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Editorials

COMPULSORY POSTGRADUATE STUDY?

On August 8, 1961, Governor David L. Lawrence of Pennsylvania signed his name to the following amendment to the Chiroprody Act, thereby making it law:

Section 9.1. No applicant for a renewal registration shall be granted a registration for the ensuing biennial licensing period unless the applicant shall furnish to the board satisfactory evidence that he has attended not less than one two-day educational conference held by the Chiroprody Society of Pennsylvania, Inc., in each of the two intervening license years or that he has attended an equivalent educational conference during each such year. An "equivalent educational conference" shall be one approved or ratified by the board as meeting the educational and professional requirements of the profession. Any individual applying for an initial registration under this act shall be exempted from the requirement of attending an educational conference during the calendar year in which he makes application for his license, provided he has graduated from a school of chiroprody approved by the board during that calendar year.

The American College of Dentists throughout its history has considered continuing education an essential element in the professional life of a dentist. Dentistry advances too rapidly to permit any dentist to fulfill his obligation to his patients without maintaining constant contact with those advances. The problem has been how to motivate *every* dentist to undertake and maintain a program of continuing education.

The amendment to the Pennsylvania Chiroprody Act has inspired some dentists to think in terms of compelling, by law, every dental practitioner to participate in postgraduate study. One of the members of the Pennsylvania Assembly, a dentist, had an amendment prepared for introduction in the Senate should the dentists of Pennsylvania desire it.

The Pittsburgh Section met on January 18, 1962, for the purpose of discussing the desirability of such an amendment and of examining other possible ways of inducing dentists to continue study throughout their careers.

The consensus was that the amendment was not in the best interests of the public nor of the profession for the following reasons:

1. It would be extremely difficult to administer. What standards

would the State Board use in determining which course or clinic was acceptable and which was not? How many hours of study would be adequate? How could it be established that registration at a meeting was followed by attendance throughout its duration? The record-keeping that would be required for 7,000 dentists licensed in Pennsylvania would be enormous.

2. The State Board would be given a vast amount of power through the right to decide who does not qualify for a renewal of license. This authority to deprive a dentist of his right to earn a living might lead to serious consequences should the smallest abuse of it occur.

3. There are not enough lecturing clinicians, nor enough teachers in the State's three dental schools to provide a sufficient number of courses to meet the demand for postgraduate education that such a law would create.

4. Inasmuch as the great majority of courses, meetings, and clinics are given under the auspices of dental societies within the framework of organized dentistry, and since these courses and meetings are open only to members, the law would create a hardship on dentists who are not members of the American Dental Association and its constituent and component societies. These men could register in courses given by dental schools—courses open to every licensed dentist—but, as has been noted, the courses available could not possibly meet the demand.

5. The public might react unfavorably to the profession's inability to inspire its members to continue their education voluntarily. The resort to legislative measures might lead to the conclusion that many dentists do not keep up with the progress that is being made, with the result that public confidence in the profession might be undermined.

While legal measures were thought inadvisable, the Pittsburgh Section discussion group was in unanimous agreement that the profession must find ways of encouraging postgraduate study. It was noted that the Academy of General Dentistry was organized in 1952 for precisely that purpose. Fifty hours of formal school attendance every three years, and a minimum attendance at 50 per cent of scientific sessions of the member's local dental society are requirements for membership in the Academy. The Academy has been growing, but growing slowly, and its membership represents but a small fraction of the country's dental population. The value of the Academy

as a stimulus to postgraduate study was recognized, but a question difficult to answer was how to motivate dentists to join the Academy or to meet its requirements.

In recent years the graduates of dental schools have shown a greater interest in continuing education than those of earlier years. The number of graduates who remain in graduate study or who seek internships and residencies has been increasing. This is an encouraging sign, for it points to the fact that the stimulus for more knowledge comes from where it should come—the dental school. It is one of the responsibilities of the school to so indoctrinate its students, to so inspire them that they will seek further study as an indispensable phase of their professional lives. There is evidence that the schools are aware of this responsibility.

The American College of Dentists has done much to encourage continuing education, not the least of which has been the compilation of fine and extensive literature on the subject. This information has been made available to the membership. The College must continue and, if possible, intensify this activity. Every Fellow must be not only aware of the need to continue his own education, but must also do all he can to stimulate the colleagues about him to continue theirs.

How to stimulate dentists to remain lifetime students is a pressing problem. It is not easy to know what the answer is, but it does not lie in compulsion through a government agency.

ISAAC SISSMAN

SECTION ACTIVITIES AND MOUTH PROTECTORS

The National Alliance Football Rules Committee* has made the wearing of mouth protectors mandatory effective this coming football season. Last year many dental societies, local and state, initiated community programs and cooperated with the schools in providing advice and service. This certainly reflected dentistry's awareness of

* This group establishes rules for the members of the National Federation of State High School Athletic Associations, the National Association of Intercollegiate Athletics, and the National Junior College Athletic Association.

its responsibilities in mouth health, and tremendously enhanced the idea of dentistry as a preventive health service.

This public service motive should prevail and spread. The American College of Dentists long has been vocal in the promotion of such a spirit, and in stressing that the profession has a definite responsibility to the public in matters of dental health and an obligation to advise the public in such matters. In addition, the College has been striving to initiate more activity at the Section level.

In view of the above, the suggestion is made that it would be most appropriate for interested College Sections to furnish the stimulus in establishing community or even state-wide programs to assist high schools in obtaining mouth protectors for their football players. The influence of the College in this area of bettering public relations for dentistry should have far-reaching results.

College Sections can interest dental groups in arranging meetings to discuss such a program with the top school administrators and thus give the leadership in establishing a project whereby the dental group would cooperate in helping provide mouth protectors. The "Report of Joint Committee on Mouth Protectors" (published by and available from the American Dental Association Bureau of Dental Health Education) could be given these groups, if they are not already aware of the report, to then study, plan, and begin the project.

Many different programs for providing mouth protectors are in operation. The Board of Trustees of the American Dental Association in January, 1962, urged all dental societies to work with the schools on a program and on a public service basis. Other ways may be worked out. A re-reading of an editorial in the *Journal of the American Dental Association* for March, 1962, would be valuable for Section members before undertaking this suggested activity.

This is another opportunity for the American College of Dentists, through its Sections, to spark a program that is realistic in actively showing that the profession accepts its responsibility in health service; that has great public relations value; and that will go far in creating a public image of dentistry that will bring about a greater appreciation by the public for oral health service.

WILLIAM D. HEINTZ

THE MONEY: WHERE WILL IT COME FROM?

The Commission on the Survey of Dentistry in the United States, in its study of the future growth and development of dentistry as an essential health service, made a number of recommendations. In the areas of dental health, dental practice, dental education, and dental research there were 82 recommendations.

Forty-two of the recommendations (just over half by my count) will require funds for their implementation. In the consideration of dental health, out of 26 recommendations, 18 are based on obtaining money; in dental practice, out of 19, there are 4; in dental education, out of 23, 11; and in dental research, out of 14, there are 9.

Where will the money come from? What are the sources from which such funds can be obtained? A list such as the following, overly simplified perhaps and conveniently grouped, might be considered as the potential sources:

1. Dentists
2. Business, industry, and corporations
3. Philanthropic foundations
4. Benefactors and donors
5. Public funds—state and federal.

We would be naive indeed if we were to think that dentists would contribute any substantial amount. Dental industry likely will give support to the maximum of its ability, but it is not a large industry. Currently there is some indication and hope that corporations and general business and industry will become interested in dentistry. In the *Survey* (p. 463) it is stated: "Obviously, philanthropic foundations have not been generally aware of the importance of dental research or of its plight. . . . Of more than 4,000 philanthropic foundations listed in *American Foundations and Their Fields*, only six mention dentistry as one of their areas of interest, and only two . . . limit their interest to dentistry." Another note in the *Survey* (p. 376) states that benefactors and donors form a rather unknown and relatively unexplored source of support.

All things considered, it does not seem that the sources as enumerated will supply the enormous financial aid that will be needed during the next decade to carry out the recommendations of the Com-

mission. The situation then would seem to be the acquisition of more public funds to supplement the funds that will come from all other sources.

By and large, the monies from state governments will benefit only state-supported schools and their associated dental programs, and perhaps not to the degree needed. Then too, states seem to be having more and more general budgetary problems in the over-all management of their specific civic responsibilities and obligations to citizens generally. In short: it appears that it will be increasingly difficult for state governments to supply needed appropriations for dentistry.

So, there is left but one other source—the federal government. There is deep feeling throughout the country about the acceptance of federal funds for developing and enlarging dentistry's resources. In this respect, the *Survey* (p. 377) has noted: "The pros and cons of federal aid to education have been argued in the public press and elsewhere for the past several years, and many problems of philosophy, tradition, law, and administration . . ." have been brought into the discussion.

John A. Perkins, President of the University of Delaware and Chairman of the Commission on the Survey of Dentistry, speaking at the 1961 Convocation of the American College of Dentists, said: ". . . we foresee as inevitable that federal funds will be necessary for dental education and operational expenses of the schools, for new construction and remodeling, as well as for scholarships and loan funds for dental students." And further: "With respect to dental research, we need only remind ourselves of the basic role already played by the federal government to realize that if the *Survey's* recommendations for expanding and augmenting research are carried out, that the governmental role will doubtless grow rather than shrink."

He continued: "To a profession educated as I would have yours be in 'the arts significant to a free man' we need not fear on the one hand, a profession overly dependent upon government or on the other, a profession apoplectic about cooperation with government. After all, government is elected by and responsible to dentists and *other free men*."

A realistic look at the sources of funds to implement the recom-

mendations of the Commission on the Survey of Dentistry focuses directly on federal aid. In this day of social change we dentists, posed with the problems of an expanding total health service, may have to alter our traditional thinking and face up to the fact as to just where the needed monies *can* come from.

T. F. McB.

ADDENDUM

Federal aid is not new! One hundred years ago when the Civil War was in its second year, a new type of higher education was born in the United States. On July 2, 1862, Abraham Lincoln signed the Morrill Act which provided for grants of public lands to the states in proportion to population.

From the sale of this land, the states were to finance colleges whose "leading object" was to "teach such branches of learning as are related to agriculture and the mechanical arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Scientific and classical studies were not excluded. Each state was free to write its own charter for one or more such "Land-Grant" colleges, as its legislature might decide.

Today, sixty-eight of these Land-Grant institutions are serving their states, the nation, and the world. Thus began a pattern.—T. F. McB.

Operation Bookshelf

HENRY A. SWANSON, D.D.S.

Members of the dental profession who have visited with colleagues abroad have found that in many countries there is a paucity of professional books and periodicals printed in the United States. This condition exists even though there is a definite demand for American dental literature. Some dentists would personally acquire such literature but find it financially impossible to do so. Also, many countries do not have the dollar exchange required to permit purchase of American books and periodicals.

Establishment of a program, here designated as Operation Bookshelf, by which professional manuscripts, books, and periodicals may be made available to dental libraries, dental societies, and individual dentists in other countries is most desirable. The objective is to share and exchange our knowledge, techniques, and concepts of dentistry with members of the profession in other countries, thereby assisting in bringing about the advancement of the science of dentistry and an improvement in the standards of dental health. Additionally, our efforts will foster friendly relationships, good will, and understanding between the people of our country and of other countries.

Our colleagues in other lands are dedicated to their profession as are we. They have a good knowledge of their profession and are most eager to build on it. They welcome the opportunity to acquire additional knowledge from all sources.

In 1960, Lt. Col. Norman O. Harris, USAF, DC, presented a proposal to the Board of Regents of the American College of Dentists for the collection of dental literature and its distribution to dentists in other countries. The Regents concurred in the program, but recommended that it be carried out on a small scale to observe the problems that might arise. A substantial number of books and periodicals was collected by the Texas Section of the College. As a result of this operation, several thousand pounds of books and journals that otherwise would have been disposed of are now being utilized in such globally separated places as Ecuador, Chile, Germany, Japan, Philippines, Vietnam, and on the *S.S. Hope*.

Considerable thought has been given to the establishment of an

Dr. Swanson is President of the American College of Dentists.

extensive program aimed at reaching all dentists in other countries. A program can be carried out that will substantially aid our colleagues. A special effort on the part of some Fellows may be required. The support of all Fellows is solicited.

The program for other countries that has been developed consists of three phases. It envisions:

1. that we make dental literature available to libraries of dental schools and societies where it will be accessible to students and practitioners;

2. that we establish personal contact between fellows of the College and practicing dentists to make available professional counsel and furnish professional literature on a personal basis; and

3. that we provide manuscripts to dental societies for translation to the native language and publication in their national dental periodicals.

