannot do anything for them safely or without causing the indignation of some great person, or because he is too busy. Or he might pretend to be hurt or ill if he wants to get out of undertaking a case. And if he does take up a case, let him make terms for his work and take the money in advance.

He should be careful not to pronounce upon a case until he has seen it and observed what it is. When he has made an examination, even though he may think that the patient can be cured, in his prognosis he should warn him of the danger of deferring treatment. And if he sees that the patient is eager for the cure, let him boldly adjust his fee to the man's position in life. But let him never ask too little; for this is bad for both the market and the patient. For a case of fistula, when it is curable, he may safely ask of an important man a hundred marks or forty pounds with robes and fees amounting to a hundred shillings a year for his life. Of less important men, he might ask forty pounds, or forty marks without fees. But let him never take less than a hundred shillings. For never in my life have I taken less than that sum for the cure of this disease. But every man should, of course, do as he thinks best and most expedient.

If the patients or their friends or servants ask how soon a cure may be expected, the doctor should always say twice as long as he really thinks. . . . For it is better to indicate too long a time than to have the cure drag on. This discourages the patient at a time when faith in the doctor is one of the greatest aids to recovery. If the patient later asks why the doctor was able to cure him in half the time he mentioned, he may answer that it was because the patient was strong and bore well the severe treatment, and that he was of good complexion, and that his flesh healed quickly and other things that would please the patient. For patients are, with this kind of talk, made proud and glad.

Furthermore, a doctor, should always be well dressed and neat in

appearance, not gay like a minstrel but sober like a clerk, because any discreet man dressed like a clerk may sit at a gentleman's table. A doctor should also have clean hands and well-shaped nails, thoroughly cleaned. He should always be courteous and polite at lords' tables and not displease the other guests, either by his words or his manner. He should listen well but say little. . . . And when he does speak, his words should be brief, agreeable, full of sense, and free of oaths. And he should never lie; for if he be found truthful in speech, few or none will lack confidence in what he does.

A young doctor should also learn good proverbs suited to his profession to comfort his patients. . . . Moreover, he should comfort his patient by admonishing him to be of strong heart. For greatness of heart makes men strong and hardy to suffer sharp and grievous pain. . . .

It is also useful for a doctor to have a stock of good and amusing stories to make the patient laugh, both from the Bible and from other tragedies, and any others that are not objectionable which may make the patient more cheerful.

A doctor should be careful never to betray the secrets of his patients, either men or women, or belittle some to others . . . for if a man knows that other men's secrets are well kept, he will be the readier to trust you with his own.

OBITUARY

James Sim Wallace, D.Sc., M.D., F.D.S.R.C.S.Eng.[1]

J. SIM WALLACE, M.D., D.Sc., L.D.S., F.A.C.D.

To write of one whose name and work are honoured throughout the world, even beyond the confines of dentistry, is a task of some magnitude.

James Sim Wallace, who died on July 13, was born at Eastwood in Renfrewshire on June 29, 1869. Educated at Langside Academy and Glasgow University he early distinguished himself, receiving the prize given by the Regius Professor of Botany for the best collection of plants native to Clydesdale. He obtained the B.Sc. in biology before he was 20 and the M.B., C.M. before he was 21. He obtained the M.D. degree for his thesis on "Nitrous Oxide Anaesthesia." As his father practised as a dental surgeon in Glasgow James entered the Glasgow Dental Hospital to study dentistry. That he had not settled which career to follow is evidenced by his travels as ship's doctor. After several voyages, which gave him time to meditate and to gain experience he studied dentistry at the National and Royal Dental Hospitals, taking the L.D.S.Eng. in 1895, when he started in dental practice at Kingston-on-Thames. It may not have been realised that Sim Wallace began as a trained scientist more on the lines of the deductive than that of the inductive method. He observed among his patients that the children who followed his precepts retained their natural teeth to adult life. He formed no hasty conclusions, each step was tested before a decision was reached. As a result of logical meditations he came to embrace the whole of odontology, from which he built up his philosophy of prevention of

