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American College of Dentists

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

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American College of Dentists

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

Announcements

Next Meeting, Board of Regents: Chicago, Feb. 8, 1953.

Next Convocation: Cleveland, (date to be announced).

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

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Some minds are like concrete, all mixed up and permanently set.—
Anonymous

EDITORIAL

ON LEARNING

There is an old Chinese adage, source unknown, which runs as follows;

"When I hear it I forget it
When I see it I remember it
When I do it I know it"

It is of course, trite to repeat that all of our knowledge and understanding are gained through but five channels. Two of them are indicated above and perhaps three, if the word 'do' is translated 'touch'. The other two, 'taste' and 'smell' might also by a slight stretch of the mind, be translated into the word 'do.' However, we are not concerned with that detail just now, but we are concerned with 'hear, see, and do.'

It may appear farcical, but one of the chief problems confronting dental education and dental educators today is the correlation of scientific teaching in the classroom, and technical training in the laboratory or clinic. Perhaps the solution lies in the ability of the student to comprehend and the teacher to assist in that comprehension through application of 'seeing and hearing' on the one hand, with contemplation of possible or even probable results, followed by 'doing' on the other hand. Such procedure might complete his understanding or knowledge of the subject. All of the senses are not necessarily involved in all phases of learning, therefore 'smell' and 'taste' may be required only occasionally, and even then may be a part of 'doing,' especially in the study of H_2S and its relationships, or as a detector of fine coffee. However, it is well to give full consideration to the above quoted adage—we do forget much that we hear —we remember much of what we see—but when we do a thing we really know it. So, in the correlation of scientific teaching and clinical or technical practice, it is possible that the real correlation lies within the area of the senses rather than the material taught. One must hear, then see, and finally do it. And in the doing the other senses are involved and, it becomes the business of the learner to unravel the threads and make 'whole cloth' out of it.

But this takes time. The transformation process of learning is

slow and the time is long. Several years of association between teacher and taught on the campus are required for the change to gain a good start, followed by a lifetime of work and thought to develop the learner. Learning is continuous and one never gets too old to learn.

It is only within recent years that we begin to see uniform results in technical procedures as given to the profession by G. V. Black—it takes time 'to throw off the old and take on the new'. It took many years of learning before there were engineers capable of building the San Francisco-Oakland Bay Bridge; it has taken many years of study and honest effort to bring the professions to that degree of ethical understanding now held by them; it will take many years yet before men learn that objective thinking must supersede personal desire or subjective thinking; it will take many years yet before men really live after the Golden Rule; so teachers must not be disappointed nor discouraged as regards this particular question, but on the other hand push right along for its accomplishment.

Teachers of dental prosthesis must not be discouraged because time seems to be taken from them for other courses. Students need other studies, and with these they will do their technical work with more understanding and withal perhaps, be of greater value to the public as we see that public today and tomorrow.

As was remarked by a gentleman on the street when discussing the present world condition: "The trouble is we are all afraid, we do not live hopefully." That is the answer here, we must go on and on, recognizing advancement and always looking to its accomplishment. We will *hear* and we will *see*, then we will *do* through, *touch*, *taste* or *smell*, as the case may be, but in any event we hear, we see, we do.

AMERICAN COLLEGE OF DENTISTS

TRI-STATE SECTION

CONVOCATION (1952)[1]

The following Addresses and Committee Reports represent the work of the Tri-State Section during the year 1952. There has been a profitable and pleasant exchange of correspondence between the editor and the secretary of their section, Dr. Vinsant, and we hope the result of their year's work may benefit you too. Due to the fact that this issue of the journal is almost wholely taken up by their material we may consider it dedicated to the Tri-State Section. (Ed.)

ADDRESSES[2]

FRONTIERS OF DENTISTRY[3]

HARRY M. UNDERWOOD, D.D.S., *Knoxville*

The thought that is uppermost in my mind at this time is the desire to express to you my appreciation for the honor of serving as your chairman and to extend congratulations to the committees for their fine work. Now, I want to place special emphasis upon my thanks to Dr. Vinsant, our secretary-treasurer, for his hard work and cooperation.

Membership in an organization of this type is almost synonymous with leadership in the dental profession. And the chief characteristic of leadership in any field is a dominating desire for service which develops within a man, a spirit of humility. It is in keeping with this spirit of humility that I should like to bring to your attention some observations I have made concerning certain problems which face us as citizens as well as dentists.

It is with reluctance that I forego the pleasure of "patting ourselves" on the back and pointing with pride to our many worthwhile achievements. I have seen our profession grow from that of a crude craft to one of the outstanding professional branches of the healing

[1] Held at Memphis, Tennessee, December 13, 1952

[2] Delivered at the Convocation

[3] Chairman's address

arts. No one I believe could feel more satisfaction in the great contributions we are making to the welfare of mankind than I. You will also note that in this presentation I am not concerned with the technical phases of dentistry. At this time, I believe it fitting for us to direct our attention to general problems which lie ahead. The history of frontier life and the challenges facing the pioneer have always interested me and this has caused me to think of this presentation in terms of *Frontiers in Dentistry*.

We often hear the statement made that there are no longer frontiers for men to conquer. Those who wish to fit themselves into this pattern of thinking point to the fact that man spans the ocean in a matter of hours; that the bowels of the seas have come under his domain; that the air no longer is in the sole possession of the birds; that all the lands of the universe have been discovered and the seas charted. It may be true that our physical frontiers have disappeared and that there are no more physical worlds to conquer. Those who are willing to accept this philosophy and are familiar with history will recall that in the fourth century, Alexander the Great, after bringing the known civilized world under his influence, set down and wept because there were no more worlds to conquer. Since that time we know that more than one civilization has blossomed, flourished and perished.

We have our frontiers today and inasmuch as they are chiefly in the moral realm, we will find that they are much more difficult to conquer. To be specific, it is my opinion that there is before us a great frontier in the field of human relations. Leaders in general and especially in the field of dentistry are giving considerable attention to this matter of morals which in reality constitutes the base upon which our human relations are built. Last year Dr. Wright[4] in his address to this group referred to this problem. In his address before the annual convocation in Washington in 1951, Dr. Willard C. Fleming[5] dwelt considerably upon this subject. The presidential address of the Tennessee State Dental Association[6] in 1951 showed a keen recognition of this problem and included recommendations. Our pioneer forefathers had an interesting way in solving their community problems. Cooperation to a certain degree, but after

[4] See J. Am. Col. Den., 19, 257; 1952.
[5] Ibid. 19, 325; 252.
[6] See Jnl. Tenn. State Den. Assn., , 1951.

that, if the situation was still unbearable, they simply loaded their families and belongings into the covered wagon, tied the cow's halter to the end-gate and started out for the Western Frontier.

Although there are some of us who would, at times like to do that now, such action would certainly be termed impractical if not impossible. The method we employ today in solving our community problems is to establish a common meeting ground. Here we give and take and arrive at a conclusion that is considered most satisfactory to all concerned. Not long ago a director of a well known school of religion was asked how far he thought true science had advanced ahead of the science of human relations. His answer was at least 1500 years. Arnold Toynbee in his book, Civilization on Trial, stated that it would take a new religion to match the technology of today. A professor at the famous University of Heidelburg recently made the following statement, "Mere scientific learning is not enough. We must prove that through education all mankind can enjoy the blessings of freedom, justice and peace."

These are shocking thoughts. How disappointing it is for us to think that we must wait 1500 years before we can reap the benefits of atomic energy. Fifteen hundred years before nine men out of ten in this world will have enough food to eat or enough clothes for their bodies or sufficient shelter for their families. If these learned men are correct that is what faces our civilization today. In spite of these philosophies I am optimistic. I have confidence in the leadership of Christian man; I have confidence in the leadership in the profession of dentistry. There is no question in my mind as to the technical developments in the science of dentistry. We know how to prevent, we know how to preserve and we know how to restore. Although we should continue our efforts toward better techniques we, today, do not find it necessary to apologize for our lack of "know-how." Other conditions, however, give cause for apprehension if not embarrassment.

In the face of this technological efficiency the American people are threatened with a regimented dental and medical profession. You will note that I used the present tense when I referred to regimentation in our field. I do not agree with those who say the danger is passed. We are grateful for the breathing spell which it seems we will have but I am confident the threat will continue with us until the actual cause of such a threat has disappeared. If there

ever was a "leadership frontier" in dentistry it is today. A leadership that will solve certain serious problems facing the dental profession at this time: the problem of counties in our area without a practicing dentist; the problem that is pointed up thru the fact that dental decay is more prevalent today than it was ten years ago; the problem involving the fact that the average sixteen year old youth has seven decayed, missing or filled teeth and that the greatest of crippling diseases today is dental decay.

The dental profession must assume the responsibility for the leadership which must solve these problems. We must assume it for several reasons which includes the fact that the dental profession is willing to assume it: that the dental profession is unwilling for any other group to assume it and because of the fact that the dental health of our people constitutes our greatest responsibility and that it is the field of dentistry that problems concerning dental health should be solved.

Now, let us direct our attention very briefly to a few definite projects in the field of dentistry which we may employ in solving these problems and at the same time make tremendous progress toward building that foundation upon which better human relations may be based. Our philosophy must become one of "establishing a common meeting ground." On this common ground all branches of our government, our educational system, our health departments, the healing arts profession, our dental colleges and interested lay groups must work together under the leadership of the dental profession. There are a few specific opportunities which present a challenge to our leadership and I list them as follows with a very brief commentary:

1. The fluoridation process. Although this process has the indorsement of every recognized health organization and agency, we have been slow in exerting the leadership that is necessary for wider acceptance. It is my sincere hope that this body will recognize the tremendous value of this preventive measure and do something about it.
2. Greater utilization of health departments. It is my hope that this body will recognize the tremendous potentialities in this area and work toward bringing about greater appropriations for the promotion of dental health through our health departments.