1. EXCHANGE OF LITERATURE

This phase of the program is presently being implemented through the United States Book Exchange, Inc. (USBE), Washington, D.C. The libraries of dental schools and societies in other countries may become members of the U. S. Book Exchange whereupon they may obtain periodicals and books from the Exchange. Any established organization or institution may become a member if it maintains a library and has material to offer in exchange.

The USBE is a private, non-profit, cooperative clearing house for national and international exchange of duplicate and surplus publications of all kinds among libraries in the United States and overseas. It is sponsored by national learned societies and library organizations in the United States. More than three million books and periodicals of all kinds, now on hand, were obtained from member libraries and individual contributors. More than one million publications have been sent to over 1,000 libraries in 65 countries during the past 10 years.

USBE has a contract with the Agency for International Development (AID), formerly the International Cooperation Administration (ICA), for payment of freight charges from USBE to libraries in other countries. The USBE therefore has a source of funds to defray the cost of shipping books and periodicals to overseas destinations. The contract does not provide for payment of shipments within the United States or shipments made by individuals.

The stock of dental books and periodicals on hand at the USBE

will need to be replenished as the demand from overseas libraries increases. Fellows of the College are encouraged to mail books and periodicals no longer needed to the United States Book Exchange, Inc., 3335 V Street, N.E., Washington 18, D. C. This must be done at the Fellows' expense. Since USBE is a non-profit organization, individuals making donations to USBE may deduct the value of their contributions on their Federal Income Tax Return provided these items were not previously deducted as a business expense.

Books and periodicals sent to the USBE should be reasonably current in order that the effort and cost involved is justified. Periodicals are generally considered to be current irrespective of their publication date. Shipment of books should be limited to those which the donor feels are reasonably current.

2. PERSONAL CONTACT

The objective of this phase of the program (establishing personal contact between Fellows of the College and dentists in other countries is also known as Operation Little Bookshelf) is for dentists in the United States to contact dentists in other countries on an individual and personal basis through the exchange of professional counsel and excess professional literature. Matching of dentists with those of like professional interests is desirable.

This program presently is being implemented by Lt. Col. Harris. Efforts are being made to match overseas dentists with dentists in the United States. The procurement of names and locations of out-of-country dentists who desire to participate is underway. Letters have been sent to College Fellows outside of the United States, dental schools and societies in other countries, and to Church Medical Missionary Boards proposing this exchange program. Some response has been received and a few definite assignments of exchange already have been made. As the details and routine become more fully developed, this phase of the program may be expanded to include active participation of Fellows in all Sections under the monitorship of the Section Chairmen.

Members of the College are encouraged to contact any dentist in any country they may previously have met, know of, or have a desire to contact. Some Fellows may have had a classmate from another country. Dentists in other countries who have been graduated from a United States dental school are usually among the dental leaders

in their country. Through them, dental knowledge and techniques may be further disseminated.

3. TRANSLATION AND PRINTING OF MANUSCRIPTS

The objective of this part of the program is to reach dentists in other countries through their own periodicals, including those who do not have access to libraries with dental literature. The secretaries of these dental societies will be provided with manuscripts suitable for this purpose. A single clearing agency for the collection, editing, and transmission of these manuscripts appears desirable. This will lessen the overall workload and assure a greater number of desirable manuscripts for all participating societies.

A program has been outlined through which our dental literature may reach all dentists in other countries of the world. There is opportunity here for all Fellows to participate. If a reasonable effort is made, the results will be gratifying. Aside from promoting the advancement of dentistry and dental health in other countries, our actions will foster friendly relationships, good will and understanding between the United States and other countries.

The College is indebted to the Dental Corps of the United States Air Force for the proposal of Operation Bookshelf; to Colonel Walter J. Reuter, USAF, DC, for the operative procedure with the U. S. Book Exchange, Inc., for Operation Bookshelf which has to do with the collection of library material within this country; and to Lt. Col. Norman O. Harris, USAF, DC, for the original suggestion and for the detailed implementation of Operation Little Bookshelf.

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Dentistry in a Changing Society

BYRON S. HOLLINSHEAD, M.A., LL.D., L.H.D.

Dr. Hollinshead was Director of the Commission on the Survey of Dentistry in the United States (1961). He is now Consultant to the President of the University of Florida making a study on the role and scope of the University in the system of higher education in that State.

This paper was presented on January 30, 1962, at the annual Home-coming Luncheon of the School of Dentistry, Medical College of Virginia.

My maternal grandfather was born on a farm in New Jersey more than 100 years ago. He passed his life in the same environment as 85 per cent of his compatriots who also lived on farms or in rural areas. By contrast, I have lived most of my life in cities or urban areas as have about 85 per cent of my compatriots.

My grandfather largely controlled his environment in a way that I do not. His running water did not come from a tap but from a pump he operated. His light did not come from a bulb but from a homemade candle or kerosene lamp he filled. Cooking was by wood stove, not by gas or current furnished by a socialized public utility. My grandfather hitched up a horse for transport over a road that he and some of the neighbors had scraped up. It was dusty and soft in Summer, muddy in Spring, filled with icy ruts in Winter, and passably good in Fall. By contrast, I ride on hard-surfaced roads or streets built by collective action.

My grandfather stored ahead by means of root cellars. I store ahead by several methods, individual and collective, and trust, for food, to the storage of supermarkets, something my grandfather never conceived.

My grandfather went to a private school because public schools were unavailable. He did not go to college, mostly because few people did. When he was ten years old, in 1862, Abraham Lincoln signed the Morrill Act, creating the land-grant colleges, and marking the

most generous federal aid to education up to that time. But these colleges were built too late to help my grandfather, though they were a boon to the next generation.

My grandfather travelled outside his community by canal boat and railroad. I travel by car and plane. He had never heard of telephone, radio, or television. He lived in an economy of individual production in small units, mostly by self-employed. By contrast, I live in an economy of mass production where most people are employed by large corporate organizations.

I list some of the major environmental differences between my grandfather and me to indicate how much life has changed during the past 100 years and to raise the pertinent question: has dentistry changed with it?

Before trying to answer that question, let us consider for a moment the development of the professions during the same period, and, as a part of that consideration, the progress of dentistry.

All professions have had their start with persons possessing unusual skill or talent to meet certain types of emergencies or needs. Thus the ministry begins with people with exceptional talent for interpreting the will of the gods or for thinking clearly about what ethical conduct should be. The law begins with people with unusual talent in setting forth rules or regulations which permit a wide application of justice. Dentistry began with people possessing some knowledge of healing and the digital dexterity to relieve the pain caused by aching teeth.

In the first stage of a profession,¹ these lay people begin to take more and more time from their regular occupations to meet requests to use their special skills until they find themselves giving virtually full time to such service, and then find it necessary to start to train people to help them. When this happens the second stage begins and the persons trained by these apprenticeship methods are expected to devote full time to the newly developed occupation. Thus the second stage, or *occupational differentiation*, begins.

If there is a substantial body of material to be learned, the practitioners trained by apprenticeship soon begin to group themselves into guilds and then begin to organize training courses which may

¹ For a more complete analysis of the development of professions see M. M. Chaves, *Auxiliary Dental Personnel and the Evolution of Dental Practice*, Working Paper for the World Health Organization Expert Committee on Auxiliary Dental Personnel, World Health Organization, Geneva, Switzerland, May, 1958.

be of a duration of as much as one or two years. Thus the first dental courses in America were one or two years in length, and those who had taken such courses grouped themselves together and were in conflict with those who practiced without having studied such courses. This is what might be called the third stage, or *initial professionalization*.

The fourth, or *intermediate stage of professionalization*, consists of the establishment of independent schools having a collegiate curriculum of three to six years. At this stage the professional associations become stronger, and legislation governing the rules and regulations of practice begin to appear on the statute books. Auxiliary workers also begin to appear on the scene. This fourth stage is usually marked by the beginning of some specialization and by the proliferation of schools, some of them of dubious quality. Medicine, law, teaching, architecture, and the ministry have all followed some such pattern of development up to the fifth stage or what might be thought of as present day *professionalization*.

By the time of the fifth stage, the universities have taken professional education in charge and there is a recognized body of knowledge which all practitioners are expected to master. Furthermore, practitioners are licensed only after examination by other professionals. Specialties develop and the professional schools of the universities begin to provide education even beyond the professional degree. Types of training for auxiliaries are also specified, and the licensing of certain auxiliaries is required. Membership requirements in the profession become very rigid and the numbers of unqualified persons who practice are diminished or new categories are found for them.

Most of the professions, including dentistry, are presently in this fifth stage, although some professions have advanced more rapidly than others, although some practitioners in all professions have had only the third or fourth stage of training, and although standards of quality in all professions vary somewhat from place to place and from practitioner to practitioner.

The chief reason for the variation in standards of practice is that most of the development I have described has occurred within the past 100 years. In many cases a new stage of professional development was occurring while an old stage was still in existence. Thus, while the universities began to take over dental schools in 1868, the

last proprietary dental school did not go out of existence until after the publication of the Gies report in 1926.

Medical schools, as another example, did not have their sharpest improvement until after the publication of the famous Flexner report in 1910. Most of you are probably familiar with the revealing remark of the distinguished medical authority, Alan Gregg, that "it was about the year 1910 or 1912 when it became possible to say of the United States that a random patient with a random disease consulted a doctor chosen at random stood better than a fifty-fifty chance of profiting from the encounter."²

When one considers the rapidity of social change from the time of my grandfather's birth in 1852, and the equally rapid growth of scientific knowledge from the time of the founding of the first dental school in 1840, the marvel is that dentistry and the other professions have developed as rapidly as they have.

Yet if the professional organizations now come to regard their present status as a final stage in their evolution, if they now begin to spend large amounts of time in self-admiration of their undoubtedly great past accomplishments, then we are all the losers, including the professions.

What, then, should be the future or next stage in professional development? Particularly, what might be the next stage for dentistry?

Obviously, it would take a wiser head than mine to sketch in any detail what the next stage of dentistry could or should be. Obviously, also, the social changes occurring since my grandfather's time have already required changes in all the professions and will require more in the future.

In our speculations, therefore, we must take account of the direction of social change. We must also synthesize, if we can, the best thinking of the theorists in the profession who are to be found in the schools and as leaders of dental organizations. And, most important, we need to study what the most advanced practitioners are doing, because tomorrow's conservative will be the imitator of today's progressive.

The future goal for all the health professions is easy to state, hard to achieve. It is to give better care to a larger proportion of our people. In dentistry we are now giving good care to about 40 per cent of

²Lawrence J. Henderson, "Challenges to Contemporary Medicine." (New York: Columbia University Press, 1956) p. 13.

our population, minimal care to about 25 per cent, and almost no care to the rest.

We cannot enlarge the proportion of the population getting good dental care without doing at least these three things: developing ways for dentists to take care of more people, convincing a larger proportion of the public that good dental care is important to them, and providing dental service at reasonable cost on budget payment plans.

If the average dentist is going to take care of more people he needs to change somewhat his present concept of practice from that of an operator doing everything himself, to that of an operator who delegates most routine and repetitive work to auxiliaries. In this new concept the dentist heads a dental team which, in turn, may be a part of a general health team. He exercises the professional functions of diagnosis and prescription but uses his own technical skill only in cases where specialized scientific and professional knowledge are required. Such a change in concept, if practiced, would enable the typical dentist to take care of double the number of his present patients, which now average about 1,000 a year. That this can be done is demonstrated by some present dentists who, by using improved techniques and equipment, as well as making full use of dental auxiliaries, are already taking care of a patient load of 2,000 or more.

Such changes in the role of the dentist will require changes in his training. To train students for the role of head of a dental team will require dental educators to re-study and revise nearly every aspect of dental education. Certainly it will require a greater emphasis on the biological aspects of dental education as well as a reorganization of methods in teaching restorative techniques. Dental organizations will have to resolve the very touchy, and therefore difficult, problems of what auxiliaries may or may not be entrusted to do. The schools cannot reorganize their clinical training until there is some reasonable agreement about what the routine and repetitive operations are which the dentist might reasonably delegate, and which dental practice acts should be amended to allow.

However, those problems may be resolved, dental schools in the future are sure to put much more emphasis upon preventive dental care and methods to improve public health. They will develop closer relations with the other university health schools, and with graduate education in general, so that the dental graduate will have not only a broader knowledge of health and research problems, but

he will also see more clearly the role the dentist should play in total health service.