[1] British Dental Journal: 91, 81; Aug. 7 (1951).

its diseases. This aspect of his work is shown in the first of his voluminous publications in 1900 "The Cause and Prevention of Decay in Teeth," which formed the thesis for his D.Sc.Glas. It has been stated that this was the first instance of this degree being conferred in this country for a thesis confined to a dental subject. This was followed in the same year by an essay "The Physiology of Mastication" on which was based his subsequent work. Characteristically it is stated in the preface "The articles though primarily addressed to the dental profession are at least of equal importance to the medical profession." This essay was the premiss for his doctrine of prevention, first to find the cause of the trouble, next to remove it. It is a comprehensive philosophy adaptable to all aspects. There is no "Thou shalt not" but there is "thou shalt" finish a meal with some fibrous and detergent food. Corroboration of this doctrine has of late been shown by elaborate experiment. Sim Wallace founded his theories upon close observation in his daily practice.

The first paper of importance delivered at a meeting of the newly founded British Society for the Study of Orthodontics was given by Sim Wallace, "Science and Empiricism in Orthodontics." It was to test the intentions of the Society—there were those who held the view that prevention of irregularities lay in treatment. To understand the cause of irregularities the face, the mandible, the maxilla, the nasal passages and even the relations of the neck and thorax had to be considered. For this purpose he had introduced his prosopometer to take serial measurements of the face and jaws during growth and to study the results. He was elected president of the Society in 1910.

He was appointed lecturer in dental surgery and pathology at the Dental School of the London Hospital and later lecturer in preventive dentistry at King's College, a post he was eminently fitted to fill. He has been acknowledged universally as a leader in prevention and has been called, "The Father of Prevention," and regarded almost as an apostle by all the leading schools of dental science in the world. He was awarded the John Tomes Prize for his work, "Prevention of Dental Caries," and the Cartwright Prize for his "Variations in the Form of the Jaws," acclaimed as a classic by leading anatomists and anthropologists. He was elected honorary member of many societies. Hungarian, Austrian, French and Bel-

gian and many American societies; he had the signal honour to be elected a Fellow of the American College of Dentists and of the Dental Faculty of the Royal College of Surgeons of England.

Of late years, perhaps, his chief interest has been in public health; he was twice elected president of the Dental Officers' Group of the Medical Officers of Health Society, and received the Neech Prize awarded by the Society for the best paper read during the year. He was president of the Stomatological Section of the 16th International Medical Congress.

In 1926 he received an invitation to America with his wife to tour and give lectures. He lectured in most of the important cities throughout the States, from the Atlantic to the Pacific, and in Candada at Montreal, Toronto, Winnipeg and Vancouver. It was a grand tour and the effort was commensurate. The return to this country was in a luxury suite reserved on the *Aquitania* for himself and Mrs. Wallace.

Australia and New Zealand have honoured him by election to their Societies, and South Africa also recognized his importance by appointing him as external examiner for the D.D.S. thesis of Witwatersrand University.

He joined the B. D. A. in 1903 and during his long membership he contributed many important papers. In 1937 at the annual meeting at Cambridge he was elected an Honorary Member.

He retired from active practice in Harley Street just before the war 1939. During his retirement he devoted the time to the task of writing a monumental survey of the history of prevention in a series of articles appearing in the pages of *The Dental Items of Interest*. He looked forward to seeing these papers appear in book form.

His was an attractive and lovable personality; he had many friends in all parts of the world; visitors went to see him as pilgrims to a master.