3. Greater interest in dental research. Although there has been much outstanding dental research within recent years, I doubt if the dental profession as such has played a very prominent part. It is my hope that this body may promote more dental research for our area through scholarships, and fellowships in cooperation with our dental colleges.
4. The last frontier which I shall mention is that of organization in our professional associations. It is my hope that this group will exercise the necessary leadership which will bring about a re-examination of our various groups. This simply means that in many instances we are trying to get a job done in this modern day with a vehicle that may not be as modern as it could be.

In my humble opinion our state and component societies need to examine their objectives closely. I believe this will bring to our attention the need for certain adjustments as we establish objectives which will fit more directly into our activities aimed in solving certain immediate problems. It may be well to warn you at this time that such examination may reveal the need for a stronger financial structure if we are to make any progress in solving the problems which fall within our field.

I conclude my remarks by reminding you that our colleagues of yesteryear conquered dental frontiers from which we are profiting today; and, inasmuch as professions never cease to expand, we may rest assured that our profession will always have its frontiers where sturdy pioneers may carve for themselves a cherished memory.

THE ROLE DENTISTRY IS PLAYING IN THE U. S. PUBLIC HEALTH SERVICE

DAVID COOPER, D.D.S., *Memphis*[7]

The role of the Dental Corps in the United States Public Health Service follows the stimulating and inspiring pattern of the Medical Corps, whose mission since 1798 has been to improve the national health. In 1798 Congress passed a bill providing hospital care for

[7] Dental Director, U.S.P.H.S.; Chief Dental Officer, U.S.P.H.S. Hospital, Memphis, Tenn.

sick or disabled seamen. From this small beginning there evolved a corps of scientific Medical Officers which made rich contributions to the history of medicine in all its branches. With one hundred fifty four years of experience the medical corps has developed a system of public health based on collaboration with other federal, state, local professional and civic agencies to solve the nation's health problems. From its original field studies and laboratory research have come new knowledge and techniques which give the health services greater scope and horizon. Dentistry in the Public Health Service inherits this great tradition of objective, scientific investigation, and it is in this tradition that we can play our role in bringing better oral health to the Nation.

In 1919 dentists were commissioned in the reserve corps to render treatment to veterans. This they continued to do until the establishment of the Veterans Administration. At this time a new concept was recognized in the Public Health Service. This concept resulted from Dr. Goldberger's studies on pellagra. Some of the confirming experimental work was done at Rankin Prison Farm in Mississippi. Goldberger was rapidly developing the final proof that pellagra was a nutritional disease. Hence the pointing up of the new concept that "A disease affecting enough people to constitute a public health problem need not be communicable."

It would almost seem that this concept had been timed precisely for dentistry's entrance into the Public Health Service to make its contribution to the oral health of the nation. Certainly dentistry had its massive health problems in mottled enamel, caries, and periodontal diseases. Here were diseases, not communicable, not as dramatic as plague or pellagra, but which nevertheless, affected enough people to constitute a public health problem. It is interesting to note that in 1926 the State Health Officer of Arkansas requested the Public Health Service to survey the town of Bauxite for possible etiology of mottled enamel. Since the seven year old Dental Corps had been limited by law to a clinical care program, no trained dental officer was available. Consequently, Dr. Frederick S. McKay of New York City, who had reported and written extensively on this lesion, was appointed as Dental Consultant to work on this survey with Dr. Grover Kempf, a medical officer of the Public Health Service. The report was completed in 1928.

This gave impetus to the need for dental research and investiga-

tion. In 1931, following the passage of the Parker Act which opened the regular corps to dentists, a dental hygiene unit was established at the National Institute of Health. It was plain that without adequate dental research resources in facilities and trained personnel causes of these dental pathological entities would remain unknown, and considerable segments of our population would continue with disfigured teeth or early loss of teeth from untreated caries. H. T. Dean headed this unit and his work is a classic in dental epidemiology.

In its short experience of twenty two years as a Regular Corps, dental officers have been integrated into the structure and function of the Public Health Service. The areas in which the role of dentistry is reflected in the organization of the Service are:

1. Office of the Surgeon General. Here, the Chief Dental Officer is a member of the Surgeon General's staff. It is his function to plan, implement, co-ordinate and prosecute the assignment of the Dental Service; that is, to integrate dentistry into total health service of the Nation.

2. The National Institutes of Health. This is a group of seven research institutes, which includes the National Institute of Dental Research. This Institute has primary responsibility for basic research in the cause and prevention of dental diseases and conditions. It includes at present an Epidemiology and Biometry laboratory, Oral and Biological chemistry laboratory, a Functional Morphology laboratory and a Grants and Training Branch. Laboratory research will be supplemented by clinical research in the Clinical Center of the National Institutes of Research during 1953.

A few examples of the research projects the Institute is conducting are:

(a) Study at Grand Rapids, Michigan on the effects of fluoridation of water supplies for partial control of dental caries. The results of the project indicate that dental caries experience has been reduced in Grand Rapids by approximately 65% in the five to seven year group. As you will remember, this control study was started on January 5, 1945 by the Public Health Service, The Michigan State Health Department, and the University of Michigan. After seven years, the D.M.F. (dental caries experience) curve of the Grand Rapids children, born after fluoridation of the water supply, follows the caries experience curve of

Aurora, Ill., whose water supply has a natural content of 1.2 ppm. of fluoride. The fluoride free control city, Muskegan, Mich., similar in all conditions to Grand Rapids, maintained a curve closely identical to Grand Rapid's before fluoridation in 1945. The application of this study to preventive dentistry has been reflected in the fluoridation of 464 community water supplies serving a population of 9,500,000.

(b) Study of the relationship of fluoride to dental caries in the case of adults who have a lifetime history of drinking water containing natural fluoride. The results indicate a marked reduction of dental caries in persons up through age forty four. This group (in Colorado Springs) had about 60% fewer decayed teeth and lost only about one fourth as many teeth as another group (Boulder, Colo.) with a continuous history of drinking fluoride-free water.

(c) Investigation of the rate of calcification of the wrist bones of children reared in areas where the public water supplies contain between 3.9 to 4.4 ppm of natural fluoride. The results have been compared with those obtained with a control group of children reared in an area where the water supply was free of fluoride. No essential difference was found.

(d) Studies of the epidemiology of periodontal disease and the influence of climate upon human reaction to fluoride in the water supply.

(e) Method developed for the synthetic preparation of hydroxy apatite of a high degree of purity, in preparation for studies on the mechanism of the reactions between dental enamel and fluorides. It was found that, with a hydroxy apatite of such a purity and working with fluoride concentrations of 0.1 to 2.0%, the reaction proceeds mainly with the formation of CaF_2, but some fluoroapatite is also formed.

(f) Studies of caries in rats. It has been determined that on certain diets, rats develop caries on the buccal and labial tooth surfaces. This type of caries is common in humans, and therefore, it becomes possible to study this type of caries, experimentally, in rats.

3. The Grants and Training Branch. In 1951 thirty-six research projects were supported by dental research grants, which were carried out in Universities, Colleges, and Hospitals. A few of the subjects studied included: Etiology of Periodontoclasia, Histo-

pathology of Gingivae in Periodontal disease, Cranial Facial growth forms during changing dentition and the chemistry of silicates. Assisting in this task of administering these grants is the National Advisory Dental Research Council, made up of non-federal scientists and citizens with experience in national affairs. The Council reviews all applications for grants and makes recommendations to the Surgeon General on their acceptability.

4. The Bureau of Medical Services. Dentists perform a function in two divisions of this Bureau, The Hospital Division and the Division of Dental Resources.

A. The Hospital Division, a dental care program is carried on for the beneficiaries of the Service as established by law. The major beneficiaries are American merchant seamen, members of the U. S. Coast Guard, federal employees eligible for compensation under the Federal Employees' Compensation Act, individuals suffering from Hanson's disease federal prisoners, and narcotic drug addicts who voluntarily apply for treatment.

Thirty two dental internships are available each year in nine hospitals. These internships are for one year and are approved by the Councils on Dental Education and Hospital Dental Services of the American Dental Association. The dental intern participates in all phases of hospital work, spending definite periods in all departments of the hospital. These hospitals are engaged in postgraduate medical education which contributes to the value of the dental training program.

B. The Division of Dental Resources. The staff is concerned with improved equipment, better use of existing dental personnel, and the development of time saving methods in dental procedures.

At the request of the Council on Dental Education of the American Dental Association and with the cooperation of the American Association of Dental Schools, the Division of Dental Resources completed an intensive study of the financial status and needs of the 40 dental schools in the United States. Of particular interest in this study is the fact that in all of the Dental Schools only $733,342.00 has been budgeted for research. One fifth of this expense represented research funds granted by the Public Health Service.

5. The Bureau of States Services. This Bureau has a very active and alert Division of Dental Public Health. While the Institute of Dental Research was an end result greatly accelerated by the work of Dean, the evolution of the Division of Dental Public Health stems from the original efforts of Knutson in preventive dentistry.

Following the early recognition of the implications of the fluoride absorptive property of hydroxyapatites, Knutson developed a topical fluoride technique that affects a 40% reduction in caries incidence. This development has been corroborated by independent workers in the United States, Switzerland, Sweden and New Zealand.

Officers in this Division are trained and experienced in Public Health techniques and detailed to regional offices throughout the country. This division concentrates on the universal problem of dental disease. It helps and co-operates with states and communities through technical and consultative services to develop and establish effective community dental health programs. It conducts demonstrations to foster modern preventive dentistry in schools, clinics and practitioner's offices. It has supplied trained teams to demonstrate the topical application of sodium fluoride. It has a program to encourage fluoridation of public water supplies. The activities of this Division are conducted on a mutually cooperative basis with the State Health authorities.

In expressing our role in the Public Health Service, I am sure our leadership and direction have been influenced by the ideals of the American College of Dentists. Certainly our combined thinking and efforts will bring nearer to fulfillment many of the objectives of the College.

I have indicated some highlights of the major role dentistry is playing in the United States Public Health Service. While limitations of appropriations and attitudes will always impose their restrictions, our philosophy and motivation should be to give to the nation the benefits of tomorrows' dentistry, today.