In a rough sketch of the next stage of dental development such as this, it may be useful to summarize what might be accomplished under two headings: one, what we can all do by group actions to advance general dental health; two, what the private practitioner can do.

The single most important group action we can take is to urge that all towns and cities fluoridate their water supplies. This one action, over a period of years would reduce tooth decay among children by about 50 per cent.

Two, as parents, practitioners, or educators, we can demand that dental health care be included in health courses for school children.

Three, we can urge a dental inspection and care program for all children. Too many adults are dental cripples as a result of childhood neglect. (My private opinion is that such a program will have a better chance of success if we can induce more women to become dentists.)

Four, we can give support to the enlargement and development of our dental schools. Particularly, we should have new schools in areas of the country where there are none. Unless we provide such an increase in the number of dentists being trained, we shall be unable to keep the number of dentists in the present proportion to population, and we shall also make it difficult for the dentist in some parts of the country to continue professional study.

Five, in connection with our increased support for dental schools we should also increase our support for dental research. Yearly research expenditures are now about one-half of one per cent (\$10,000,000) of the dental health bill, and they should be at least two per cent (\$40,000,000).

Now let us turn to the role of the private practitioner in the next stage of professional development. He should study every possible way to give more service to more people. This involves study of the use of auxiliaries, better office management, and new techniques.

Two, the dentist should experiment with new methods of practice. With public transportation now available almost everywhere, patients can readily come to centers for treatment. Dentists therefore should do much more experimenting with group practices, which, in some cases, might be allied with hospitals or clinics.

Third, the private practitioner should pass along some of the bene-

fits of improvements in productivity resulting from better office management, better techniques, and the increased use of auxiliaries, to his patients in the form of moderate fees which can be readily absorbed within the budgets of persons working for modest incomes. Furthermore, there has now been enough experimentation with a variety of payment plans to furnish models for practitioners to use in helping to develop programs for employers, employees, and non-profit and commercial insurance organizations.

Lastly, the private practitioner is the person to give leadership to all the group and private actions listed above. In a dynamic society, his role is not to resist change; it is to guide it.

I turn now to the subject of dental students. Several recent studies tend to show that a substantial number of the members of graduating classes in professional schools are not so much concerned with the advancement of their profession and service to the public as they are with earning a "quick buck" and driving a Cadillac. Social pundits have therefore been quick to say that this generation is less ethical than my grandfather's and that some professions have less conscience than others. I have not seen any real evidence to substantiate this. Students today are probably as ethical as those of any generation in history and, by and large, there is probably not much ethical difference among professional groups in our society having similar backgrounds.

However, these are no reasons to say that present ethical standards are high enough. Since our society is much more interdependent than my grandfather's, a higher standard of conduct must be expected of each of us. Further, since students are now, or shortly will become, members of a professional class, they rightly should be expected to set a higher standard than the rest of the population. Professional people have received great benefits from our society and they occupy a highly privileged place within it. Therefore their conduct should be in every way an example for others to emulate. It is on premises such as these that people in the dental profession will be judged.

In conclusion, we come back to the question with which we began: it was, has dentistry changed in consonance with the changes in the world about it?

There are, of course, no quick or easy answers to questions such as this. We can surely say that the average present dentist possesses far greater scientific knowledge and technical skills than the dentist

of my grandfather's day. We can also say that, by and large, the leadership over the years in the dental profession has been excellent.

However, dentists are like other people. One group comprises those within dentistry who hark back in ideas and methods to the 19th century. Another group, the vast majority, do not devote much thought, unfortunately, to the advancement of their profession. Like the famous Negro lady, they "sets on their status quo."

But there is a third group of dentists, a goodly number I believe, who dedicate themselves wholeheartedly to a never-ending struggle for the advancement of their profession and the good of their fellow men. They are not just in step with social change; they help to lead it. It is upon such leadership that we all depend.

University of Florida
Gainesville, Florida

TOTAL DENTAL HEALTH CARE

More dental health teams, headed by dentists well trained in the science and art of the profession, and supervising the services that can be legally delegated to auxiliary help, can go far in meeting the increasing demand for complete dental care. Further amplification of services can be obtained by modifications in the state dental practice acts that will permit broadening the duties that dentists can assign to auxiliary aids. However, the Commission strongly believes that the high standards dentistry in the United States has achieved can be maintained only if dental care is rendered under the direct supervision of licensed dentists. That is why it believes that any broadening of the services performed by the auxiliaries should be guided by those who are qualified to understand the problems involved—members of the dental profession.—*The Survey of Dentistry*, p. 237.

Better Writing for Better Dentistry

GEORGE J. KIENZLE, B.A.

The head of the biochemistry department at one of the nation's largest dental colleges walked out of a professional meeting recently and made this comment:

"In two days I've heard three very important papers, but in each case the speaker hid his needle of knowledge in a haystack of befuddling language."

The remark fell on the sympathetic ears of three other dental educators. Soon the liveliest discussion of the convention developed in the foyer outside the conference room. The informal topic: "Why Don't Dental Writers and Speakers Clearly Say What They Mean?"

The discussion moved to a suite and its scope broadened. Questions came fast, answers slowly. What can be done to make articles and talks more effective? Why do editors publish so many articles with so little apparent value? Why do the same authors appear over and over in the journals, while others with as much to say—perhaps more—seldom write? Why are dental students poor writers? What's wrong with the elementary schools, the high schools, the undergraduate colleges? Why aren't they teaching writing more effectively? What can dental educators do to upgrade their own communications? What can they do about making writing and the teaching of writing an effective part of the dental curriculum?

A dozen other phases of the problem were touched on. All agreed that too often dental talks and dental literature are sterile—not because they lack substance but because the substance is presented so ineptly. The group reached only one conclusion: someone should make a concentrated effort to define the problem and suggest an approach to it. This is precisely what we are trying to do at the Ohio State University College of Dentistry; but, like others who have attacked the problem, we have more questions than conclusions.

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* This research into the problems of dental communications is supported by a grant from the National Institutes of Health, as is the experimental teaching of dental writing at Ohio State and in seminars conducted by Ohio State faculty at other dental colleges.

However, after nearly five years of study,* we feel the evidence points in these directions:

1. Science writing does not have to be complex just because the problems and technical language are complex.
2. Anyone who can graduate from a dental school can learn to write adequately.
3. A basic factor—perhaps *the* basic factor—in learning to write is motivation.
4. Too few students are motivated to learn to write well before they enter dental school, and this will not change in the years immediately ahead.
5. Dental schools can and probably should work on the problem themselves, rather than waiting for the elementary and secondary schools and the undergraduate colleges to find the answers.

Lack of understanding about the nature of scientific and professional writing has led to two widespread misconceptions: that the teaching of writing is less effective today than formerly and that science writing is necessarily complex because of the nature of the subject matter and the mass of technical terms that must be used.

Actually, writing probably is being taught more effectively in schools and colleges today than at any time in the past. The problem is that, with few exceptions, the classical approach still is used. As Dr. Richard H. Barbe pointed out in a study for the National Institutes of Health,¹ writing still is treated as an art form similar in many ways to painting, music, and sculpture.

"Writing, as an art, has a very important place in our culture," he says. "But there is, as well, a great need for another kind of writing. This is the kind of writing that is not meant to be artistic, but to be exact, factual, and widely understandable." Instruction in factual writing is limited, if not rare, at the undergraduate level. Students still labor in English classes over classical themes or essays; they work from assigned topics that vary in effectiveness, depending on the student's interests and the teacher's imagination.

Far too often such composition classes are looked on as a chore—a requirement to be gotten out of the way—rather than an opportunity to develop a skill that will prove invaluable to nearly every student, no matter what career he plans for himself. This attitude is particularly true of pre-dental and pre-medical students whose eyes and hopes are fastened on the professional studies and opportunities ahead. They see very little relationship between these composition

classes and their professional studies and careers. Unfortunately, they usually overlook the fact that the study of writing and practice in writing—even theme writing—will improve their capacity to think, to learn, and to do research.² In short, the pre-professional student takes little interest in classical composition courses because these courses fail to meet modern communications needs—particularly his needs as a prospective member of a profession that should communicate vast amounts of scientific information clearly.

Since composition courses are taught primarily in the freshman year of college, three to four years usually elapse before the student, now in a professional school, is called on to prepare a paper on a scientific subject. Usually he has forgotten what little he learned about writing. For a model he turns to the publications in his field. He gets little help here; for the articles in professional journals—including dental publications—are written by men who, like the student, have had little opportunity to learn to write clearly—to present ideas in a straightforward manner.

As he searches the literature, the student far too often finds what he already has encountered in his textbooks: complex, jargon-filled language that hides rather than highlights the facts. Since these articles are written by men with excellent professional reputations, and since he is rarely exposed to superlative writing, the student gradually comes to accept jargon as a substitute for effective prose. He even develops some skill in puzzling it out, although this never ceases to be a laborious process.

At this point the student may come to a false conclusion that is commonplace: he may decide that science writing by its very nature, particularly because of its abundance of technical language, must necessarily be complex. Because this belief was so widespread, a study was devised to determine its validity.³ This research showed that on an average only about 7 per cent of the words in scientific articles in nationally circulated dental magazines are technical or scientific words. (Non-technical articles in these magazines were not included.) A second study of dental vocabulary produced further evidence that technical language is not the basic problem in dental writing.⁴ This disclosed that only 710 scientific and dental words accounted for about 80 per cent of the technical language in these dental journals.

Experimental teaching in the College of Dentistry at Ohio State University and in faculty and graduate seminars at other dental schools also demonstrated that technical language was not a major problem. The real barriers were the student's lack of general language facility and his inability to organize information and thoughts into a logical, effective article.

These classes and seminars bring another basic fact into sharp focus: nearly every dentist can learn to write well if he really wants to. Students who disliked English composition because it seemed purposeless became enthusiastic and effective authors when taught by professional writers to deal professionally with a professional subject. Through a series of lectures and writing laboratory sessions students develop skill with the general language and apply this skill to the editing and writing of professional articles. Publication provides further motivation.

Lest all this sound easy, I want to stress that the course for National Institutes of Health trainees, for dental graduate students, and for faculty covers a full year. Even for these men writing is always a difficult though satisfying task. All that is improved is the effectiveness. The pain cannot be removed from writing any more than it can from dentistry.

The motivation and professional approach so essential in teaching the dentist, physician, or scientist to write well will not be provided by schools or undergraduate colleges for years—if ever. If the answer is to be found for dentistry, it probably will come through the combined efforts of dental schools, dental editors, and the handful of educators who are studying the dental literature and seeking effective ways of teaching science writing in dental schools. When these studies are more nearly complete, the next step can be taken: members of dental faculties who display an interest and aptitude can be trained as teachers of science writing.

All this will take time—years, in fact—but the time can and must come when science writing is a part of the curriculum in dental schools across the country. The dentist who learns to write well learns to think more acutely and effectively about his profession, and through his writing he contributes to better dentistry.

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APT QUOTES

Every calling has its own special code. But almost every report or speech I see or hear is verbose and loaded with jargon, clichés and big words where Anglo-Saxon would serve better. The fact that the writer is supposed to be a member of a logical profession, like engineering or law or military science, has no bearing. If the words that emerge are any evidence, the man doesn't think straight.

If I had my way, no one would graduate from any institution of learning who could not read, write and speak good, clear, concise, simple English. He need not be an Indian grunting and sending up smoke signals, or a laconic Spartan, or a Caesar with his *veni, vidi, vici*; on the other hand, he need not be a stylist or rhetorician. Edward Everett spoke for two hours at Gettysburg in his best Harvard manner to great applause—and today nobody cares. A modest, incidental orator said it all to indifferent hearers in the tradition of the Bible and Shakespeare in two hundred and sixty-seven words which go ringing down the corridors of time with another short speech, that of St. Paul at Mars' Hill.—Robert Moses, president of the New York World's Fair of 1964-65, in *The New York Times Magazine*, March 4, 1962.

Fund for Dental Education: Current Progress

G. WILLARD KING, B.S.J.

Since the Fund for Dental Education last reported on its activities to the American College of Dentists, good progress has been made in building support for dental education. We welcome this opportunity to report to members of the College because we have found them to be the leaders in promoting the Fund, as they are in promoting many other worthwhile activities which advance the profession.