He built up a tradition which will live, for it is true.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Section Nd—Dentistry

RUSSELL W. BUNTING, D.D.S., Secretary

FRIDAY AFTERNOON, DEC. 28

1:30 p.m., Auditorium "D"

JAMES H. SHAW, *Presiding*

1. Stadt, Z. M., A Resume of the Dental Benefits of Fluorine Ingestion.
2. Largent, E. J., The Metabolism of Inorganic Fluorides.
3. Cox, G. J., Acute Fluoride Poisoning and Crippling Chronic Fluorosis.
4. Hodge, H. O., and Smith, F. A., Hazards of Water-borne Fluorides at Levels up to 5 Parts Per Million.
5. Harris, R. S., General Discussion.

SATURDAY MORNING, DEC. 29

9:00 a.m., Auditorium "D"

HERBERT J. BARTELSTONE, *Presiding*

1. Yalow, R., and Yalow A., Technics Used for Detection of Nuclear Radiation in Biological Problems.
2. Belanger, L., Autoradiographic and Histochemical Studies of the Mineralization of Teeth in Rats and Hamsters of Various Ages.
3. Wainwright, W., Anderson E., Hammer, P., and Lehman, C., Selection of Isotope for Radioautography and Network Chart for Exposure Calculation.
4. Sognnaes, R., Some new Methods for Observations on the Radioisotope Metabolism of Teeth.
5. Lichens, R., Properties of Enamel Observed by Use of P-32 and F-18.
6. Bartelstone, H., Penetration of Iodine Labelled Protein Through Cat Teeth, in Vivo.
7. Burstone, M., Certain Irradiation Changes in the Epithelium and Connective Tissue of the Tongue.

SATURDAY AFTERNOON, DEC. 29

2:00 p.m., Auditorium "D"

DAVID B. SCGTT, *Presiding*

1. Bevelander, G., Development, Structure, and Function of the Organic Components of the Teeth.
2. Sobel, A. E., Composition and Crystalline Structure of the Mineral Portion of the Teeth and Their Relation to Blood and Diet.
3. Scott, D. B., Electron Microscopy of Dental Tissues.

BOOK ANNOUNCEMENTS

ANNUAL REPORT: GENERAL EDUCATION BOARD (1950): This is the annual report of the Board founded by the late John D. Rockefeller, showing the use and distribution of funds of that institution. Copies may be had by addressing the Board at 49 West 49th Street, New York City.

HISTORY OF DENTISTRY, SOUTH JERSEY: This little book of 198 pages is the story of the Southern Dental Society of the State of New Jersey, as that Society has been connected with the development of dentistry in that area. It is edited by Milton B. Asbell, D. D.S., historian for this Society. The Southern Society and the editor are to be congratulated on a job well done. More societies should do the same thing.

Exodontia:

This is the 4th and completely new edition of this book by M. H. Feldman, D.D.S., F.I.C.A. The author is well known within the dental profession, as is also his work. He is Director of Dentistry, Lincoln Hospital, New York City. The book consists of 390 pages with 322 illustrations and an index.
Published by Lea and Febiger, Philadelphia. Price $6.50.

Journal of Prosthetic Dentistry:

This is the name under which a new quarterly journal, official publication of The Academy of Denture Prosthetics, The American Denture Society and The Pacific Coast Society of Prosthodontists is published, and edited by Dr. Carl O. Boucher, Ohio State University. This Journal will no doubt find a welcome response among prosthetists over the country.

DENTAL BACTERIOLOGY (LIBRARY GUIDE): This guide, of 77 pages of laboratory experiments and questions, is set up in spiral back, flexible cover form, and is written by Dr. L. W. Hedgecock, Ph.D., St. Louis University School of Medicine, and P. J. Ferrillo, D.D.S., St. Louis University School of Dentistry, designedly for dental students.

Published by Burgess Publishing Company, Minneapolis 15, Minn., (1950). Price $2.00.

CHAUCER'S WORLD: Compiled by Edith Rickert, Edited by Clair C. Olson and Martin M. Crow. Illustrated by Margaret Rickert. .