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PHILOSOPHY OF DENTAL SERVICE

An Introduction

CHARLES C. CHUMBLEY, D.D.S., *Nashville*

"One beam in a dark place hath exceeding much refreshment in it"
Carlyle, Thomas
"Cromwell's Letters and Speeches"
Letter II

"The wisdom of a learned man cometh by opportunity of leisure . . . How can he get wisdom that holdeth the plough and glorieth in the goad, that driveth oxen and is occupied in their labors, and whose talk is of bullocks? . . . So every carpenter that laboureth night and day . . . So does the potter sitting at his work . . . All these trust in their hands . . . Without these cannot a city be inhabited . . . They shall not be sought for in public counsel . . . All their desire is in the work of their craft."
Ecclesiaticus
Chapter XXXVIII

FOREWORD

As each of us knows, all philosophy is aimed at eliminating confusion and error from our thought and discourse—for correcting the understanding. It is the most general knowledge attainable.[1, 2]

Every art, craft, profession, business, guild and all branches of science must perforce have some rudimentary philosophy. Each person engaged in one of these pursuits accepts the underlying philosophy openly or tacitly. Often this acceptance is unconscious and uncritical. As a consequence many of us are more purblind than necessary in our daily pursuits. In a real sense, we are somewhat maimed and useless.

How does one live? From hour to hour each of us must make decisions, and do what seems best. We must make searching judgments upon the salient problems which confront us daily—treatment of patients, social security, the party system, education, etc. Should our decisions be surreptitious, uncritical and unthought out? Intellectual innocence is a vice. It is ostrich-like denial and deliberate ignorance. In adopting a philosophical base for these decisions I suggest the need for an intellectual awakening. Our philosophy should not be "fugitive and cloistered," but intrepid, thorough and relentless.[3]

Some people think that the philosophy a scientist accepts is not of very much importance: his job is to observe the phenomena. This is a gross oversimplication. A sensible philosophy controlled by a relevant set of concepts saves so much research time that it

can nearly act as a substitute for genius; it may be that that is what we mean by genius. Thus equipped we avoid the pseudoproblems—or, more correctly, the problems that are real in adjacent fields but pseudo in our own. A scientist can have no more valuable skill than the ability to see whether the problem he is investigating exists, and whether the concepts he is using are applicable. Almost all the original philosophers from Socrates to the verificationists of the present day, have tried to provide some universally applicable method of achieving this end.[4]

This is perhaps the principal of the continuous threads which can be traced in Western philosophy.

If my view of the function of Philosophy is correct, it is the most effective of all the intellectual pursuits. It builds cathedrals before the workmen have moved a stone, and it destroys them before the elements have worn down their arches. It is the architect of the buildings of the spirit, it is also their solvent:—and the spiritual precedes the material.[5]

Philosophy works slowly, and its pursuit teaches us, on the one hand, the limits of our power, which is wholesome, and, on the other hand, the limits of our impotence, which is stimulating. It is well for every human being to consider his position in the scheme of things. The universe disclosed to modern philosophy is less alien to us in many ways than that conceived in former centuries. If approached with patient knowledge, the response is that of a friend. Man need not think of himself as powerless in the grip of vast cosmic forces: a wide range of initiative and freedom is open to him.[6]

The key to this lecture is the overwhelming importance of a prevalent philosophy. To ignore the advantages of philosophy is willful myopia.

INTRODUCTION

My primary purpose is to suggest methods for disentangling the fundamental ideas of dental science from the technical procedures which have been invented (or evolved) to facilitate their presentation in particular instances. Accordingly, we often find ourselves struggling to acquire a mass of details which are not illuminated by any general conception. Without a doubt, technical facility is a first requisite for valuable mental activity: we shall fail to appreciate the rhythm of Milton, or the passion of Shelley, so long as we

find it necessary to spell the words and are not quite certain of the forms of the individual letters. In this sense there is no royal road to learning. No extreme short cuts. But it is equally an error to confine attention to technical processes, excluding consideration of general ideas.[7] Here lies the road to pedantry.

However, the tradition of skillful practice should ever be encouraged—the tradition that combines theory and practice. Hippocrates taught first hard, persistent, intelligent, responsible, unremitting labor in the sick room, not in the library: the all-around adaptation of the doctor to his task, an adaptation that is far from being merely intellectual. This is adaptation chiefly through the establishment of conditioned reflexes. Something like it seems to be a necessary part of the mastery of any material or of effective work in any medium, for such adaptation is the mark of every master workman in every field.[8] Galileo refers to it among artisans, saying; "Indeed, I myself, being curious by nature, frequently visit (the arsenal of Venice) for the mere pleasure of observing the work of those, whom on account of their superiority over other artisans, we call 'first rank men.' Conference with them has often helped me in the investigation of certain effects, including not only those which are striking, but also those which are recondite and almost incredible."[9] A similar adaptation to our professional duties could profitably exist with each of us. Then our tasks would not be "sicklied o'er with the pale cast of thought and lose the name of action."[10] On the contrary, our works would be made vivid and manifest. In short, we would be educated and trained in depth. In the best educated professions, is found the biggest demand for something new as well as for instruction. Education enlarges all the interests of a man. Apart from what he learns, he acquires a general curiosity and a wider taste. The profession is fertilized by a variety of strong minds with the richest sense of adventure and will for discovery. This element of transition in the art of dentistry is shown by the restlessness exhibited in its history.

ROLE OF THEORY

In every growing science there is always a comparatively stable, tidy, clear part, and a growing, untidy, confused part. Certainly at present, disorder, error, doubt and untidiness are (or so appear) as inexpugnable parts of dental practice. To use a figure, as we ob-

serve the country side from an aeroplane we see a "crazy" quilt effect. However, on close inspection we see patches of well tended acreage in neat furrows, we see irregularly shaped wooded areas, and we observe arteries of highways linking the area (man-made order), also the water drainage meandering and following the inevitable course of topography. Because of the orderly patches, we conclude (rightly?) that the country side may be understood and acted on purposively. We postulate a greater unity than we actually find. Here, and to continue the analogy with dental disease, as we observe what appears perhaps irreconcilable on the surface, our optimism prompts the view that a satisfying solution exists. The solution is the problem of dental science.

I conceive the business of theoretical dental science to be to extend the realm of the tidy and systematic by the application of the methods of the exact and formal sciences, i.e. pure mathematics and logistics.[11]

METHODS OF SCIENCE

The subject-matter of any science is a collection of sense-experiences which originally appear as a chaotic variety. In attempting to interpret such a collection of experiences, science seeks some pattern to which they conform. Thus the recognized object of science is the development of mechanisms, a mechanism being simply a man-made schema or model which purports to relate a set of natural phenomena in a rational manner. A mechanism may be pictorial, as is the conventional atomic model portrayed to elementary students of physical science, or it may be diagrammatic like the device employed by the organic chemist to display the manner in which a large number of atoms may cling together to form a complex molecule. So, just as the architect's blue-print possesses a correspondence to the finished house, the mechanism of the scientist is made to some part of nature.[12]

The method of reasoning employed in mathematics (for example, in geometry), commonly called deductive resoning, has been combined with the methods of experimentation that came from the practical arts. This was necessary before science could progress rapidly. The interaction of these two streams of human activity is largely responsible for the development of medicine, dentistry, min-

ing, ballistics of machine guns, or whatsoever. The focus of attention is shifted from an immediate task of improving, say, the efficiency of a denture or process to a curiosity about the phenomenon in question. New ideas or concepts are seen as important as new inventions, and their interweaving produces conceptual fabrics whose various threads gain support from one another as well as from the direct results of experiment and observation.[13, 14]

By the aid of new concepts we fill in gaps in experience, as well as all the unknown territories, with whatever fits most smoothly on to data previously experienced, so as to yield the largest possible measure of mastery and of logical value. This may be called the application of a conceptual scheme. It's value may be judged not by its absoluteness, but by its fruitfulness.

A. N. Whitehead has pointed out that "no systematic thought has made progress apart from some adequately general working hypothesis, adapted to its special topic.[15] Such an hypothesis directs observation, and decides upon the mutual relevance of various types of evidence. In short, it prescribes method." Einstein and Infeld have written that "the formulation of a problem is often more essential than its solution, which may be merely a matter of mathematical or experimental skill.[16] To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and makes a real advance in science." Oppenheimer indicates that the experimental techniques of science enable us to define and detect our "errors of conception."[17] Max Planck states "The experience gained with the refined instruments of measurement demand inexorably that certain firmly rooted intuitive motions be abandoned and replaced by new, more abstract conceptual structures."[18]

It should be emphasized that if an hypothesis is to be regarded as adequate it must be more than a statement or description of current data and more than a prediction that data will reproduce themselves. Any hypothesis must be tested both in terms of its ability to predict immediate events and its promise of leading to further, more adequate hypotheses. For in scientific procedure there is a never ending process of hypothesizing, a constant flow of one hypothesis from another, with each hypothesis trying to go beyond established formulations in its inclusiveness.[19, 20]

I suggest here that several branches of dentistry are partially amenable to stricter scientific methods and immediate mathematical treatment. But, first, a few remarks on mathematics and symbols.

MATHEMATICS AND SYMBOLS

Through the ages, mathematicians have constructed many of the symbolic skeletons which constitute the field of pure mathematics.[12]

The task of covering a mathematical skeleton with the flesh which is the substance of a science is not always simple. It requires, first of all, the discovery of a mathematical structure which possesses an axiomatic basis capable of becoming the foundation of the science under consideration when the subject-matter symbols are properly interpreted. In other words, a mathematical structure becomes a system in theoretical science when the subject-matter symbols are properly particularized in meaning. When such precise correspondence, as is implied here, is attained between the fundamentals of a mathematical structure and the primitives of a science, the same definite correspondence is maintained throughout the two systems; that is, the system in pure mathematics and the science organized through its use are identical in form or are isomorphic. In view of the extensiveness of most mathematical structures which are available, success in fitting a mathematical structure to the data of a science may immediately increase knowledge relative to that science many times over. Scientific discoveries which have attended the use of the method have been little short of astounding.[12]

The suggestiveness, the pregnant power and almost the capacity to "think for itself" that resides in a felicitous notation will be denied by none. Although the power of symbols is mysterious, it need not be here so for the wrong reasons.[21]

I am in no wise suggesting that we make imprudent attempts to impose a preconceived pattern on the actual course of events in dental disease. "We are servants, not masters, of truth" (Hermite).