Before reporting in detail on the present accomplishments of the Fund, I feel I should review briefly the events leading up to this. The Fund is actually the child of the American College of Dentists and the American Association of Dental Schools, because it was these two organizations that advanced the ideas which led to this national mobilization of support for dental education. It was a committee of the American Association of Dental Schools, all members of the College, which recommended the organization of the Fund for Dental Education as a non-profit educational activity to raise money to help advance dental education.

The beginning of a program for the Fund for Dental Education dates with the establishment of our central office in Chicago in July of 1958. The Directors set as the objectives of the Fund: the raising of money in sufficient amounts to enable the Fund to assist in the financing of national programs having to do with dental education and research; financing of regional programs in those areas; and direct aid to dental schools in support of teaching programs, educational research projects, conferences and seminars; and grants to bolster educational budgets.

To raise this money, the Directors agreed that an orderly program of fund-raising should be undertaken which would be based upon sound and proven principles. In the first place, the costs of doing business should be kept to a conservative level—even during the early stages of our activities. It was felt that this was necessary to

Mr. King is the Executive Secretary of the Fund for Dental Education.

avoid criticism, unwarranted though it might be, that a disproportionate amount of contributions was being used for administrative expenses and not going to support dental education. There was no money available to the Fund for administrative expenses, aside from that which was raised annually through contributions. This decision obviously committed the Fund to a most conservative program of communication and fund-raising. There were not sufficient funds available to send mailings to all who should be informed about the Fund. It was not even possible to mail to the 100,000 members of the dental profession—not to mention the considerable number of auxiliary personnel who are members of the dental family. Of course, the cost of television and radio promotion made the use of these mediums prohibitive.

The fact that the fiscal operations of the Fund for Dental Education have been reviewed and approved by the U. S. Department of Internal Revenue, the Charities Registration Division of the State of New York and other states, and by the Secretary of State's office in Indiana and Illinois, is evidence that the conservative attitude taken by the Directors toward operating expenses was a wise one.

This, however, accounts for why the Fund has not become better known to the dental profession and a large segment of American business. The Fund has relied upon a public information program which consists of informing dental journals, dental trade publications, dental leaders, and dental educators, and depending upon them to help inform others. This method is working, but it must be augmented by increased communication in the future.

Starting in 1958 with a total income of less than \$50,000, contributions to the Fund have increased each year to 1961 when a total of \$209,000 in cash was raised. Pledges swelled the total beyond the \$350,000 mark. Now, this may not sound like a great deal of money in this age of massive government expenditures and colossal deficits, but viewed in terms of an on-going program of annual solicitation and gift income for dental education, it is of more value to dental education than an endowment fund of \$5 million.

It is of more value because a permanent endowment fund is a static thing, while this Fund is dynamic and will continue to increase in size with each succeeding year.

When the Fund began its program in 1958 it adopted a plan of solicitation first enunciated by Benjamin Franklin who said, "if you

wish to raise money successfully, you go first to those who are most interested in and intimately connected with your cause."

Those who stand most to gain from a dynamic and advancing system of dental education are the members of the profession, those who work with the dental profession, and finally the public at large. Because of their number, it was not felt wise to attempt a nationwide solicitation of the members of the dental profession. The Directors of the Fund looked first to the members of the dental industry. Dental manufacturers and dealers began contributing to the Fund as individuals and it was not long before the American Dental Trade Association became the first organization to undertake a nationwide campaign for the Fund. In 1960 the A.D.T.A. raised \$126,000, and again in 1961 it has raised in excess of \$100,000. This contribution is particularly generous because 1961 was not a good year for dental business.

The dental laboratories of the land became the next national group to raise money for the Fund. Their campaign was organized in 1961 by the National Association of Dental Laboratories and raised almost \$18,000. While this amount is not large for a national organization, it represents a significant beginning. The Directors of the Fund are confident that contributions from the laboratories will increase in size and number in coming years.

We were delighted last year when the Tennessee State Dental Association voted to become the first constituent dental society to undertake a campaign among all members of the profession in that state to raise money in support of dental education. This campaign went through a careful planning stage and has just completed a most successful solicitation. The total is still growing and has already reached \$20,000 from 700 dentists. It is hoped that results scored by Tennessee will prompt other states to accept Tennessee's challenge and follow their good example. Seventy per cent of the members of the profession contributed an average of \$30 per man. Interestingly enough the money contributed in Tennessee was designated by each contributing dentist to go to the dental educational activity in which he was most interested. Many contributed to their own dental school, a sizeable number gave to support the two schools in the state, while others gave to the Fund for Dental Education and for special research projects, loan funds, and scholarships. Since the Fund for Dental Education co-sponsored this campaign with the

Tennessee State Dental Association, it is satisfying to note that there was considerable support for the national programs of the Fund. More important however, is the fact that many times more money was raised in Tennessee by this campaign for dental education than has been raised by any other dental fund raising activity in that state.

I might point out for the benefit of dental educators, that there was no attempt made in Tennessee to compete or conflict with any alumni solicitation which may have been conducted by dental schools. All contributors to alumni funds were credited as contributors to the Tennessee campaign and every cent contributed by Tennessee dentists which was earmarked for schools has been sent to those schools.

Since its beginning, the Fund has been fortunate to merit substantial annual support from the American Dental Association. In addition, the A.D.A. is encouraging other dental organizations to add their support to the programs of the Fund. Some state dental societies have made contributions to the Fund out of their treasuries, but the most significant contribution of this nature was made recently by the Ohio State Dental Association which contributed \$10,000. The Akron Dental Society (Ohio) contributed \$1,000 for dental student loan purposes.

During the past twelve months the Fund has made grants which we feel certain will show significant results for dental education. Several of these deserve special comment.

A grant was made to the University of Kentucky so that the dental faculty could conduct a "Conference on Dental School Curriculum"; dental educators from all parts of the nation participated. This grant was made with the provision that the proceedings of this Conference be kept and published in order that others might study the conclusions and weigh recommendations against existing curriculum patterns. We understand that the full proceedings of this conference will soon be published in the *Journal of Dental Education*. Additional hard bound copies will be available for distribution.

The Fund joined with Northwestern and Indiana Universities in sponsoring a "Conference on Teaching and Research of Dental Materials." Four \$6,000 Fellowships were awarded to dentists who are engaged in graduate work at Illinois, Loma Linda, Michigan, and Washington, preparatory to assuming dental teaching assignments. Two scholarships for training dental laboratory technicians

were secured and awarded by the Fund, and ten more have been received and will be awarded in 1962. The first scholarships for training a dental hygienist and a dental assistant were secured by the Fund. These will be awarded in 1962 and it is hoped that their establishment will result in others contributing additional scholarships to the Fund.

During its annual convention the American Dental Association voted to make a grant to the Fund of \$150,000 to establish a national dental student loan fund. Neither the A.D.A. nor the Fund consider this amount sufficient to meet the loan fund needs of dental students but it is felt that a start has been made on a bold new program. We are optimistic that the American Dental Association, dental specialty groups, dental societies, individual dentists, and other members of the dental family, will increase this loan fund in the immediate future to where it will become an effective instrument for encouraging more high calibre young people to embark upon dental careers.

In recalling grants to the American Association of Dental Schools, I have waited until the last to discuss this because the Directors feel that this organization should constitute one of the major areas of our support. The School's Association is eminently qualified to identify important national problems facing dental education and able to come up with the solutions, provided the necessary funds are available for implementing programs. For several years the Fund has made annual grants to this organization in support of the annual conference of dental deans and other conferences and programs. It has made a number of individual grants to the Association to finance other special projects which were not accommodated by the normal budget. The Fund has allocated a sizeable sum to the program of dental student recruitment which the A.A.D.S. has undertaken. But the most significant grant made by the Fund to the Association was that made during the Annual Meeting of the Trustees of the Fund last December when a moral commitment of \$250,000 was voted by the Fund. It is to be paid over the next five years to enable the A.A.D.S. to organize and staff a Division of Educational Research. Toward this end, \$38,700 was appropriated to cover the cost of this activity in 1962.

In looking ahead to the future, I am sure I speak for the Directors when I say we confidently expect, within the next two years, to develop annual giving to the point where the Fund will have an in-

come of half a million dollars a year. This, we feel will place the Fund in a position where it can begin to successfully operate programs of dental student aid, make grants to further worthwhile projects, and distribute cash grants to dental schools in support of teaching budgets. A sum of this size will permit the Fund to do these things and yet continue its existing fellowship programs, scholarships, and to make grants to the American Association of Dental Schools.

In addition to direct contributions from members of the profession, there are several additional ways dentistry can build its investments in dental education. A large number of dental societies have surplus reserve funds in Dental Service Corporations. I have learned in talking with some groups that these surplus funds are posing a problem for the dental societies. They must be put to good use, preferably of a non-profit nature, or they may cause questions from the Department of Internal Revenue. These surplus funds could be invested in the programs of the Fund for Dental Education and would produce untold good for the profession.

Many dental societies, dental specialty organizations, and others have independent scholarship and student loan funds which are becoming sterile from inactivity. They are not being used for one of several reasons: not enough students who need help know about them, they are too closely restricted to do any real good, or they are not administered according to the knowledgeable needs of dental education. If these funds could be made actively available to dental students through the Fund for Dental Education, they could be of much more help than at present. Also, dental societies which are in sound financial conditions could undoubtedly make treasury grants to the Fund.

Money invested in dental education through the Fund pays the investor the ultimate in dividends. It helps the dental education build for the future in a sound, well organized manner. It helps today's dental students complete their training and join the ranks of the profession. It aids dental research and elevates the stature of dentistry in the healing art. It performs double duty because it encourages others to follow the example of the profession and add their support to the advancement of dental education.

To increase the income to the Fund to the figure of \$500,000 mentioned above, we are going to need the help of everybody who is in-

terested in the future of dentistry and those who are concerned about maintaining a satisfactory level of health for our citizenry. I would like to think that everyone in the College, because you are concerned for the advancement of dental education, is a friend of the Fund. We solicit your help and your aid in helping to interest more people in supporting our program. With your investments, that goal of half a million dollars may be closer than we think.

840 North Lake Shore Drive
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CONCERNING THE FUND

The Articles of Incorporation for the Fund state that the Fund is a corporation with the following purposes:

- (a) To accept, receive, hold, invest, reinvest and use gifts, legacies, grants, funds, trust benefits (absolutely or in trust) and any and all properties of any nature or value without limitation as to either value or amount, and to grant use, lend, empty, expend, apply, donate or otherwise disburse the income from and the principal thereof for and to devote the same to the fostering, improving, broadening, upholding or otherwise aiding and assisting dental education in any and all ways consistent with the purposes of the corporation, to or through or in cooperation with dental schools and the students thereof, or otherwise;
- (b) To aid dental education further in assisting in the selection of research fields and questions therein, to aid in the financing thereof in order that such educational research can be conducted by competent persons under proper scientific supervision;
- (c) To assist in the growth, development and advancement of dental education through aiding in the creation of sources of non-artisan and authoritative investigation and experimentation on problems appertaining to dentistry; and
- (d) To interpret the requirements of dental education with respect to the American public, to foster the constant improvement of standards and methods of training and education of dental manpower in the United States, to provide adequate personnel of properly trained men and women to care properly for the dental needs of the American people.

Base-Lines for Guidance

IN CONSIDERING THE RECOMMENDATIONS OF THE COMMISSION ON THE SURVEY OF DENTISTRY

When the Committee on Professional Relations of the American College of Dentists reviewed the recommendations of the Commission on the Survey of Dentistry, it was impressed with the wide scope of the studies involved and with the need for careful analysis of the suggested recommendations and their activation.

Accordingly, the Committee recommended to the Board of Regents a series of base-lines for guidance in considering the recommendations of the Commission. The Board of Regents, after incorporating some additional suggestions, has approved the base-lines as being in the interest of the public and the profession and of value in the further consideration of the recommendations of the Commission on the Survey of Dentistry.

The members of the Committee on Professional Relations are: Charles A. Waldron, Chairman, John W. Creech, Harry N. Wagner, William R. Alstadt, Harold W. Krogh. Consultants, Chauncey D. Leake and Aris A. Mallas, Jr.

1. The profession should recognize that it has a distinct responsibility to the public in regard to dental health, as well as the obligation to advise the public in all dental health matters. Both the profession and the public should cooperate in the establishment of sound community health programs. Every dentist should share in the dental health program of the community.

2. The privilege of giving relief from pain must not be abrogated.

3. The efficient use of auxiliary personnel in the practice of dentistry should be encouraged, thereby making it possible to serve more patients. Such auxiliaries should serve only under the direction and supervision of the dentist. Services requiring the knowledge and competence of the dentist should not be assigned to lesser qualified personnel. The *dentist* is responsible for all services performed under his direction.