This is a book of 456 pages, including a lengthy bibliography and an index. This is a 'collection of material' growing out of a research project conducted by the late Professors John M. Manly and Edith Rickert, resulting in the publication of THE TEXT OF THE CANTERBURY TALES in 1940. It is a splendid arrangement of notes and quotations and conversations and statements of that period, so as to make it an inimitable history of that period some six hundred years ago. The illustrations are magnificent. It is so arranged and printed both as to type, paper and binding, as to make it a desirable book for any library.

There is a point of interest to professional men in that there is quoted in full a Code of Ethics for physicians, which also fits the dental profession. It is printed in full in this issue of the Journal. The book is published by Columbia University Press, 1948. Price $6.75.

INDEX

VOLUME 18, 1951

Special abbreviations besides those of self-evident import—A.A.A.S.: American Association for the Advancement of Science. *A.A.D.E.:* American Association of Dental Editors. *A.A.D.S.:* American Association of Dental Schools. *A.C.D.:* American College of Dentists. *A.D.A.:* American Dental Association. *A.M.A.:* American Medical Association. *A.P.H.A.:* American Public Health Association. *D. or d. :* dental or dentistry. *I.A.D.R.:* International Association for Dental Research. *I.A.R.S.:* International Anesthesia Research Society. *J.A.C.D.:* Journal American College of Dentists. *F.D.R.:* Journal of Dental Research.

Journal

AMERICAN COLLEGE OF DENTISTS

Published Quarterly for General Circulation by

THE AMERICAN COLLEGE OF DENTISTS

Volume 18 1950–1951

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

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

Address of the Editor:
John E. Gurley, D.D.S. 350 Post Street, San Francisco, 8, Calif.

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: Chicago, February —, 1952

Next Convocation: St. Louis, September —, 1952

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

American College of Dentists

OFFICERS OF THE COLLEGE

1950–1951

President, HENRY O. LINEBERGER, Raleigh, N. C.
President-Elect: WILLARD C. FLEMING, San Francisco, Calif.
Vice-President: EDGAR H. KEYS, St. Louis, Mo.
Treasurer: WILLIAM N. HODGKIN, Warrenton, Va.
Historian: WILLIAM J. GIES, New York, N. Y.
Secretary: OTTO W. BRANDHORST, St. Louis, Mo.

REGENTS

KENNETH C. PRUDEN, Paterson, N. J.
ROBERT S. VINSANT, Memphis, Tenn.
JAS. H. FERGUSON, JR. Baltimore, Md.
BENJAMIN F. THIELEN, Paris, Texas
LEWIS W. THOM, Minneapolis, Minn.
HARRY S. THOMSON, Toronto, Canada
FRED B. OLDS, Los Angeles, Calif.
FRITZ A. PIERSON, Lincoln, Neb.

JOHN E. GURLEY, (Editor) Ex-officio, San Francisco

STANDING COMMITTEES (1950–1951)

Certification of Specialists—RALPH L. IRELAND, *Chairman*, T. MARVIN BARLOW, CARL O. BOUCHER, WILLIAM E. FLESHER, SAMUEL CHAS. MILLER

Education—HARRY LYONS, *Chairman*, PHILIP E. BLACKERBY, JR., ALVIN W. BRYAN, S. E. DAVENPORT, JR., MAYNARD K. HINE, GERALD D. TIMMONS

History—J. BEN ROBINSON, *Chairman*, THEODOR BLUM, FRED W. GETHRO, EVERETT E. HAVERSTICK, WILLIAM N. HODGKIN, ARTHUR W. LUFKIN

Hospital Dental Service—OZIAS PAQUIN, JR., *Chairman*, W. HARRY ARCHER, JR., JOHN W. KEMPER, STEPHEN P. MALLETT, L. HALLIDAY MEISBURGER