I am suggesting that an attempt be made to establish an organic union between pure and applied science and a sound balance between abstract generality and the colorful individuality of disease.

What actually retards the study of dental disease at the moment, if I may venture a comment, is the "fallacy of misplaced concreteness."[8]

COMMON FALLACY

A mere partial description of almost any interaction in biological systems presents great difficulties. The difficulties are great enough to make the use of special mathematical methods necessary.

When we possess adequate knowledge of a system in which n factors are involved and have arrived at a description of this system in terms of the n factors, so that their interactions are also described, it is possible to reason successfully concerning changes in the state of the system in so far as these n factors alone are concerned, to a given approximation, in the process that is being studied. But when a further factor is also involved our reasoning can never be trusted and is in general illusory. It is perhaps partly for this reason that anatomists, physiologists and pathologists are considered academic and do not practice, and this is probably the principal source of the familiar attitude of suspicion toward the laboratory sciences that may be seen among experienced clinicians. When men reason deductively about the complex affairs of every day life they nearly always leave out something, or rather many things, both things they forget and things they don't know. (Witness our politicians and so-called statesmen.) More often than not their conclusions are therefore unsound. This is what A. N. Whitehead calls "the fallacy of misplaced concreteness." I am not sure that it can be appreciated by any one who has not experienced the difficult task of putting together the pieces obtained by analytical studies and thus building up an adequate description of a system in which many factors interact. Experience alone can teach most people the immense complexity of interactions between many factors, and the mathematical solution of such problems seems to be the only means of clearly conceiving the nature of such phenomena.[8]

It is possible and profitable to take one trait or complex which has been reported from a number of diseases, and by the method of multiple correlation, to discover what other traits or complexes always appear in conjunction with the trait or complex in question, and what others appear incompatible. This mode of reasoning led Hans Selye to the unitary conception of disease.

To assist in achievement, there is also the contemplative trend of logical analysis which enables us to discard elements of meta-

physical character and to consider observable facts always as the ultimate source of notions and constructions.

Just as the ether (which was invented by Newton as a hypothetical medium)—now, just as it was realized that this ether is of necessity unobservable; that it belongs to metaphysics and not to physics, so in dentistry must "Nature" and "Mother Nature" be relegated to limbo.

What matters and what corresponds to "verifiable" fact is structure and relationship.

RECAPITULATION

Up to this point I hope that I have conveyed:

(1) What philosophy and philosophy of dental science is about;
(2) That dentistry is an art-science;
(3) That conditioned reflexes in the art of dentistry are essential;
(4) That dentistry is scientific in the measure that it follows scientific methods;
(5) That parts of dentistry lend themselves to mathematical treatment, i.e., to some formalism. The appropriate formalism may not be that of arithmetic, algebra, and the infinitesimal calculus—but it is reasonable to expect some formalism to fit.
(6) That conceptual schemes are necessary for advancement. They are the tools whereby we are enabled to make:
    (a) "inspired guesses,"
    (b) "intuitive hunches" and
    (c) "brilliant flashes of imagination."[22]

If 'til now there remains any doubt as to the utility of Philosophy of Dental Science, I shall now try to dispel this doubt. To be sure, the matters with which I am dealing are academic and are of concern to dental scholars, educators and research workers. However, in their implications and applications these matters affect the daily lives of each of us. Failure to consider and deal with these matters does now (and will in the future) determine to no small degree the future of our professional opportunities. So I shall attempt to further demonstrate.

PHILOSOPHY OF TREATMENT: FORMAL AND PRACTICAL

Some few affectations of the periodontum appear to be intractable. The large majority may be dealt with effectively. Those periodontal disturbances which do not show themselves amenable to formal treatment must be cared for empirically or symptomatically. Formal treatment is defined as treatment of an experimental and research nature.

The formal treatment is designed solely to establish the possibility or impossibility of success of treatment, also whether partial or total. Nothing is left undone that would contribute to the success on a theoretical basis.

Formal treatment may be considered as complete if the correct sequence of reactions of treatment have been achieved. Not necessarily at the same time, or even by the same people. This is what the chemist calls "filling in the arrows." The object of formal treatment is to win a game against nature. For example, in periodontal treatment every aid is used, every instrument and test, (great enlargement of seeing dimensions, intricate charting of before and after treatment, establishment of unmistakable fiducal points, direct observation of ulcers, granulations, cellular smears, microorganism identification, on and on, to include everything considered relevant to success).

Obviously until treatment has been proved sound by formal treatment, the more difficult practical treatment will not suffice.

A successful formal treatment is a necessary stage on the way to a practical synthesis, (we avoid blind alleys in this manner) but it is not a sufficient one.

To evolve a practical treatment is of a higher order of difficulty than the formal type of treatment. This fact is not generally recognized.

Current treatment of periodontal disturbances suffers from dislocations. There is a tendency to graft failure on to dogma.

Am I saying that all is wrong with current clinical treatment? Certainly not! I am saying that a philosophic basis is absent, resulting in inadequate methods of therapy. Reappraisal is pertinent and tantamount to improvement.

PHILOSOPHY OF CRITICISM: SAMPLING INSPECTION

A great deal of time must be spent by the dentist in the capacity of critic. The views of others must be weighed and appraised. There are many ways of being wrong, seldom but one way to be right. Our methods and techniques must be constantly evaluated.

To achieve the most in our technical therapeutics we could copy industrial techniques to our advantage. As is commonly known, the more successful manufacturers take samples of their products and subject them to the severest tests to determine their quality and capacity to stand hard usage. For example, Ford Motor Company takes cars from the assembly lines at certain intervals for testing.[23, 24, 25]

Were we courageous enough to subject random samples of our work to the same rigid tests of statistical quality control doubtless we would cease to continue the same errors. Like "Everyman" in the medieval morality play we would "scourge ourselves and amende us of our ways with good advisement."[26] You will recall that only Everyman's Good Deeds were empowered to accompany him on his journey to meet Death. Now this aside, we could change techniques predicated on the wrong philosophy for one reason or another, depending on our acuity and perception.

Some of our failures are due to (1) our prejudices which lead us to distort the evidence; (2) keeping our minds in blinkers incapable of further reflections; (3) our habit of using words repeated parrot-fashion; (4) our fear of being dragged from the shelter of comforting beliefs; (5) our susceptibility to propaganda (if propaganda be defined as the attempt to precipitate unreflective commitment); (6) our excessive inference by analogy, that is, by inferring that, since two cases are alike in certain respects, they will also be alike in some other respect; (7) our indifferentism (if indifferentism be defined as a denial of objective values and of the possibility of evaluation). Decisively, the dead arm of orthodoxy is our anchorage.

Clearly, we can see the necessity of a philosophy of criticism if our goal of the effective application of the science and art of dentistry is to be achieved. To date it has not been necessary to make long overdue changes in methods of practise because the demands for dental services have been ahead of the supply. However, the fact that dentistry lagged far behind the other applications of science

is best realized when we compare the attitude of commerce and of government to engineering and to medicine and dentistry.[27] Neither the federal government nor the insurance companies have considered it of importance whether surgeons and dentists were competent or whether the sick had the best available physicians. Insurance companies quote lower rates for fire insurance for those buildings which are well built, they quote lower rates on burglary insurance for those who have a dog in the home, they cancel marine insurance if the government approved pilots are not used on entering port.[27] They do not cancel life insurance if the policy holders go only to faith healers or quacks, and they do not lower premiums for those who put themselves in the hands of the best physicians, surgeons and dentists. The federal government inspects our meat, our airplane pilots, our stock brokers and our banks. It accepts a license issued half a century ago by any state board of examiners as establishing fitness to hold a medical or dental commission in the armed forces or in any federal department. A man who professed disbelief in the law of gravity could not obtain even an amateur pilot's license, but the government makes no effort to protect the public from healers who profess beliefs equally curious and dangerous. The federal commission will not allow a new type airplane to be used by the travelling public until its safety has been proved and pilots have been acquainted with its use.[27] But anyone with a medical or dental degree can try out any new operation or treatment he hears about or thinks up himself, on as many people as he can persuade to submit. Facts like these make it obvious that neither the insurance companies nor the government act as though they believe that good health services are beneficial, poor health services harmful. The present attitude of the insurance companies and federal government reflects a situation as gloomy and as obsolete as the kerosene lamp.[27]

There is another aspect of this problem of criticism. There is an enormous gap between the average level of dental care and the optimal level. Whether the average patient will enjoy adequate care depends largely on the solution of this problem. The present British system is certainly no solution. It does nothing to raise the level, it merely fastens the present outmoded conditions more firmly on society. The future of dentistry depends, therefore, on evolution

of professional practice and enforcement of high professional standards. Our profession, along with medicine, has resisted the Twentieth Century more successfully than the grocers have resisted the chain stores, or the cartwrights resisted the automotive industry. But in the end, obsolete methods must be replaced or the whole system will be swept away. The Romans said, "Fate leads the willing, drags the unwilling."[27]

More developments in what I choose to term process engineering must be developed. The hydrocolloid techniques fall in this category.