4. Preventive service must be stressed more and more in daily practice. The dentist should take the time to explain that the preventive aspects of his service are essential to dental health.

5. Fluoridation is a recognized public health measure and should have greater support at all levels.

6. Hospitals, serving as the communities' resources for total health care, should have dental care available.

7. The profession should be prepared to make its services available to the home-bound and institutionalized.

8. Although public clinics are recognized as necessary facilities in many instances and circumstances, the private dental office should continue to be the chief facility for dental care.

9. The efficient use of auxiliary personnel and better practice administration can contribute greatly in meeting the anticipated demand for dental care for an ever-increasing and more dental health conscious population.

10. The strict application of the law requiring the dentist to provide a written prescription for laboratory services is the best way to control this service. This, in turn, requires that the training of the dentist be such as to acquaint him with the details of all procedures upon which he is to give instructions through prescription.

11. Human relations with patients and an understanding concept of health service should become the keynote of dental practice. A broader interest in the patient's over-all well being will create greater confidence in the dentist in the field of total health care.

12. The public image of dentistry will change from that of a skilled technician to an important servant in health, only when diagnosis, thorough treatment planning, and prevention become the first consideration; these, coupled with the application of technical skills, will bring about a greater appreciation by the public for oral health service.

13. The respective roles of the government and the profession should be defined *clearly* in proposing new base-lines and standards in dental health service.

14. In the expansion of training facilities for dental personnel, attention must be given to concurrent expansion of teacher training programs. With these two steps every effort should be made to improve student recruitment, with special attention to methods of financing able and talented students who are unable to meet edu-

cational costs unassisted. Increased facilities, without more teachers, will diminish the teaching effort and lower present standards. Also, increased facilities with an insufficient supply of qualified students will produce dire results.

15. Dental schools are teaching institutions and, as such, have a responsibility to teach "health" and the application of adequate treatment procedures. However, the schools should not be the means of establishing service clinics in competition with private practice.

16. Dental health care programs should be planned carefully to provide service for those for whom the program is designed. The cost of such care should be met by the individual, the family, the community, the state, or the federal government, in that order.

17. The profession must be prepared at all times to discuss dental health matters with groups seeking such information.

18. Present tendencies are to lean heavily on government for funds for facilities, research, fellowship grants, etc. Strong and effective efforts should be made to interest non-governmental agencies in the needs of dentistry.

When federal funds are available for matching local monies for the construction of dental training facilities, considerable effort will have to be made to obtain funds from private sources with which to match federal funds. Federal assistance for construction, as now provided, will not be enough to match all possible applicants. All institutions, therefore, should proceed to develop plans for construction whether or not federal funds are available, in order to determine what their needs may be.

19. Funds for dental education might well be designated as falling in the following categories—each lending itself to special developments and sources of funds: Facilities; operating budgets; research; teacher training; fellowships and scholarships; public health programs; and student loan funds.

20. The integration of graduate education in dentistry with the universities' graduate school effort will bring more rapid recognition to dentistry as a health profession.

The Role of Research in Dentistry

JOSEPH E. HUNTER, D.D.S.

The role of research in dentistry is a many-sided subject. The need for research in the past was primarily for materials and methods used in restorative dentistry. Today the needs are still for improved materials until future research can provide adequate means for prevention of dental diseases. With this approach, dental health will maintain constant progress through constant study.

Dental research is probably as old as care of the teeth. Many of the historically early biological and medical discoveries were made by dentists. But the postulation of the focal infection theory early in the 20th century gave true dental research its greatest stimulation. The need for more knowledge of the basic biologic sciences became evident. As one result, the dental school curriculum was revised and the length of the program was increased to include more of these basic sciences. This shift brought more science teachers into dental education and improved the climate for dental research.

Until the early 1920's there was little organized dental research and what research was being done dealt chiefly with the mechanical phase of dentistry. In 1926 Gies stated:

Thus far, investigation in dentistry has been one-sided, for, in the main, it has consisted of the development of profitable patented inventions, chiefly under commercial auspices. This research which has been mechanical almost exclusively and biological only incidentally has been directed toward immediate and obvious remedial needs.¹

It is worthy to note that at the time of this report some biologically directed research was being conducted. But, in general, studies in new materials and better methods were the main objectives. Dentistry's chief aim was the preservation of teeth through restoration.

In the past 10-15 years there has been a great increase in dental research, with perhaps the greatest emphasis on dental caries. Of the

Class of 1962, The Ohio State University College of Dentistry.

This essay was judged first in the 1962 Writing Award Competition of the American College of Dentists. A plaque and \$500.00 were given to Dr. Hunter.

1,026 research projects reported by the "Survey of Dentistry,"² 115 treated dental caries. There were 77 studies on periodontal diseases, and 71 dealing with dental materials. These three topics accounted for 25 per cent of all dental research. The remaining 75 per cent dealt with bone, pulp, saliva, salivary glands, gingiva, tumors, occlusion, enamel, dentin, temporomandibular joint, and congenital abnormalities. This certainly suggests a broad approach to dental problems. There has also been an expanding of dental research into such areas as histochemistry, biochemistry, endocrinology, and microbiology.

Even though much more research is needed before dental diseases can be controlled, headway has been made toward the reduction of dental caries because of intensive epidemiological studies of fluorosis. In the early 1930's research workers found the cause of mottled enamel was excessive fluorine in the water supply. Mottling had been under investigation as early as 1908. Then in 1928 a report from the Aluminum Company of America showed fluorine in the water supply of areas where mottling occurred. Studies showed that native-born residents of these areas had 50 per cent fewer carious teeth than people living in areas with no fluorine in the water supply. Continued research has shown that if the fluorine level is kept at 1 ppm in the water supply, there will be a reduction in dental caries with no mottling. Topical application of fluoride also has proved successful in reducing caries as much as 40 per cent.

Merely improved restorative dentistry is not the answer to dental health problems nor will it be the answer in the future. With present methods of treatment, the United States would need at least 135,000 new dentists in the next five years just to eliminate the backlog! Kesel states it well:

The most satisfactory solution to the problem of meeting the dental health needs of the population lies in the discovery of measures that will prevent the occurrence of dental diseases. These can only come through research.²

DENTAL RESEARCH GROUPS

Many dental research organizations have arisen in the past 40 years. The Scientific Foundation and Research Commission was established in 1913 by Dr. Weston A. Price working with the American Dental Association. In 1915 the Commission established in Cleveland, Ohio, the first institute for dental research in the United

States. But by 1920 its research had diminished, and in 1924 the Commission was formally dissolved and the Cleveland property was turned over to the American Dental Association.

In 1919 the War Department requested a specification for amalgam. This was the beginning of the dental research branch at the National Bureau of Standards. The work of the Bureau has affected almost every technic and restorative material the dentist uses today. Many improvements can be traced directly to research findings of the Bureau.

Dental investigators joined together to promote research by forming the International Association of Dental Research in 1920. The Association has grown from a membership of 53 in 1920, to over 1,000 in 1960.² The goals of this group are:

. . . to promote broadly the advancements of research in all branches of dental science and in the related phases of the sciences that contribute directly to the development of the oral health service, and as a whole: and further, to encourage and facilitate cooperative effort and achievement by, and mutual helpfulness among, investigations in all nations and in every division of stomatology to the end that dentistry may render cumulatively more perfect service to humanity.

The partial attainment of these aims is reflected in the increase in the number of research papers presented at their meetings. In 1922, only 2 papers were read, but by 1960 this number had increased to 331.²

In 1930 the American Dental Association established its Council on Dental Therapeutics. This organization evaluates new drug products and reports to dentists on their effectiveness. This is accomplished by the publication of *Accepted Dental Remedies*, first published in 1934; it has gone through 27 editions. Efforts of the Council have enabled the profession to keep up with advancing therapeutic trends and have caused drug manufacturers to do more research before marketing new drugs.³

Only 14 of 43 American dental schools were engaged in dental research in 1926. Comparing medical research to dental research, Gies stated, "vigorous research in the former and weak in the latter."¹ Following the Gies report, several dental schools began developing dental research programs that would strengthen and improve dental investigations. In 1929, The Dental Study Unit at Yale was formed; its purpose was to maintain balance between curriculum, research,

and clinical dentistry. In 1930, the University of Rochester's School of Medicine and Dentistry received a grant from the Rockefeller Foundation to develop a program of dental research and basic science. This general research activity continued to grow, and by 1945 dental investigations were being conducted in 45 dental schools.

This new relationship enabled the university to widen the horizons of knowledge and allowed the dental profession to gain in prestige. Percy T. Phillips said to the Alumni of the College of Dentistry at New York University:

Certainly through this arrangement dentistry has increased its store of fundamental knowledge in the biological, technical, behavioral, and social sciences and thereby with each passing decade, has been able to improve its service to the public and to contribute fruitfully to the nation's efforts to improve the health status of its citizens.⁴

Dental schools and dental research organizations are not the only groups engaged in dental investigations. The Armed Forces, Veterans Administration, and manufacturers of dental materials have done much. The Army Dental Corps has 11 research billets, and the Navy has 15 such posts. The Air Force also maintains research positions for dental officers. The Veterans Administration encourages its dentists to engage in research activities that may lead to improved patient care. The Armed Forces and Veterans Administration have constantly improved and increased studies of dental problems since World War II.

DENTAL SCHOOLS AND RESEARCH

Most dental investigators are associated with dental schools. Of the 1,186 investigators listed in the "Survey of Dentistry,"² 878 are located in dental schools. Most of these are only part-time investigators and full-time instructors. Only 7 per cent of the researchers working in dental schools spend full time in dental research while 60 per cent spend less than half of their time in research.

More researchers are needed who devote most or all of their time to dental research. More dentists are needed in research because they are familiar with the problems facing dental investigations. Increasing numbers of other types of research workers are needed to maintain a broad outlook on dental problems. The number of assistants and technicians should be multiplied to permit the most efficient use of the investigators' time.

Recruitment and training of research personnel is the responsibility of dental education. This is a role of ever-increasing importance for "one investigator could do more for dental health than thousands of dentists"² if he could find a way to minimize the formation of calculus or control dental caries.

Teachers should be encouraged to develop research activities, and to apply research findings to the clinical practice of dentistry. Teachers who are interested in research and who appreciate its importance will be able to convey this interest to the students. The best source of future investigators is from the undergraduate students who are properly motivated by faculty example.

Students should be encouraged in dental research early in their dental training. The American Dental Association supports science projects for high school students. The National Institute of Dental Research has helped to increase interest by their fellowship and training programs. Dental schools are beginning to stress the importance of research by recruiting teachers and researchers of the basic sciences. This tends "to stimulate intellectual curiosity and constructive thinking among faculty members which may be transmitted to the student."² The best way to increase the number of investigators is to develop dentists with an established interest in dental research.

COMMUNICATION OF RESEARCH FINDINGS

Research is compiling information about new materials and improved methods at such a rapid pace that dentists in practice cannot keep up with the flood of findings. Manufacturers report many materials and techniques in use today that were research curiosities only five to seven years ago. For dental research to be of any value it must reach the practicing dentist for application.

There is considerable time lag between research findings and their application. For example, fluoride was proven safe and effective in prevention of caries by 1940. In 1950 it was still being tested, and today its use still is not widespread.

Many journals are published that report on research activity, new materials, and drugs accepted for dental use. Local, state, and national dental meetings also present information on the latest equipment and supplies. Postgraduate courses and refresher courses bring the graduate dentist new techniques that are acceptable.

The responsibility for the use of new materials and development of new techniques rests primarily with the practitioner. If he does not keep himself informed, modern research will be of no benefit to society.

FINANCING DENTAL RESEARCH

In the past ten years increasing support has been given to dental research. In 1926 the Gies report showed that only 14 of 43 dental schools in the United States had spent any money on dental research in 1924-25. (The amounts ranged from \$109.00 to \$16,294.00 with a total of \$41,370.00.) In 1958, 45 schools reported \$4.5 million spent on research. This is more than 100 times that spent 35 years ago.²

For over a decade the federal government through the National Institute of Dental Research has provided funds for dental research. In 1948, \$750,000.00 was appropriated for extra and intramural research. Extramural financial support is for research in dental schools and other non-federal agencies. Intramural aid is for research conducted by personnel of the National Institute of Dental Research. This budget was increased to \$800,000.00, and in 1956 the American Dental Association and the American Association for the Advancement of Science asked the Congress for more funds. Then in 1957, the Congress appropriated \$6,026,000.00. By 1960, the total of \$10,019,000.00 was twelve times the 1956 amount.