Journalism—HARRY E. HAMBLY, JR., *Chairman*, JOHN E. GURLEY, CLYDE C. SHEPPARD

Necrology—ARTHUR H. MERRITT, *Chairman*, E. G. MEISEL, BISSELL B. PALMER

Nominating—EARL W. SWINEHART, *Chairman*, CHAS. W. FREEMAN, HARRY A. GILCHRIST, T. FORD LEGGETT, HAROLD J. NOYES

Oral Surgery—LESLIE M. FITZGERALD, *Chairman*, SAM H. BROCK, HORACE L. CARTEE, SANFORD M. MOOSE, CARL W. WALDRON

Preventive Service—JOHN C. BRAUER, *Chairman*, FRANCIS A. ARNOLD, JR., JAMES M. DUNNING, KENNETH A. EASLICK, G. R. LUNDQUIST, WALTER J. PELTON

Prosthetic Dental Service—CLARENCE A. NELSON, *Chairman*, EARL MASON EATON, WALDO H. MORK, CHASTAIN G. PORTER, SAUL C. ROBINSON, WALTER S. THOMPSON

Relations—HOLLY C. JARVIS, *Chairman*, DANIEL F. LYNCH, LON W. MORREY, MYRON A. ROBERTS, CHAS. A. SWEET

Research—PHILIP JAY, *Chairman*, LLOYD E. BLAUCH, WM. H. CRAWFORD, H. TRENDLEY DEAN, THOMAS J. HILL, PAUL C. KITCHIN

Medico-Dental Relations—ALBERT L. MIDGLEY, *Chairman*, JAMES R. CAMERON, MALCOLM W. CARR, STERLING V. MEAD, LEROY M. S. MINER, ROBERT S. VINSANT

Committee on Cooperation—C. WILLARD CAMALIER, *Chairman*, HENRY A. SWANSON, *Vice-Chairman*, BRUCE DAWSON FORSYTH, WALTER DUNCAN LOVE, HARRY B. MCCARTHY, CLEMENS V. RAULT, WILLIAM H. STREET

Socio-Economics—RAYMOND E. MYERS, *Chairman*, ALLEN O. GRUEBBEL, DONALD H. MILLER, WILLIAM B. RYDER, WALTER A. WILSON, JACOB M. WISAN

Dental Student Recruitment—HAROLD G. RAY *Chairman*, DON JOSE F. AUBERTINE, WILLARD C. FLEMING, ERNEST L. JOHNSON, JOHN W. LEGGETT

American College of Dentists

OFFICERS OF THE COLLEGE

1951–1952

President, WILLARD C. FLEMING, San Francisco, Calif.

President-elect, FRITZ A. PIERSON, Lincoln, Neb.

Vice-President, ERNEST N. BACH, Toledo, Ohio

Treasurer, WILLIAM N. HODGKIN, Warrenton, Va.

Historian, WILLIAM J. GIES, New York, N. Y.

Secretary, OTTO W. BRANDHORST, St. Louis, Mo.

REGENTS

LLOYD W. JOHNSTON, Denver, Colo.

GERALD D. TIMMONS, Philadelphia, Pa.

KENNETH C. PRUDEN, Paterson, N. J.

ROBERT S. VINSANT, Memphis, Tenn.

JAMES H. FERGUSON, JR., Baltimore, Md.

BENJAMIN F. THIELEN, Paris, Tex.

LEWIS W. THOM, Minneapolis, Minn.

HARRY S. THOMSON, Toronto, Canada

JOHN E. GURLEY, (Editor) Ex-Officio, San Francisco, Calif.

American College of Dentists

OFFICERS OF THE COLLEGE

1951–1952

President, WILLARD C. FLEMING, San Francisco, Calif.

President-Elect, FRITZ A. PIERSON, Lincoln, Neb.

Vice-President, ERNEST N. BACH, Toledo, Ohio

Treasurer, *William N. Hodgkin*, Warrenton, Va.

Historian, WILLIAM J. GIES, New York, N. Y.

Secretary, OTTO W. BRANDHORST, St. Louis, Mo.