CONCLUSION

To sum up, it is my personal belief that a careful study of the foundations of dentistry will reveal that a satisfactory symbolic treatment of the basic relations is possible.[28]

In general, it may be said that Philosophy of Dental Science is an attempt to discover comprehensive truth about dentistry as a whole, and its method is both critical and constructive. It may never completely succeed in its quest; but even if it does not, the principle which governs it of bringing all ideas, beliefs and concepts to the bar of reason and consistency, and of taking account of the whole of experience, will always be of great service to dental art. In its "critical" function Philosophy points out that the original beliefs of common sense are vague and unanalyzed. It compels us to recognize distinctions that have been overlooked, to disentangle our beliefs from a confused jumble, and to purify them of a great many irrelevancies. Those that cannot survive the fire of criticism call for rejection, however deep rooted they may be; those that pass the test can henceforth be held on reasonable grounds.

Philosophy brings power and liberation, just as much by showing the falsity and impossibility of certain aims, as by satisfying others. In its "constructive" function Philosophy of Science makes a resolute effort to do justice to all the facts. When its preliminary analytic work has been done, it proceeds to take over the results of the dental specialties. With this material it endeavors to get what has fitly been called a "synoptic" view of dentistry, i.e. a view of all things dental in their "togetherness." It hopes in this way to get a true notion of the part played by dentistry in the whole scheme of health.

One is enabled to build one's knowledge from a sound foundation and frame of reference. One never finishes learning. All life, all periods are transitional. Interest continues to increase as one plies his talents professionally. Doubtless as soon as he learns by experience and meticulous observation, satisfaction comes logarithmically. Sooner or later one begins to think in terms of basic cellular responses and adaptability (with all its inherent richness and complexity). What is more fascinating than work which ennobles and enriches the mind? That removes the "menial" from labor.

Each of us is given the static sensibility of love of truth. What is variable is the constantly changing conception of truth. Truth is a much-grafted and tended plant that provokes an endless pursuit.

In the pursuit of truth, we reveal ourselves as artists, tho in humble ways. And every artist's business is to express his own individual, autonomous, possibly uncommon or wayward sense of something that presents itself to him. Most of our deeds and services are art-science acts. They are judged by the combined canons of art and science and not those of mensuration or of public justice. It is not entirely possible to eliminate caprice, the gadding eye, unaccountable selection and disproportionate emphasizing.[29] These short-comings are our birth-marks.

Living in an age which sees dominating contemporary life—noise and confusion, cynicism, moral bankruptcy, religious indifference, organized crime, legalized injustice and the slow destruction of orthodox conventions—it is philosophically wholesome and basically good that we doubt not the worth of our labors. On the contrary, by initiative, by study of detail, by the use of the priceless gift of observation, by pertinacity, we are the winners of strength, peace of mind, also fatigue—but fatigue without despair.

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ADVANTAGES AND DISADVANTAGES OF SOCIAL SECURITY FOR DENTISTS

Old Age and Survivors Insurance

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You have asked me to discuss for you this evening the advantage and disadvantages of Old Age and Survivors Insurance. Before discussing any matter as controversial as this one has been in our profession, I believe it is imperative to define the scope of my subject so that whether all members of this audience agree or not as to the definition, there will at least be a clear understanding of the speaker's concept of the subject.

I would define Old Age and Survivors Insurance as a major division of an overall program of social insurance. Specifically, I would define it as that division of a federally sponsored social insurance program which offers to those covered in the program certain monetary benefits for themselves and for their dependents financed by a special method of taxation. In this definition, I have used the term "social insurance," and I think I should explain it by quoting from Sir William Beveridge. In discussing the overall subject in his famous report to the British Government, he said:

> The scheme is described as a scheme of insurance, because it preserves the contributory principle. It is described as social insurance to mark important distinctions from voluntary insurance. In the first place, while the adjustment of premiums to risks is of the essence of voluntary insurance, since without this individuals would not of their own will insure, this adjustment is not essential in insurance which is made compulsory by the power of the state. In the second place, in providing for actuarial risks, such as those of death or age and sickness, it is necessary in voluntary insurance to fund contributions paid in early life in order to provide for the increasing risks of later life and to accumulate reserves against individual liabilities. The State with its power of compelling successive generations of citizens to become insured and its power of taxation is not under the necessity of accumulating reserves for actuarial risks. . . .

You will notice that the principle of social insurance emphasizes an equal sharing of the costs of risks, but that this cost has no fixed relation to the amount of benefits payable.

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The comprehensive framework of social insurance of which OASI is a part includes Workmen's Compensation, Unemployment Compensation, Compulsory Health Insurance, Occupational Disease Insurance, Cash Sickness Insurance and Disability Insurance. Old Age and Survivors Insurance, Disability Insurance, and Compulsory Health Insurance are programs at the federal level. Workmen's Compensation, Occupational Disease, and Cash Sickness Insurance are programs administered at the state level. Unemployment Compensation is administered under both federal and state laws.

OASI must be distinguished from the old age assistance program. The latter is simply a direct grant of funds, the cost of which is borne jointly by the federal government and the particular state to elderly persons who apply for it and prove that they do not have sufficient income to exist. The amount of old age assistance varies from state to state as do the qualifications in terms of property owned or other income received which are limiting factors with respect to approval of an application. Old Age and Survivors Insurance, on the other hand, is something like a pension plan in that the beneficiary is entitled to receive it once he has qualified and may continue to receive it so long as he does not thereafter disqualify himself. The conditions for qualification are as follows:

(a) to be engaged in a covered employment as a self-employed person or as an employee for either of two periods of time, which are (1) forty calendar quarters or (2) one-half of the total number of calendar quarters between age twenty-two, on January 1, 1951, and age sixty-five or date of death, whichever occurs first, but for a period of at least six calendar quarters;
(b) to be at least sixty-five years old on the date of application for OASI;
(c) not to earn more than $75 in any one calendar month while receiving OASI;
(d) to be the wife of a person receiving OASI and to be yourself over sixty-five years of age;
(e) to be the widow of the person qualified to receive OASI and to be over sixty-five;
(f) to be the mother of children under the age of eighteen of a deceased OASI beneficiary. (The benefits to this group cease when the last child of the beneficiary attains age eighteen.)

The list which I have just read indicates the persons who may be eligible to receive OASI. The amount which any one of them may receive is dependent upon the amount of benefit which the person who was covered is entitled to receive. This is determined by adding the total amounts received in wages from age twenty-two on January 1, 1951 to date of death or application for benefits at not to exceed $300 per month and dividing the sum by the maximum number of months of total coverage. The result obtained from this arithmetic problem is known as the average monthly wage. To the average monthly wage is applied a formula to determine what is called the primary insurance amount or what might be called the monthly benefit. This formula is fifty-five percent of the first $100 plus fifteen percent of the next $200. Thus, a person who had an average wage of $300 per month would receive $85 a month in benefits. His wife, if she were over sixty-five, would be entitled to receive in addition one half of this amount, and any children under age eighteen would also be entitled to receive benefits subject to a maximum payment to any one family of $168.75 per month. In the event an individual died, his widow, if she was over sixty-five, could also obtain three-fourths of the amount of his primary benefit plus additional sums for each child under eighteen, the total again subject to a limit of $168.75 per month. However, if the widow were under sixty-five years of age, she would be entitled to receive such benefits only while she had children of the deceased under age eighteen in her care. When the last child attained age eighteen, her benefits would cease until such time as she attained age sixty-five.

In addition to the foregoing, the person who pays the funeral expenses of an eligible primary beneficiary is entitled to be reimbursed by a lump sum payment equal to three times the amount of the primary benefit.

One question which I know is in your minds is whether or not a self-employed person who might be over age sixty-five at the time he first became eligible for coverage could receive benefits. The answer to this is yes. As soon as he had achieved six calendar quarters of coverage, he would be entitled to apply for and receive benefits at a rate based upon his average monthly wage for the eighteen month period.

Is the OASI System a good thing for individuals? Viewed from a financial standpoint, I suppose I must give a qualified yes answer.

It is a good thing in that it provides a future income for life under today's scheme of tax rates and benefits wherein the amount to be received is procured at substantially less cost than the same amount of insurance would cost from a private company. However, since most dentists die at the same age as other white males, to-wit, age sixty-five, it is probable that only in a relatively few cases will dentists themselves live long enough to receive a direct personal benefit from the System. We ourselves know that very few in our profession who live so long actually retire at age sixty-five, and this will further limit the number who will personally benefit. This is not unusual because the statistics of the Federal Security Agency[9] itself show that between the years 1940 and 1951 not more than twenty-two percent of all persons who reached age 65 in any given year actually applied for OASI benefits in the year they became 65. The same figures further show that about eleven percent of all persons who apply for OASI benefits return to a covered employment some time before they die, and thus at least for a period of time go off the OASI rolls. At this point, I should clear up a question which is frequently asked. As I told you before, an individual may earn $75 per month from covered employment and still continue to receive OASI benefits. However, he may earn unlimited sums in any employment which is not covered or he may have any amount of income from investments, private insurance policies, or annuities or from the rentals of property which he may own without having to forego his OASI benefits.

The chief advantage financially will, in most cases, accrue to the widows and children under age eighteen of men who die before they themselves become eligible. Since the average age of death for white females is at the present time about 71 years, this might amount to a considerable sum for the widow. However, unless she has children under age eighteen, the fact must be faced that there will be, in most cases, a gap between the time her last child reaches eighteen and the time she herself becomes 65, during which time she will receive no benefits from this source.

The financial disadvantages of the System are as follows: First, if the benefits remain constant and a period of inflation continues or re-occurs, the person attempting to live on the old age pension is at a distinct disadvantage. However, this is true if such individual is a

[9] Now Department of Health, Education and Welfare.

salaried person or is attempting to live on a fixed income from any other source. Second, since the administration of the System is vested in a political agency, it is subject to normal political pressures. This means that in times of inflation, there is public clamor for increased benefits. Since the System is set up on a basis whereby the incoming revenues are supposed to meet the anticipated future needs of the System for all time, any increase in benefits must sooner or later be met by an increase in the tax rate. During the last Congress, benefits were increased by $5 per month without a corresponding raise in the tax rates, on the general theory that this being a period of high employment more money was coming in than was necessary to operate the fund and therefore such benefits could be safely paid. This approaches either dishonesty or lack of realism because it is manifestly impossible to reduce the benefits at a later date, and consequently sooner or later the amount of taxes will have to be increased over the present schedule.