Thirty-six other agencies also reported funds spent for dental research. The Armed Forces and Veterans Administration have been major contributors since World War II. Forty-three of 169 dental manufacturers reported \$3,559,000.00 spent on dental research. Most of this was for product development and improvement.

Of the total amount spent for all dental research in 1958, 75 per cent came from federal funds and only 25 per cent from all other sources combined. The financial support given dental research indicates growing interest and activity, although it cannot be regarded as nearly sufficient to permit adequate investigation of unsolved problems relating to dental health.

Where are future funds to come from? More federal help will be needed, but the government cannot be expected to supply all the funds for dental research. The profession, universities, industry, and philanthropic agencies should be shown the need to contribute more.

FUTURE RESEARCH NEEDS

The public and even some dentists do not realize that repairing and replacing teeth is not the ultimate in better dental health. The real need is for extensive investigation into the causes of dental diseases that will lead to practical means of prevention. These studies necessarily will be lengthy however, and until prevention is practical, control through restoration is the only means of reducing dental diseases.

Immediate study must be turned to development of restorative materials that last longer and provide more protection against recurrent caries. Amalgam needs research on its mechanism of setting and rate of expansion. A good zinc-free silver alloy is required. A new "plastic" restorative material is needed. Presently, silicates are replaced at a cost of about \$50 million annually.² New cements are needed which are insoluble, anticariogenic, and adhesive. Improved cavity liners are needed to protect the pulp better and to stimulate the formation of secondary dentin quicker.

Instruments are needed which will enable the dentist to diagnose tissue changes with more reliability and to handle the increased work load more easily. Some examples of needed instrument improvement are: pulp testing instruments that will more accurately determine the condition of the pulp; X-ray equipment that will produce better radiographs with still less danger to the patient and dentists; instruments that will detect caries before gross changes have taken place; and high-speed equipment that will last longer and cut better with less noise.

The biologic projects that have already shown promise toward preventive dentistry should receive primary consideration. Fluoride, for example, has been proven effective. But how does it work? The answer could lead to more significant findings. Research on organic and inorganic components of teeth needs further investigation. If enamel is first altered before decay due to demineralization, then research might be able to develop remineralization agents or coatings that would stop further carious activity. The study of germ free animals might lead to isolation of micro-organisms specific to dental disease. Agents effective against these organisms could be developed. Investigation in enzymology could unravel the chemical processes by which enamel and dentin are destroyed. Saliva needs continued

and intensive investigation. This may prove saliva to be as valuable a diagnostic aid as blood and urine. The presence of enzymes in saliva may point to such systemic disorders as prostatic carcinoma, dementia, and hypertension. The cells present in saliva may prove useful in diagnosing and detecting periodontal disease or intraoral malignancies.

Some dental ills that have been almost ignored will need more study in the future. Calculus is a major cause of periodontal disease. How is it deposited on teeth and how does it adhere to the tooth? Research should reveal clues to the solutions of these questions. As many as 10 per cent of all adults have erosion. Is it associated with nervous tension? Dental researchers collaborating with psychiatry could study this problem.

When research begins to save more teeth, more middle aged and older patients will have their natural teeth. These persons will be more susceptible to periodontal diseases. Many physical, chemical, and microbial factors work together to cause periodontal disease and only long term research by many trained persons will lead to the answers to these problems.

Dental diseases do not kill people, but they do handicap many people through discomfort, general disability from oral infections, and by embarrassment or insecurity because of missing or unsightly teeth. Restorations are only palliative, they do not solve the problems. The only permanent solution is the development of effective and widely applied preventive measures. Advancements in dental research can provide these solutions.

Dental research has made much headway since the early 1920's. Many dental research groups have been organized since then. Most of them are still very active in dental investigations. Largely through encouragement of these research groups, the dental schools have become the centers for dental research. Today these schools are provided with equipment and supplied funds that were unheard of 25 years ago. To be of value in assuring the future dental health of the nation this research much be continued. This will mean more time and funds needed by more personnel. These needs are basic to the advancement of dental education, dental practice, and public health.

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Statistics Relating to Dental Care For the Aged

B. DUANE MOEN, M.A.

Several studies have revealed marked differences, according to the age of the individual, in the amount and type of dental care required or received. Elderly people differ considerably from the general population in amount and type of dental care required. Following are selected results of several studies which illustrate some of these age differences in dental care requirements.

Based on its surveys of dentists and of the general population, the Bureau of Economic Research and Statistics has estimated that 47 per cent of the general population saw the dentist during 1958, compared to only 36 per cent of persons aged 60 to 69, and only 30 per cent of persons 70 and older.¹ The peak of 66 per cent was reached in the age group 15 to 19.

For persons seeing the dentist, the average (mean) dental bill was estimated at \$24.90 for 1958. The comparable figure for persons aged 60 to 69 was \$32.10, and for persons 70 and older, \$23.20. For the entire civilian population, including persons who did not see the dentist, the per capita dental bill was \$11.70, compared to \$7.10 for persons 70 and older and \$11.70 for persons aged 60 to 69.

These statistics indicate that a smaller proportion of the over-60 than of the under-60 population sees the dentist within the course of a year. For the 60 plus population, the per capita dental bill is somewhat lower than for the population under 60. However, for those persons seeing the dentist, the average annual dental bill is somewhat higher for those 60 and older than for persons under 60.

In a study of the general population conducted by the Bureau of Economic Research and Statistics, 1.7 per cent of the individuals of all ages reported they spent \$160.00 or more for professional dental care during a year.² The percentage spending \$160.00 or more was highest in the age group 50 to 59 (2.9 per cent), but was also higher than the over-all average for the age group 60 to 69 (2.6 per cent)

Mr. Moen is Director, Bureau of Economic Research and Statistics, American Dental Association.

and for persons 70 and older (1.9 per cent). Thus, it is apparent that people over 50 are more likely to incur large dental bills than people under that age.

A recent survey of the general adult population, conducted by the Bureau of Economic Research and Statistics, provided information on the intended future frequency of visits to the dentist, according to age.³ Of the respondents 60 and older, only 18.5 per cent intended to go to the dentist as frequently as every year, compared to 46.4 per cent of all persons between 20 and 59 years of age. "As need arises" was checked by 65.6 per cent of respondents 60 and older, compared to 47.3 per cent of all respondents 20 to 59 years old.

The U. S. National Health Survey found that 36.6 per cent of the civilian non-institutional population had seen the dentist within a period of 11 months.⁴ For people 65 and older the figure was only 21.2 per cent.

According to the National Health Survey, the average person made 1.6 visits to the dentist during the year ending at mid-1958.⁵ This figure was highest for the age group 15 to 24 (2.3 visits per person) and declined to 0.8 visit per person among the population 65 and older. There were striking differences by age in the number of visits for particular types of dental services. Whereas the average person aged 15 to 24 made 1.2 visits to the dentist for fillings, the comparable figure for the "over 65" age group was only 0.1 visit. For denture work, however, the average person 65 and over made 0.3 visit per person, compared to only 0.1 for persons 15 to 24 years of age or 0.1 for all ages combined.

In a survey of the dental needs of 38,741 patients conducted by the Bureau of Economic Research and Statistics, it was determined that persons 65 and older averaged 1.40 teeth requiring extraction because of periodontal disease, compared to 0.52 teeth for the population under 65, the ratio of nearly three to one.⁶ Because of the high incidence of periodontal disease, the total number of extractions required by persons 65 and older was higher, on the average, than the number required by persons under 65 (2.33 compared to 1.48).

The Bureau of Economic Research and Statistics has conducted two surveys of dental services provided for a cross-section of dental patients throughout the nation.⁷ In each survey the sample consisted of more than 25,000 patients. Services rendered have been tabulated according to the age of the patient. These surveys have demonstrated

that elderly patients tend to receive a relatively large number of dentures, extractions, and periodontal treatments, and a relatively low number of fillings and most other dental services.

The U. S. National Health Survey determined that 55.4 per cent of the population aged 65 to 74, and 67.3 per cent of the population 75 and older, had lost all natural teeth.⁸ The percentage of edentulous persons was somewhat higher among women than among men. Among persons 65 and older, the percentage of edentulous persons varied with family income from 62.4 per cent for income under \$2,000 to 55.4 per cent for income of \$7,000 or more.

In a survey of the general adult population in 1960, the Bureau of Economic Research and Statistics determined that the percentage of people wearing dentures or bridges increased from 22.4 per cent for people in their 20's to 62.1 per cent for people in their 50's and 78.3 per cent for persons 60 and older.⁹ Among persons 60 and older, 62.5 per cent wore a complete upper denture, and 50 per cent a complete lower denture.

In summary, elderly people, as a group, differ dentally from younger people in several ways. They seek dental treatment less frequently. When they go to the dentist, their dental bill is likely to be higher. They are most likely to need extractions, dentures, or periodontal treatment, and less likely to need fillings and other dental services. About six of every ten persons over 65 are edentulous. Nearly four of every five persons over 60 wear dentures or bridges.

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MINUTES OF THE MEETING OF
THE BOARD OF REGENTS
March 30, 31, 1962, St. Louis

(Summarized by the Secretary, O. W. Brandhorst)

The Board of Regents met in the Central Office in St. Louis on Friday and Saturday, March 30 and 31, 1962. The first meeting convened at 9:00 a.m. Friday morning, with President Henry A. Swanson presiding. Thirteen members of the Board were present. Minutes of the meetings of the Board on October 13, 14, and 17, 1961, at Philadelphia, were approved as corrected. Reports were received from the Officers and Regents present.

The Secretary reported that the Exchange Fellowship was now functioning and that Dr. Patrick James of London, England, was now in residence at the Henry Ford Hospital in Detroit; that the follow-up study on student attitudes and motivations by Nathan Kohn & Associates was in progress and was to be completed by June 30; that 22 Fellows had died since the Philadelphia meeting; and that "memorial" books had been placed in the libraries of the dental schools of the deceased Fellows' alma mater.

Several committees of the College presented reports requesting guidance or approval of recommendations that would enable them to proceed with suggested plans. Results will be reflected in the annual reports of these committees in the Fall.

The request of the Fellows in Alabama to be recognized as a Section, and a similar request of Fellows in Oklahoma, were granted.

The requests of several Sections for changes in the by-laws of their Section were discussed, and the Sections advised of the decisions and interpretations.

During the two days, much time was devoted to the report on the meeting of the representatives of the Sections held in St. Louis, December 1 and 2, 1961, to which all but four Sections had sent representatives. The broad interest shown at that meeting was most gratifying and stimulating. It was evident that a way needed to be found to bring the membership more detailed information on the objectives of the College and how it functions. This is having the continued attention of the Board.

The Board also devoted its attention to planning the future activities of the College, and appointed several committees to study the

various aspects of the situation and report at the Miami Beach meeting in October.

President Swanson outlined the plans for the Miami Beach meeting, which indicated that an unusual program was in the making.

The Board felt that the two-day uninterrupted meeting had been quite fruitful.

CALENDAR OF MEETINGS

CONVOCATIONS

October 28, 1962, Miami Beach

October 13, 1963, Atlantic City

November 8, 1964, San Francisco

November 7, 1965, Las Vegas

The Awards of the College

In the early days of the American College of Dentists, the Fellowship consisted largely of older persons, elected in recognition of contributions made to dentistry. While this is still a basic qualification, in more recent years consideration is also given to the potential possibilities of persons being considered. This is felt desirable in order to build a more vigorous and active organization.

It was axiomatic that some means should be developed whereby unusual effort and accomplishments by Fellows of the College could be encouraged and recognized. Thus it came about that the William John Gies Award was established to recognize leadership and meritorious services to the dental profession. Naming the Award in honor of Dr. Gies was significant in that his untiring efforts in behalf of dentistry represented a labor of love that warranted emulation.