REGENTS

LLOYD W. JOHNSTON, Denver, Colo.
GERALD D. TIMMONS, Philadelphia, Pa.
KENNETH C. PRUDEN, Paterson, N. J.
ROBERT S. VINSANT, Memphis, Tenn.
JAMES H. FERGUSON, JR., Baltimore, Md.
BENJAMIN F. THIELEN, Paris, Tex.
LEWIS W. THOM, Minneapolis, Minn.
HARRY S. THOMSON, Toronto, Canada

JOHN E. GURLEY, (Editor) Ex-Officio, San Francisco, Calif.

STANDING COMMITTEES (1951–1952)

Certification of Specialists—RALPH L. IRELAND, *Chairman*, T. MARVIN BARLOW, CARL O. BOUCHER, WM. E. FLESHER, SAMUEL CHARLES MILLER

Education—HARRY LYONS, *Chairman*, PHILIP E. BLACKERBY, JR., ALVIN W. BRYAN, S. E. DAVENPORT, JR., MAYNARD K. HINE, GERALD D. TIMMONS

History—J. BEN ROBINSON, *Chairman*, THEODOR BLUM, FRED W. GETHRO, EVERETT E. HAVERSTICK, WILLIAM N. HODGKIN, ARTHUR W. LUFKIN

Hospital Dental Service—OZIAS PAQUIN, JR., *Chairman*, W. HARRY ARCHER, JR., JOHN W. KEMPER, STEPHEN P. MALLETT, L. HALLIDAY MEISBURGER

Journalism—CHARLES W. CRAIG, *Chairman*, JOHN E. GURLEY, CLYDE C. SHEPPARD

Necrology—EARL E. SHEPARD, *Chairman*, GEO. M. ANDERSON, ERNEST F. SODERSTROM

Nominating—ERNEST G. SLOMAN, *Chairman*, GEO. W. CHRISTIANSEN, HENRY O. LINEBERGER, J. D. O'FARRELL, WALTER H. WRIGHT

Oral Surgery—LESLIE M. FITZGERALD, *Chairman*, DON H. BELLINGER, JAMES R. CAMERON, HORACE L. CARTEE, SANFORD M. MOOSE

Preventive Service—CARL L. SEBELIUS, *Chairman*, FRANCIS A. ARNOLD, JR., JAMES M. DUNNING, KENNETH A. EASLICK, G. R. LUNDQUIST, WALTER J. PELTON

Prosthetic Dental Service—CLARENCE NELSON, *Chairman*, EARL MASON EATON, WALDO H. MORK, CHASTAIN G. PORTER, SAUL C. ROBINSON, WALTER S. THOMPSON

Relations—HOLLY C. JARVIS, *Chairman*, DANIEL F. LYNCH, LON W. MORREY, MYRON A. ROBERTS, CHAS. A. SWEET

Research—PHILIP JAY, *Chairman*, LLOYD E. BLAUCH, WM. H. CRAWFORD, H. TRENDLEY DEAN, THOS. J. HILL, PAUL C. KITCHIN

Medical-Dental Relations—ALBERT L. MIDGLEY, *Chairman*, MALCOLM W. CARR, SOHN A. KOLMER, STERLING V. MEAD, LEROY M. S. MINER, ROBERT S. VINSANT

Committee on Cooperation—C. WILLARD CAMALIER, *Chairman*, HENRY A. SWANSON, *Co-chairman*, BRUCE D. FORSYTH, WALTER D. LOVE, HARRY B. MCCARTHY, CLEMENS V. RAULT, WILLIAM H. STREET

Socio-Economics—RAYMOND E. MYERS, *Chairman*, ALLEN O. GRUEBBEL, DONALD H. MILLER, WM. B. RYDER, JACOB M. WISAN

Dental Student Recruitment—HAROLD G. RAY, *Chairman*, DON J. F. AUBERTINE, ERNEST L. JOHNSON, JOHN W. LEGGETT, WENDELL L. WYLIE