I am personally opposed to OASI because inherently it is part of a socialistic scheme of government, and I am fundamentally opposed to socialism is all its forms. I recognize that in this day and age we have many of the aspects of a socialistic government both at the federal and state level. I know that for many years we have had Workmen's Compensation benefits and that they have been a great boon to the workers covered by them. I know that for many years we have had Unemployment Compensation, and this has helped many who have been temporarily out of work to tide themselves over a period of unemployment. I know that we have had the great federal power projects which have proved a boon to many in terms of employment and better living conditions, but I know also that despite the great accomplishments of these various forms of creeping socialism nothing has ever been accomplished which could not, and I emphasize "could not," have been accomplished privately. It might have been harder, and it certainly would have been difficult, to persuade men to join voluntarily in the capital contributions necessary to produce in the face of great risks the accomplishments which have been achieved, but it could have been done. I am conscious also of the many failures of programs operated by government. Men wherever you find them are human beings subject to the same limitations as other human beings, and I have not observed in my lifetime that a man puts his pants on other than

one leg at a time whether in government or out of government; nor have I ever observed that the brains in government, however good, and I must admit I have known many able men in government, were any better that the brains of men not in government. Consequently, I can not myself accept a program which tends to increase the socialistic control of government, and I believe that OASI does increase that control over the life of the individual because of the control which it exerts over a part of his life through this additional control of his purse string.

As a dentist and as a thinking man, I cannot but be aware of the worldwide aims of those who honestly believe in the advantages of a socialistic form of government, and I cannot but be aware of the so-called Fabian School of socialism which has for its long-range plan the gradual imposition of socialistic concepts on a basis of point by point achievement until finally the total operation of civilization is directly subject to government operation and control. The Fabians believe in offering one program at a time and by the acceptance of one program they believe that they have weakened the defenses to the introduction of a second program. During the past one hundred years they have proved the validity of their strategy, which is witnessed by the successive encroachments of government upon individuals. As a dentist, I cannot be but aware that Compulsory Health Insurance is a socialistic device, blood kindred to that other scheme of social insurance which we call Old Age and Survivors Insurance, and therefore, as a dentist, I fear the further extension of the OASI Program because in it I see an additional step toward public acceptance of Compulsory Health Insurance. The evidence for what I see is written in the record of government for the past twenty years.

In the late 1930s OASI and Unemployment Compensation were proposed and adopted in this country. At that time there was a debate among the social planners as to whether or not Compulsory Health Insurance should be included, but it was decided that the total cost of the three programs would be sufficient to cause the defeat of all and consequently in time of depression the two which had most immediate popular appeal and which cost less than their brother were chosen; but shortly after the enactment of these two programs the first bill for compulsory health insurance came into the Congress, and in each successive session, similar bills have been

presented. I do not wish to hold before you compulsory health insurance as a bogeyman to influence your thinking on OASI. It has influenced my thinking only to a small degree. However, I can not ignore it in my thinking nor can you, for both Compulsory Health Insurance and OASI are social measures, and the widespread acceptance and enjoyment of one cannot but produce a pressure for the adoption of the other.

These are my views. As I have shown you, OASI has certain limited financial benefits which are attractive. It is not, however, an unspoiled Garden of Eden set in the midst of a primeval desert. Like the garden, it has its apple, it has its snake, and it probably will have its woman, and as you will recall, it was these three in combination with the weakness of man which destroyed that early earthly paradise. Therefore, in examining the attractions of Old Age and Survivors Insurance, look for the snake. Beware of the woman. Seek for the tree. And do not forget the weakness of mankind.

MENTAL HEALTH

Psychosomatic Education

ERNST SCHMIDHOFER, M.D., *Memphis*[10]

GENERAL CONSIDERATIONS

Psychosomatic education is an organized, self-help treatment-system. It's designed for those who are hospitalized as well as for those who enjoy good health. If you're stuck in a rut it can help you get out. If you aren't in one it can help you keep out.

From the standpoint of psychotherapy, there are many treatment systems. This system emphasizes self-help repeatedly.

One aspect of the philosophy of Psychosomatic Education is its consistency with the concept of the most good for the most people. Accordingly, a public address system is used. It's of considerable practical importance that this mental health program can be used for individuals or groups. The groups can be as large as physical limitations permit.

Furthermore, people with such differing disorders and diseases as

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sleeplessness, stomach ulcers, arthritis, and migraine headaches can be treated at one and the same time. The technic is the same for all.

The program runs day and night and is of value in treating disabilities themselves, and perhaps of greater value in preventing them. One of its unique features is that it's designed to permit the continued use of its principles after the formal course of treatments has ended.

There are three major objectives: (1) relieve people of their symptoms, (2) teach them how to do this for themselves, (3) teach them how to think straight. That's the most important objective.

To those who aren't familiar with this mental heath program it's hard to understand how it can treat people with the more severe types of mental illness as properly as those with the minor forms. But it can and it does.

In the usual hospital setting it can be sent out to a number of wards. For example, it was used for three years at the Kennedy Veterans Hospital on six neuropsychiatric wards and on one of the wards of the pulmonary disease section.

Three kinds of receiving devices can be used. (1) On a typical ward, two loud-speakers are located at opposite ends of the room. (2) The tuberculosis patients use hushatones. A hushatone is a flattened pancake-like listening device placed under the pillow. This makes for the least discomfort for anyone who's quite ill. (3) Some of the wards have earphones installed at the head of each bed.

To many people, the program doesn't make much sense. They have little understanding of just what goes on. Accordingly, the ward personnel receives a copy of instructions which is designed to promote its understanding of the principles used. The instructions recommend also certain attitudes to be adopted and others to be avoided.

As far as the patient is concerned, it's highly desirable that he be given a bird's-eye view of the procedures which are in effect at the time he applies for admission. He too receives printed information in that regard. In addition to this, he's given seven items at the time he comes onto the service. The nurse issues these items to him as part of this admission routine.

Now what about the basic program? Just how extensive is it? In the first place, it runs seven days a week, including holidays. Second, it's broadcast every morning and every afternoon. Third,

it's used also in an auxiliary capacity to these occasions. In other words, it's heard while the patients are dressing, while they're resting or relaxing in the day room, and while they're learning certain skills and developing unexplored talents in the occupational therapy shop.

In addition to these times and very importantly I believe, the program continues all night long. Did you know that you can hear

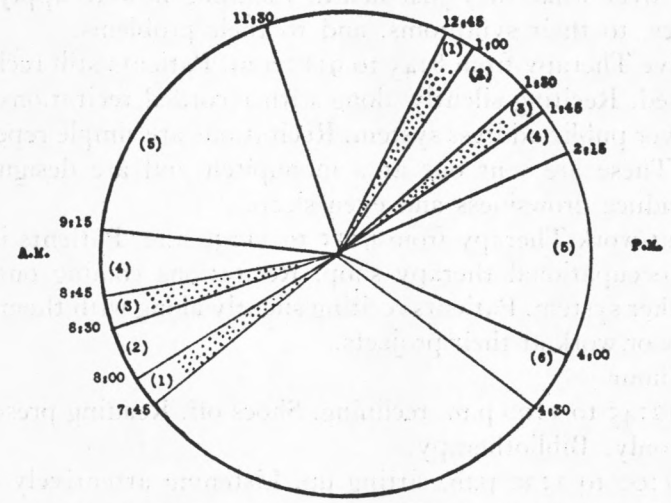

FIG. 1. Daytime Portion. (1) Bibliotherapy. Recorder off. Read prescribed material. Reclining. (2) Educative Therapy. Recorder on. Listen to discussions. Sitting. (3) Reflective Therapy. Recorder off. Think how to apply discussions. Reclining. (4) Intensive Therapy. Recorder on. Recite silently along with the recorded recitations. Reclining. Eyes closed. Encouraged to fall asleep to the recitations. (5) While-at-work Therapy. Recorder on. Recite silently with recitations. Up and about. Work at projects in day-room or occupational therapy shop. (6) Recitation Therapy. Recorder off. Recite silently. Use recitations on card for first week. Thereafter use those heard during previous Intensive Therapy periods or make up their own. Reclining.

during sleep? Did you know that you can acquire improved mental health during sleep? Well, there appears to be enough evidence to indicate that treatment during sleep is not only possible in theory but also effective in practice.

This diagram, Fig. 1, represents the basic daytime portion of this mental health program. It can be thought of as representing the face of a clock. Shall we start at 7:45 in the morning? It's true that 7:45 is a pretty early hour for psychotherapy and yet by no means is it too early from the standpoint of practicing and applying

the principles of straight thinking. Let's go over this whole schedule quickly, once over lightly!

Bibliotherapy from 7:45 to 8:00 a.m. Patients reclining. Shoes off. Reading prescribed material only.

Educative Therapy from 8:00 to 8:30 a.m. Patients sitting up. Listening attentively to broadcast.

Reflective Therapy from 8:30 to 8:45 a.m. Patients reclining. Thinking over what they just heard. Planning how to apply it to themselves, to their symptoms, and to their problems.

Intensive Therapy from 8:45 to 9:15 a.m. Patients still reclining. Eyes closed. Reciting silently along with recorded recitations coming out over public address system. Recitations are simple repetitive phrases. These are sent out at a monopitch and are designed in part to induce drowsiness and even sleep.

While-at-work Therapy from 9:15 to 11:30 a.m. Patients in day room or occupational therapy shop. Recitations coming out over loud-speaker system. Patients reciting silently along with them while they relax or work at their projects.

Lunch hour.

From 12:45 to 1:00 p.m. reclining. Shoes off. Reading prescribed material only. Bibliotherapy.

From 1:00 to 1:30 p.m. sitting up. Listening attentively to recorded program. Educative Therapy.