The Gies Award is presented from time to time to Fellows of the College who have made unusual contributions. The following have been recipients:

Peter J. Brekhus.....	1940	Harold Hillenbrand.....	1959
Frederick J. Noyes.....	1941	Gerald H. Leatherman.....	1959
John E. Gurley.....	1955	Lon W. Morrey.....	1959
Arthur H. Merritt.....	1955	Percy T. Phillips.....	1959
Albert L. Midgley.....	1955	C. Carroll Smith.....	1959
Charles F. Harper.....	1956	Edward B. Spaulding.....	1959
J. Ben Robinson.....	1956	Gerald D. Timmons.....	1959
Otto W. Brandhorst.....	1959	Carlos H. Schott.....	1960
C. Willard Camalier.....	1959	Frank O. Alford.....	1961
Thomas J. Hill.....	1959	Edgar D. Coolidge.....	1961

The Board of Regents recognized also that there were persons not Fellows of the College who contributed toward our professional advancement, and therefore established an Award of Merit through which such distinguished services could be recognized. The Award of Merit has been given to:

J. Roy Doty.....	1959	B. Duane Moen.....	1959
John J. Hollister.....	1959	Fern Crawford.....	1960
George H. Whipple.....		1961	

The Exchange Fellowship

Several years ago the Board of Regents of the American College of Dentists, in cooperation with some of the British Fellows of the College, discussed the possibility of developing an Exchange Fellowship Plan. This would make possible the exchange of ideas in dental health matters and presumably bring about better understanding of these matters as carried on in the different countries.

Out of these discussions came the following basic suggestions:

1. That an Exchange Fellowship Plan offered unusual opportunities for an interchange of ideas, especially if it were developed as a two-way approach whereby persons could be sent from this country to Great Britain and vice versa, not necessarily participating in the same subject matter, such as oral surgery or pathology, but in different fields of interest; and

2. That the Board of Regents provide financial assistance to the recipients in order to activate such a Fellowship.

The suggestions were approved. The first of the Fellowships has been consummated, and Dr. Patrick James of Kent, England, became the first Exchange Fellow.

The correspondence that follows indicates the success of this effort and should give encouragement to the project.

This letter is from Dr. Terence G. Ward, Dental Department, The Queen Victoria Hospital, East Grinstead, Sussex, Great Britain, to Dr. O. W. Brandhorst (May 1, 1962):

Patrick James, my Senior Registrar, has now returned to this Unit from America. His stay in Detroit has been invaluable to him, and will be reflected in the future in his treatment of patients.

I would like to congratulate the American College of Dentists for their initiative in promoting these scholarships. I know of nothing more valuable in international dentistry than such a scholarship. Your Regents are to be congratulated on their foresight in arranging it.

Dr. Fred A. Henny, Chief, Division of Dentistry and Oral Sur-

gery, Henry Ford Hospital, Detroit, wrote the following to Dr. O. W. Brandhorst (April 27, 1962):

Since Dr. James has finished his time with us and has returned to England I am submitting the following report to you for your information and records.

Dr. James was an excellent choice for such an initial fellowship since he is well educated, strongly attached to dentistry even though he does have a medical degree, very personable and extremely grateful for the opportunity to visit this country under your sponsorship. There will doubtless be a good reaction in Britain for I am certain that he found the experience worth his while. Since he will eventually be in a position of responsibility in England his comments will be respected.

Every attempt was made to have Dr. James have as complete an exposure as possible, both professionally and socially. People on our staff were most cooperative from both standpoints and he was kept quite busy all during his stay. We were particularly interested in his ideas of patient management and his impressions of the effectiveness of the dental program in England and its effect on both the public and the profession.

As he probably reported to you, he was able to attend a goodly number of dental meetings both at the hospital staff level, local societies throughout Michigan and the Annual meeting of the Michigan State Dental Association. On several occasions he was called on for comment and did so with considerable ability even though his impressions on occasions were divergent to those previously expressed.

Our impressions and recommendations are as follows:

1. The project is very worthwhile and should be continued or expanded. There would be considerable merit in expanding it from three to six months.
2. A reciprocal arrangement should be initiated and if the American College of Dentists wishes to continue the project I will be most happy to make an effort to obtain sufficient funds to send one of our residents to England for a comparable period.
3. The visit of the oral surgeon from England should be so timed as to allow his attendance at the Annual Session of

the American Dental Association and the American Society of Oral Surgeons. This would have an excellent effect since he would see our large meetings in action and would have an expanded opportunity to meet people in the dental profession.

4. Terence Ward, who is the Chief of Service at East Grinstead and Patrick James' superior, is not only an excellent oral surgeon but is also very strongly allied with dentistry. His influence in educational and political activities in dentistry in Britain is great, and will continue for the foreseeable future. I am confident that anyone he selects for such a scholarship in the future will also be of the same general quality and personality as Patrick James. It should be noted that Dr. Ward will attend the Annual meeting of the American Society of Oral Surgeons in New Orleans where he will deliver the Chalmers Lyons memorial lecture and will subsequently lecture at the scientific session of the American Dental Association in Miami next fall. You may wish to invite him to a meeting of your Board or the responsible Committee to talk to him personally regarding his evaluation of the project. Following the ADA meeting Dr. Ward will tour the United States under the sponsorship of the American Society of Oral Surgeons delivering lectures at Universities and Oral Surgery Societies in Texas, California, Michigan, Missouri, Toronto and the major cities on our east coast.

We appreciate the opportunity of having Dr. James with us. It has been a constructive and enjoyable experience.

Dr. Patrick L. James, the Exchange Fellow, wrote Dr. O. W. Brandhorst (April 24, 1962), and submitted the report that follows:

I am sending you the report you requested which I hope will be of value to you.

May I take this opportunity of thanking you personally for all the arrangements that you have made for me which seem to have worked very well indeed. I hope one day I will have the opportunity of meeting you either in England or America.

My sincere thanks.

THE THREE MONTH EXCHANGE SCHOLARSHIP

Patrick L. James, M.R.C.S., L.R.C.P., F.D.S., R.C.S.

First of all I would like you to convey my thanks to all those in the United States of America who had the foresight to make such a visit possible.

I have had a wonderful time here and this experience has been the climax to my training programme. I shall return to England having learnt a lot about American techniques in Oral Surgery, about the way Americans live and think, and with very happy memories of the people I have worked with for the past three months.

Dr. Henny has been an excellent teacher, advisor and host and it has been a great honour for me to have worked with such an eminent American Oral Surgeon. He has made sure that my time has been well used and that I saw all the major techniques in Oral Surgery in his department.

His staff, especially Dr. Revzin and Dr. Via, have made it their business to see that I was well looked after from the moment I arrived.

His residents have treated me as one of themselves and I have been able to join them in those parts of their training programme that were useful to me.

Thus the Henry Ford Hospital has proved a good place for trainee British Oral Surgeons to come to work.

It has also been a good place to work because oral surgery is carried out within the framework of a large general hospital. This is how British Oral Surgeons will be expected to work when they are fully trained. (None of them will go into purely private practice in the office.) Perhaps the most important reason why it has proven a good place to come to is that there is a wide field of oral surgery practiced here which I will deal with under headings below:

I. Surgery Related to Cancer of the Jaws and Oral Cavity

This hospital collects a large number of patients referred to its Oral Surgery Department with cancer of the mouth and jaws. It is the responsibility of the Oral Surgery Department to biopsy these patients and decide a treatment plan. If the cancer involves the oral cavity and mandible then the operation for its removal is done by Dr. Henny and his staff. If it is more extreme then liaison is made with the appropriate departments to consider whether radical neck surgery is to be carried out or radiotherapy or a combination of both,

or whether perfusion methods should be used. The postoperative management of all these patients is handled by the oral surgery staff and frequent continuous long term follow-ups are made by the same personnel. By this system, the prognosis of early cancer is very good and the prognosis of even the late cancers is bettered. In England in the particular unit from which I come we have a similar system, but we do not see the numbers that are seen here.

II. *Surgery Related to the Temporomandibular Joint*

By virtue of the fact that Dr. Henny has operated on so many of these patients with TMJ pathology, it is a great privilege to be able to see his results and techniques in this field of surgery.

At East Grinstead, my present chief, Terence Ward, also does surgery on large numbers of these patients.

It is therefore a unique experience for me to have witnessed the varying techniques in the treatment of these difficult problems and the interchange of ideas as a result of this experience can do nothing but good.

III. *Routine Oral Surgery*

All oral surgeons, wherever they work, have to spend some of their time doing routine work. I have learnt new techniques for some of these procedures which I look forward to putting into practice when I get home. There are some instruments used in America which are better than ours and which I hope to procure and also there are some which are not as good.

IV. *Training Programme*

The training programme at the Henry Ford Hospital was very instructive to me. I was able to attend the Oral Surgery Pathological Conferences in which the histology of pathological specimens was demonstrated by an Oral Pathologist and then discussed by the participants. A course of routine oral pathology was also given concurrently which was a useful revision of the subject.

Departmental meetings: These were attended by all members of the Department of Dentistry and Oral Surgery. A case was presented for discussion. These were useful and instructive meetings.

Other features of the training programme included lectures on various aspects of oral surgery in the form of open discussions, lectures on radiotherapy, lectures on x-ray diagnosis in children and lectures on endocrines and their significance in oral surgery.

While I was at the Henry Ford Hospital, I was fortunate in being able to attend a symposium on oral cancer given by the Detroit Academy of Oral Surgery in which a discussion was led by a Radio-therapist, a General Surgeon and a Pathologist.

There was also a very interesting one day symposium on cancer where I heard Dr. Aisenberg, Dr. Sandler and Dr. Brennan speak on this subject. Exfoliative Cytology was discussed by Dr. Sandler in detail and Cytotoxic Drugs and their indications were discussed by Dr. Brennan.

The Michigan State Dental Meeting held at Grand Rapids was an interesting programme for me where I had the opportunity of seeing the organization of a large dental convention and hearing some interesting papers including two on oral surgery by Dr. Peterson.

Finance. This has been adequate especially in view of the fact that I was allowed to live in the hospital quarters and eat at the hospital cafeteria. Had I had to live outside this environment it might have been more difficult.

Other Hospitals Visited. I was able to visit others centers of Oral Surgery in the United States which included:

(1) University of Michigan Dental School where I was able to discuss the treatment and operative procedures of prognathism with Professor Hayward.

(2) Veterans Administration where Dr. Henny is also a consultant. Here I was able to see this organization at work and assist Dr. Henny in an operation.

(3) Receiving Hospital and Memorial Hospital, Detroit.

(4) Dr. Harry M. Seldin, New York.

(5) Dr. Daniel F. Lynch and Dr. Robert B. Shira, Washington, D. C.

Haxted Mead
Edenbridge, Kent
England

Book Reviews

RESTORATIVE DENTAL MATERIALS. By Floyd A. Peyton, D.Sc. and associates. 542 pp. St. Louis: C. V. Mosby Co. 1960. \$10.50.

This new textbook of dental materials is a welcome and valuable addition to the growing literature in this area of dental practice and teaching. Dr. Peyton has been an outstanding leader in this field for many years; his associates are members of the Department of Dental Materials at the University of Michigan School of Dentistry.

The first four chapters consider the history and scope of restorative materials; applied and fundamental principles; physical and mechanical properties; and the nature of metals and alloys. The basic scientific concepts which are necessary for a clear understanding and intelligent application of the principles of dental restorative materials are well presented in these chapters.

The history, classification, composition, chemistry, manipulation, characteristic physical properties, and the effects of deviation from established procedures in manipulation of dental materials in general use today are thoroughly covered in an understandable and easily read style in the following nine chapters.

In the final chapter, the physical and biophysical applications of dental materials are ably discussed. This chapter does much to justify and validate the status of dental materials as a basic science.

The text is well indexed and has an excellent bibliography. The book is printed in the two columns per page style which makes for easy reading.

Restorative Dental Materials is a book which deserves recognition as an outstanding contribution to dental literature.

William C. Dew, Columbus, Ohio

THE SCIENCE OF DENTAL MATERIALS. By Eugene W. Skinner, Ph.D. and Ralph W. Phillips, M.S. 636 pp. Phila.: W. B. Saunders Co. 5th ed. 1960. \$9.50.

This edition is an expanded and refined version of Dr. Skinner's popular text on dental materials. The combined knowledge and experience of two outstanding workers in the field of dental materials has been brought together with the addition of Professor Ralph Phillips as co-author. The material from the previous edition has been carefully edited and revised. Many new illustrations and charts have been added.

Additional data have been included in new chapters on rubber base impression materials, tarnish and corrosion, dental burs, mechanics of cutting, and power sources. Also, considerable additions are noted in the revision of other chapters. The supplemental subject matter included in some of the new chapters may be outside the scope of the field of dental materials; i.e., burs, mechanics of cutting, and power sources. Nevertheless, it is interesting, useful, and valuable information.

The text, including the recent advances, is well organized and quite ade-

quately covers the field of dental materials for the dental student, the practicing dentist, and the laboratory technician.

The composition, chemical and physical properties, and manipulation of dental materials are discussed thoroughly. The inclusion of many excellent charts, graphs, and illustrations aids greatly in understanding the theoretical and technical aspects of the subject.

This book is an excellent source of information and knowledge of a subject which is basic to the practice of dentistry. It is a "must" in the library of anyone interested in increasing his skill through basic knowledge of this important field of dentistry.

William C. Dew, Columbus, Ohio

RADIATION PROTECTION AND DENTISTRY. By Arthur H. Wuehrmann, D.M.D. 238 pp. St. Louis: C. V. Mosby Co. 1960. \$6.50.

The subject matter of this interesting monograph is gathered, to a large extent, from source material not commonly available to the general practitioner of dentistry for whom, according to the author, this book was written. The information is presented so that the dentist may more adequately protect his patients, himself, his employees, and personnel in adjoining areas from the undesirable effects of over irradiation by X-rays produced by the operation of a dental X-ray machine.

The monograph consists of a preface, seven chapters, an excellent bibliography, a survey of the literature, a glossary of roentgenological terms, an appendix and an index. The titles of the chapters into which the body of the text is divided include the fundamental effects of radiation on matter, the physical principles of X-radiation, the injurious effects of X-radiation, the prevention of radiation injury, the methods of reducing radiation injury, and the legal aspects. The appendix includes the very useful information on suppliers of barrier material, on film badge services, on ionization chamber dosimeters and replacement timers, in addition to a verbatim reprint of the recently published addendum to the National Bureau of Standards Handbook 59 on "Permissible Dose from External Sources of Ionizing Radiation."

The author observes that the fields covered by this monograph are under intensive investigations. Because of this dynamic status, the text is presented in the light of present knowledge and new findings will make revisions of this book necessary.

Harry D. Spangenberg, Jr. Columbus, Ohio

PEDIATRIC DENTISTRY. By M. Michael Cohen, D.M.D. and collaborators. 567 pp. St. Louis: C. V. Mosby Co. 2nd ed. 1961. \$15.00.

The author and his sixteen collaborators have attempted to prepare a comprehensive text of all phases of children's dentistry; each of these authors has contributed to one of the seventeen chapters, many of which are co-authored. Beginning with a chapter on "Embryological Development of the Head, Face, and Oral Cavity," the book takes the reader through physical and psychological child development, tooth development and anatomy, operative dentistry, surgery, periodontics, pathology, and prophylactic orthodontics.

Very wisely included is the chapter entitled "The Handicapped Child." The most common types of handicapped children have been descriptively classified relating the existing oral conditions. Examination procedures, treatment, and medication are recommended emphasizing that lack of dental care will affix an additional handicap to an already handicapped child.

The chapter "Public Health Aspects of Dentistry for Children," stresses the preventive importance of fluoridation and the community responsibility of the dentist. "Psychological Development of the Child," although informative, conveys very little about such development in relation to dental office procedures. The child may be normal at home and school, but what about the injection of new surroundings, fear, and pain?

It is my opinion that the author does not coordinate the oral diagnostic procedure. A chapter outlining an efficient examination procedure and including (in proper category) the many disorders mentioned throughout the text would seem most valuable. In this second edition, the author has reviewed his chapter on operative dentistry and endodontic techniques, and added information of childhood periodontal disturbances.

The book is well written and in a style that is quite readable; the quality of the paper, printing and binding is good, and the material has been well organized and indexed. I like the change to two-column pages in this edition.

Pediatric Dentistry should serve the general practitioner and pedodontist as a valuable reference text.

William C. Maddox, Columbus, Ohio

ACCEPTED DENTAL REMEDIES. Council on Dental Therapeutics. American Dental Association. 222 East Superior St., Chicago 11, Ill. 1962. \$3.00.

Accepted Dental Remedies/1962 is the twenty-seventh edition of a book that has become widely recognized as a handbook of dental therapeutics. The book is used extensively in the dental schools but its principal function is to provide the practicing dentist with information on the usefulness of drugs in dentistry. It further serves to alert the dentist to special problems that may be encountered when a patient seeks dental service while receiving medication or treatment by a physician. Emphasis is placed upon the importance of cooperation between the dentist and physician when the patient gives a history of diabetes, cardiovascular disease or of medication with such potent drugs as the corticoids.

The revised edition contains expanded sections on dental therapeutics. The monographs have been reviewed by the Council and its consultants and have been rewritten in the light of current scientific information. Several additional monographs have been added, including ones on erythromycin estolate, demethylchlor-tetracycline hydrochloride, methohexital sodium, urea peroxide, oxidized regenerated cellulose and sodium lauroyl sarcosinate. The chapter on nutrition has been rewritten in an attempt to equate dental and nutritional problems. No changes have been made in the format of the book which has proven so popular in the past several years.

As in earlier editions, *Accepted Dental Remedies/1962* includes information concerning drugs of recognized value in dentistry, drugs of uncertain status more recently proposed for use by the dentist, and some drugs once employed extensively but now generally regarded as obsolete. Only brands of drugs which the Council has accepted as of demonstrated value in dentistry are listed.

Accepted Dental Remedies/1962 contains 249 pages, including the provisions for acceptance of products, a general index, a distributors' index, an index of current reports from the Council and the Division of Chemistry, and an index of more recent reports on products not listed in the book, including those classified in Groups B, C and D. The book is available from the Order Department of the American Dental Association.

J. Roy Doty, Chicago

PHARMACOLOGY AND ORAL THERAPEUTICS. By Edward C. Dobbs, B.S., D.D.S. 552 pp. St. Louis: C. V. Mosby Co. 1961. \$10.00.

The purpose of this textbook is to approach the teaching of dentistry through the medium of pharmacology and therapeutics. However, its greatest usefulness is for students and practitioners. Most treatment categories are included, the more useful containing the larger sources of descriptive material and number of drugs presented. Each chapter is documented with rather short but current bibliographies. To insure reliable information on the newer drugs, the 1961 editions of *New and Nonofficial Drugs* and *Accepted Dental Remedies* were consulted.

The author is a teacher and a practitioner and has incorporated his many years of experience in the arrangement and clinical value of the material presented in the various chapters. New therapeutic categories, such as the tranquilizers, ganglionic blocking agents, autonomic, smooth, and skeletal muscle-acting drugs are included. In the last chapter on oral and dental therapeutics, treatment planning for practically all of the diseases of the teeth, the periodontium, the tongue, the cheeks, and the lips is discussed, and suggestions are given for remedial measures. The large print and boldface headings and general format make it pleasant reading. I would recommend this book for all students, teachers, and practitioners.

(This review also will appear in *The Journal of Prosthetic Dentistry*.)

W. Russell Kampfer, Columbus, Ohio

DENTAL PRACTICE ADMINISTRATION. By Robert K. Stinaff, D.D.S. 271 pp. St. Louis: C. V. Mosby Co. 1960. \$7.50.

This excellent book is literally a "from womb to tomb" presentation of its subject from the opening "A Concept of Practice Administration" to the practical and inclusive suggestions for the preparation of records of references and timely provisions of the dentist's last will and testament. Its twenty-one chapters are unusually well-organized and their carefully ordered sequence imparts an interest ordinarily found only in narrative.

Choice, practice goal, planning the office, equipment and financing, and introduction to the community are discussed in direct and highly informative manner. Auxiliary personnel, appointment control, office procedures for handling patients, fees, payment plans and collections, and case presentation and motivation are offered in complete but concise form. The chapters relating to communications, how to gain and lose patients, lay education, office and personal business involvements, and continuing education and affiliation are also very clear and impressive. Treatment of the growth of the practice and the philosophy, ethics and jurisprudence, facing the facts, and pertinent miscel-

laneous topics in conclusion are likewise presented in a most readable and satisfying way.

Dental Practice Administration is one of the best publications to come to this reviewer's attention. It denotes the author's extensive experience, his ability to cover thoroughly a complex subject in simple terms, his modest and effective use of essential illustrations and forms, and a philosophy which provokes admiration. Not the least of the attributes of this worthy book are the well-selected and inspiring quotations at the end of each chapter and the list of references for recommended reading.

(This review appeared in the September, 1960, issue of the *Ohio Dental Journal*.)

Neal A. Harper, Columbus, Ohio

BOOKS RECEIVED AND CONTENTS NOTED

ORAL PATHOLOGY. By Kurt H. Thoma, Dr. med. dent. h. c. (Zurich); F.D.S., R.C.S. (Eng.); Hon. F.D.S., R.C.S. (Edin.) and Henry M. Goldman, D.M.D. 5th Edition, 1523 pp. St. Louis: C. V. Mosby Co. 1960. \$27.50.

SYNOPSIS OF ORAL PATHOLOGY. By S. N. Bhaskar, B.D.S., D.D.S., M.S., Ph.D. 502 pp. St. Louis: C. V. Mosby Co. 1961. \$9.75.

ATLAS OF CLINICAL PATHOLOGY OF THE ORAL MUCOUS MEMBRANE. By Balint J. Orban, M.D., D.D.S. and Frank M. Wentz, D.D.S., M.S., Ph.D. 2nd Edition, 148 pp. St. Louis: C. V. Mosby Co. 1960. \$14.50.

ORBAN'S ORAL HISTOLOGY AND EMBRYOLOGY. Edited by Harry Sicher, M.D., D.Sc. 5th Edition, 406 pp. St. Louis: C. V. Mosby Co. 1962. \$10.50.

LOCAL ANESTHESIA AND PAIN CONTROL IN DENTAL PRACTICE. By Leonard M. Monheim, B.S., M.S., D.D.S. 2nd Edition, 319 pp. St. Louis: C. V. Mosby Co. 1961. \$8.75.

MODERN GNATHOLOGICAL CONCEPTS. By Victor O. Lucia, D.D.S. 610 pp. St. Louis: C. V. Mosby Co. 1961. \$20.00.

A HANDBOOK OF DIFFERENTIAL ORAL DIAGNOSIS. By Major M. Ash, Jr., B.S., M.S., D.D.S. 234 pp. St. Louis: C. V. Mosby Co. 1961. \$6.50. (The Postgraduate Dental Lecture Series.)

ENDODONTICS. By Harry J. Healey, A.B., D.D.S., M.S.D. 370 pp. St. Louis: C. V. Mosby Co. 1960. \$7.75. (The Postgraduate Dental Lecture Series.)

TREATMENT PLANNING IN THE PRACTICE OF DENTISTRY. By Henry M. Goldman, D.M.D. and Lester W. Burket, D.D.S., M.D. 305 pp. St. Louis: C. V. Mosby Co. 1959. \$6.50. (The Postgraduate Dental Lecture Series.)

REVIEW OF DENTISTRY. Edited by Maynard K. Hine, D.D.S., M.S. with 30 contributors. 3rd Edition, 576 pp. St. Louis: C. V. Mosby Co. 1961. \$9.00.

THE DENTIST AND HIS ASSISTANT. Edited by Shailer Peterson, B.A., M.A., Ph.D. 319 pp. St. Louis: C. V. Mosby Co. 1961. \$8.75.

THE DENTAL ASSISTANT. Edited by John C. Brauer, D.D.S., A.B., M.Sc. and Richard E. Richardson, D.D.S. 2nd Edition, 593 pp. New York: McGraw-Hill Book Company. 1960.

ORAL MEDICINE. By Lester W. Burket, D.D.S., M.D., Sc.D. with a chapter on Oral Cancer by S. Gordon Castigliano, B.A., B.S., M.D. 4th Edition, 609 pp. Philadelphia: J. B. Lippincott Co. 1961. \$15.00.

AUTHOR—AUTHOR

For a number of years the Secretary has attempted to obtain books written by Fellows of the American College of Dentists for a permanent collection. A special bookcase, prominently placed, in the Conference Room of the Central Office displays the publications.

From time to time, in the JOURNAL and in releases from the Secretary, Fellows are reminded of this project and are urged to send to the Central Office a copy of the books they have written. This is such a notice.

Author, may we have a copy of your book to add to the growing Central Office collection of "Books by Fellows?" The gesture will be appreciated.

"... the true University of these days is a Collection of Books."—
Carlyle

"... there is no Past so long as Books shall live."—Bulwer-Lytton

OPERATION BOOKSHELF

Books and periodicals for dental libraries, dental societies, and dentists in other countries are needed. (See page 58.)

Reasonably current publications should be sent to the United States Book Exchange, Inc., 3335 V Street, N.E., Washington 18, D. C. (This will have to be done at your expense.)

The United States Book Exchange will assume the cost of shipping the reading material to overseas destinations.