From 1:30 to 1:45 p.m. reclining. Thinking over what they just heard. Planning how to apply it to themselves, to their symptoms, and to their problems. Reflective Therapy.

From 1:45 to 2:15 p.m. eyes closed. Reciting silently along with the recorded recitations. Intensive Therapy.

From 2:15 to 4:00 p.m. patients in day room and occupational therapy shop. Reciting silently along with the recitations heard over the loud-speaker system. While-at-work Therapy.

At 4:00 p.m. back on ward. Reclining with shoes off. Recite on their own. Use recitations heard previously or make up their own. Public address system turned off. Recitation Therapy.

So much for that for now.

On this next, Fig. 2, we observe that Roman numeral II is the Night Portion, that number seven is Sleep Therapy, and number eight is Pre-breakfast Therapy. Roman numeral III is the Earphone Portion.

Now we'll consider the Night portion of Psychosomatic Education. Let's say something about Sleep Therapy first. Let's learn about it not only through our ears but also through our eyes.

We're looking at the face of a clock once more. Notice that the considerably larger segment begins at 10:00 p.m. and ends at 6:00 a.m. It represents Sleep Therapy (7). There's a regulation in most hospitals, including those of the Veterans Administration that patients are to be in bed with lights out at 10:00 p.m. When the lights go off, the recitations go on.

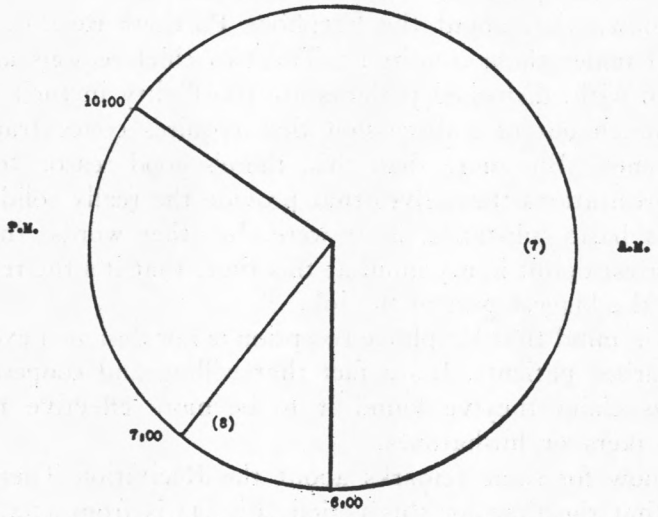

FIG. 2. Night Portion. (7) Sleep Therapy. Recorder on. Recite silently along with the recorded recitations. Eyes closed. Fall asleep to the recitations. (8) Pre-breakfast Therapy Recorder on. Recite silently along with the recorded recitations. Up and about—washing shaving, dressing.

Again, the very same recitations that were heard during the Intensive Therapy (4) of the Daytime Portion are broadcast over the public address system. These are continued throughout the night until the patients get up at 6:00 a.m.

It's not unusual for the newcomers to express concern over the fact that they can't sleep as well as they did before they had this treatment. Some complain resentfully. But in the vast majority of instances, they learn to fall asleep along with the recitations before a week has gone by.

The recorded recitations of the Sleep Therapy and the Pre-break-

fast Therapy (8) are the same ones that were played during the While-at-work Therapy (5) when the patients were in the day room or in the occupational therapy shop the day before. Under each of these circumstances they can learn to continue reciting in the waking state while they're up and around.

This is training in preparation for the time when they're discharged from the hospital and return to their place of employment. It gives them a chance to practice self-help techniques which they can use while they're working in the office or factory or at anything that doesn't require their undivided attention.

And now, what about the Earphone Portion? Recitations only are used under these conditions. The two chief reasons are these. To begin with, disturbed patients are too flighty in their thinking to get much out of a discussion that requires concentration and attentiveness. But more than this, there's good reason to believe it's the recitations themselves that provide the really solid foundation and basic substance, as it were. In other words, there isn't the slightest doubt in my mind at this time, that it's the recitations that do the biggest part of the job.

Keep in mind that Earphone reception is not designed exclusively for disturbed patients. It's a fact that willing and cooperative individuals claim they've found it to be more effective than the loud-speakers or hushatones.

And now for some remarks about the Recitation Therapy (6). Recall that the time for this period (Fig. 1) is from 4:00 to 4:30 p.m. Its purpose is two-fold essentially.

In practice, it forces skeptics into a therapeutic setting in which they learn usually that they possess the capacity and the ability to exercise control over their organs to a degree which they thought of once as being not only ridiculous but also impossible.

In theory, use is made of the principle of the conditioned response. Although the recorder is turned off, practically all other factors are as constant, as unchanged, and as much in effect as they are during the Intensive Therapy (4).

Accordingly, and before too long, the desirable changes which take place in their brains and in their bodies during the Intensive Therapy are reproduced by the patients themselves during the Recitation Therapy without the mechanical aid of the recorder.

In short, another of the goals of Psychosomatic Education is to make people in all ways independent, self-sufficient, and self-reliant.

In time they learn to recite more and more persistently. And so, Psychosomatic Education is organized and systematized in such a way that it can become a series of techniques and devices which are applied almost continuously. These are used to get relief from symptoms and to induce recovery from illness. But they're intended chiefly to help people learn how to think straight.

What are the projected applications? In which settings can this method be useful and helpful?

1. Federal Institutions. I refer now to various installations such as military, Veterans Administration, and United States Public Health Service Hospitals for example.

2. State mental and other hospitals. Persons who are informed adequately know of the deplorable shortage of trained personnel in these institutions and of the increasing number of people who are turning to them for help.

3. Private Sanitariums. There are many rest homes, convalescent homes, homes for the aged and the infirm, for the crippled, for the incurables, as well as those that offer treatment for alcoholism and mental disorders which could use with benefit some method such as this one along with those technics being employed already.

4. Psychosomatic sections. Many hospitals have entire wards devoted to diseases and disorders which may be caused or influenced by psychologic factors. I refer to those that are filled with patients having ulcers, arthritis, chest diseases, high blood pressure, and so on.

5. Chronic disease services. I believe that Psychosomatic Education can render a service to some tuberculosis patients which is especially useful. I believe further that it can be of some help to those people who have suffered minor strokes as well as to those who experience recurrent attacks of some types of heart disease. It can diminish and even abolish the pains and the fears of some people with cancer.

Insofar as these five applications are concerned, I speak partly from theory but mostly from clinical experience. In other words, what I've said just now springs chiefly from my first-hand knowledge of the results reported by some patients who've been afflicted in those ways.

6. Prisons. It's a singular and outstanding characteristic of this program that the best results are obtained when there's rigorous adherence to the precise and exact carrying out of certain of its

principles. In psychologic development, discipline is imposed first by others upon the individual and then later by the individual upon himself. I believe that discipline plays a role which is considerably more important in deciding the successful outcome of this method than may be recognized. Because of the routinized atmosphere and ways of living to be found in prisons, I'm rather hopeful that the benefits which it can bring to penal institutions may exceed by far the expectations of those whose outlook is less optimistic than mine. Among other things, it's likely that the incidence of rioting would be decreased. The physical lay-out of those prisons having public address systems already installed is from that standpoint made to order for this method.

7. Underprivileged. Children who are reared in orphanages are deprived of the advantages which come from loving and affectionate parents. Children who are re-educated in training schools aren't to be numbered generally among those who beam with radiant happiness. The blind have much to surmount. This mental health program can help make up for unfortunate deprivations by its repeated infusions of constructive thoughts. These can lead to maturing contentment. I maintain that such contentment isn't as "artificial" as might be presumed.

8. Schools. It is in the field of education I believe that the greatest benefits can be derived ultimately and from the standpoint of workability, not only secondary and primary students can benefit, but even pre-school youngsters can be helped in small ways. But just because the ways are small doesn't mean they're not substantial. After all, big buildings start out with only one brick. And now I ask: Are we content to wait for advancing adulthood in our children before we give them relief from their problems and worries? I say, let's start helping them learn how to conquer these in school when they're six instead of in an institution when they're 60!

THE FUTURE MEDICAL-DENTAL RELATIONS PROGRAM OF THE UNIVERSITY OF TENNESSEE

FRANK L. ROBERTS, M.D., *Memphis*[11]

When first asked to talk to this group I was very much flattered—but as the time approached, there was a considerable element of panic in my feelings—because I got to thinking about what I should say. However, you may be assured that I am still flattered and right now it is too late for panic.

I am not sure that I really understand the full meaning of the title assigned. Does it mean that medical-dental relationships are not too good and that steps should be taken to improve them? Or does it mean that medical students should get more training in dental medicine? Or conversely, should dental students be exposed to more medical training? Or does it signify that there are all elements present? Really, the University has no plan now or for the future for medical-dental relations. We hope to keep the very good relationship that now exists and which, in my opinion, is getting better all the time.

With reference to this general question there are three premises which I would like to discuss very briefly. These are:

1. No hours should be added to the now too long medical curriculum.
2. Less—not more—factual information should be given medical students.
3. Dentistry has advanced just as rapidly as medicine and the feeling of respect between medical doctors and dental doctors should be mutual.

With reference to the first premise that no hours should be added to the curriculum—let me remind you that constant pressure is exerted upon the administration to add courses in the medical school and I am sure that the same pressure is exerted in the dental school. So far as the medical curriculum is concerned, we think that many of the suggested additions are fine—we are sure that the doctor of today should know more of bio-physics and atomic medicine—more about industrial medicine, more about pathologic physi-

[11] Assistant Dean, University of Tennessee College of Medicine.

ology, more about dental medicine, geriatrics, medical ethics, sociology and community planning. A moment's reflection will show that there is no end to such things and unless we are willing to add years to the now too long course, all efforts to add hours must be resisted. More hours are really not needed—all that is necessary is a shift in emphasis—then all these things—or at least the needed ones could be taken care of. If every person responsible for the teaching in a medical school would broaden their outlook and take an over-all view of the problem, many difficulties would be erased. But just so long as the various specialties insist on the historical curriculum and upon having what they consider "Their" proper number of hours—just so long will one problem of curriculum planning be unsolved. And I am sure that a look at the average dental curriculum would show a great deal of deadwood. I heard, though I am sure it would not be correct, that general practitioners of dentistry have to refer all of their orthodontic work to specialists. I repeat—this rumor must be unfounded because I know that dentists have made a brave and courageous fight for free enterprise. But if by some untoward combination of events such a statement were true, then it would be useless to teach any orthodontics in the undergraduate years. Both dental schools and medical schools should overhaul their curricula but I can tell you before you start, that is a real task.

Now for the second premise that fewer, not more factual data must be offered to medical students. Let us look at this problem in its historical perspective. Fifty years ago a medical student in a curriculum of 4,000 hours could be given practically all of the so called facts of medicine—and very few of them took a four year course. Antibiotics were unknown, hormones were safely ensconced in their proper glands and were not on the pharmacy shelf—insulin was unknown, fluid and electrolyte balance were not in the jargon of the practising physician—blood grouping made its appearance in 1902 and not until very recently did the Rh factor disturb the dreams of medical students coming up for examination. The thorax and heart were, for surgeons, no man's land. Infant feeding was simple, as it should be today. Babies nursed mothers of their own species and did not have cows as foster mothers. Those who could not get mother's milk for the most part perished promptly. Aseptic surgery was just starting and the problems of old age (except to the

individual oldster) were not pressing. Industrial hygiene, atomic medicine, and cardiac surgery were unknown.

It is easy to see that when you add to the factual data of 50 years ago all the data that have been accumulated since, the student cannot absorb all of it. The same is true for dentistry. So what we must do is to sort out the facts and use those that will serve as foundation stones then on these erect a system of basic principles. We cannot make a doctor in four years, all we can do is to prepare the student to become a doctor.

So it is important that the medical student should know what dental science can offer in the general care of patients—both in the curative and preventive aspects of medical care. Of course right away we come to our old ghost—focal infection—which has been defined as any thing amenable to surgery. I am not going to get started in this subject—because as a student of statistical analysis, I always have difficulty in getting the advocates of the focus of infection theory to list the negative cases for me.

By utilizing to the fullest extent the hours now available, necessary information can be given both to dental and medical students. For example—a dentist might teach medical students to make an intelligent and thorough examination of the mouth and teeth. Likewise, the dentist in general practise should know—in his field—just as much about cancer as the general practitioner in medicine. Pediatricians certainly should be well grounded in the basic principles of dentition and disturbance of normal progress in dentition.

Now the third premise is that dentistry has made just as much advance in its field as medicine has in its field. In discussing this statement we must remember that dentistry is a much narrower field than medicine—yet so far as education goes, the dental student gets as many hours of instruction as does the medical student. In comparing the advances made in the two fields we must keep in mind the relative breadths of the two. Dentistry has made marvelous strides in the whole field, in the extraction of teeth, the preparation of dentures, the field of orthodontics and many others. Some of these advances—in fact most of them—have not been so spectacular as some of the advances in medicine—but they have been real advances nevertheless. In general, it might be said that dentistry has advanced just as rapidly as has medicine and has made

the lives saved by medicine worth living. For hundreds of years dental disease was not considered serious. It was too bad if you had an abscessed tooth—but it could be yanked out. If your teeth protruded, it was not so good but your health was not impaired and nothing was done. If you lost all your teeth, you could gum your food or you could starve to death—there would be one less mouth for the tribe to feed. Nothing was known of and no attention paid to the psychic trauma of being edentulous. Malocclusion was not considered at all. Today this picture is changed entirely and it was changed by dentistry—not by medicine. The splendid cooperation between the cancer surgeon who removes the hard palate and the dentist who fits the cavity with a prosthesis is an example of this. The advances made in orthodontics are just as real and just as important as the advances made in subspecialties of medicine.

Historically the education of dentists has advanced also. One might get the idea sometimes that physicians are of the opinion that medical education has always been on a high level. The facts do not warrant such belief. The first dental school was organized in 1840 in Baltimore. At this time dentistry was on a pretty low plane both in this country and England. There were many itinerant quack dentists. Dentistry was combined with other trades, and as all of you probably know, Paul Revere was a sort of dentist. It is true that dental education was at a low level but also was medical education. There were traveling and quack doctors also. The medical school of the University of Maryland had refused to make dentistry a part of the medical school, and it was not until 1867 that Harvard University made a dental school a part of an established University. Not all those men interested in dental education were of the opinion that dentistry should be a part of medicine. Most of them thought it should be a separate discipline and time has proved they were right. If dentistry had been made part of medicine, there would have been fewer dentists and dental care would have been extremely more expensive than it is today, and not nearly so good. Dental education has had its ups and downs, but so has medical education and certainly as late as 1910 when Flexner made his famous report medical education had nothing to brag about.

It is hard to put our finger on the real causes of some of the "high hat" attitudes of medical men toward their brethren in the dental profession. It may go back to the period when dentists were

ranked with surgeons and both of them not highly regarded by medical men—that is non-surgical doctors. It is not really clear why they had that attitude then—probably because they had been designated as a learned profession and dentists and surgeons were regarded as mere technicians. But certainly today there is a much healthier feeling of respect between the two professions and when one analyzes the advances made by the dental profession the feeling of respect should be mutual.

So far as medical and dental students are concerned—if there is not mutual respect between them, there is very little the University can do about it. These students are in separate colleges and the same attitudes prevail as among other students in other colleges—arts and engineering, engineering and law, and so on. The system of fraternities tends to further the separation of students and creates in itself a rivalry. There is no system of ethics nor any formal course which will solve this problem. But it is really not a major problem at all. After the students graduate and enter into practise there comes, for the most part, a feeling of mutual respect between the professions.

So, in view of prevailing conditions, the University has no formal plan of dental-medical relationships. Dental students receive their basic science training in the same laboratories and under the same instructors as do the medical students. Whether these instructors have full cognizance of the motivation and interests of dental students as opposed to those of medical students, I do not know; that is a problem to be decided by the various departments.

Within the framework of the present curriculum the University hopes that the good relationships now existing between physicians and dentists will continue and will improve. The great advances made by dentistry will command the respect of all thinking individuals, and as a branch of the great division of medical sciences dentistry has always held its own.

DISCUSSION OF DR. ROBERTS' ADDRESS

JAMES T. GINN, D.D.S., *Memphis*[12]

Dean Roberts, on behalf of the Tri-State Section of the American College of Dentists, I would like to take this opportunity to thank you for a very fine paper.

As Dean Roberts has pointed out to you, we do not have a formal program at the University of Tennessee on Medical-Dental Relations. It does not seem that such a program in the future is necessary or desirable, for this problem is being solved to a great degree in the natural course of events in our plan of education and administration.

The excellent relations now existing between the students in the various Units are a far cry from what they were when some of you were at the University. We believe that these relationships will be carried with our students into practice, and these pleasant associations will result in closer cooperation between the medical and dental practitioners to the benefit of the public they serve.

Some of the factors which have influenced the situation at the University might be pointed out here. Dentistry is no longer considered a second choice by the students in either College, for they are aware of the fact that dentistry is not a second choice, by any means, to the majority of our students in the College of Dentistry. A high percentage of our students would have no difficulty in gaining admission to our College of Medicine. You will agree that this was not always the case. We now have students who have been denied re-admission to the College of Dentistry because of obvious difficulties and weaknesses in technical skill and ability, and have since been admitted to the College of Medicine where they are making satisfactory progress. It is now recognized that students who may not possess the necessary manual dexterity to become a skillful dentist may possess the mental capacity to become a good physician. This particular condition has had a very decided impact upon the thinking of many of our students.

Another factor which did not contribute to the desirable relations between the medical and dental students was the common occurrence for a medical student, who had been denied re-admission to the College of Medicine because of scholastic difficulties, to be admitted

[12] Dean, University of Tennessee College of Dentistry.

to the College of Dentistry. This indicated to students in both Units that the educational standards in medicine were higher than those in dentistry. However, the situation no longer exists when dental schools of the country experience difficulty in filling their classes. Before World War II, it was all but impossible to find a sufficient number of students to fill the classes in dental schools even with the failures from medicine. It was necessary to lower recognized standards, admit students with pre-dental deficiencies, and utilize other methods for recruiting students. We now have an over-supply of well-qualified students. These two factors alone have had a healthy influence upon our students, for they have eliminated much of the "high hat" attitude of the medical students towards the dental students.

There are many other factors in University life of students which teach them to be mutually respectful of each other. They live together, they work together, they play together, they are taught by the same teachers, they belong to some of the same organizations, and the faculties and administrative officers treat all students on the same basis. Added to these influences, we find that the faculties work, hand in hand, both in teaching and in the practice of their professions.

However, Dr. Speas[13] pointed out very forcefully in 1950 to this assembly some of the difficulties associated with the problem now under discussion. He stated ". . . there is no formula which, if applied, will solve the problem of medico-dental relationships. But if there were such a formula, in my opinion the first step in this formula would be labelled 'Friendship.' " To this we might add appreciation and cooperation. Appreciation of the importance and need for each other in giving the best possible service to the public. That would of necessity lead to cooperation between the two professions in rendering the best possible service to their patients. It is assumed that such is the fundamental desire and purpose of both professions.

As Dean Roberts pointed out, "The great advances made by dentistry will command the respect of all thinking individuals—and as a branch of the great division of medical sciences dentistry has always held its own."

[13] SPEAS, C. J.: Discussion (Present Status of Medico-Dental Relationship by Carl S. McMurray), J.A.C.D., **18:** 166 (September) 1951.

REPORTS OF COMMITTEES

CERTIFICATION OF SPECIALISTS

EWING B. CONNELL, D.D.S., *Chattanooga*, Chairman[14]

In making my report as Chairman of the Committee on Certification of Specialists, I want to report that to date we have the following eight states that issue license in the various specialties of dentistry:

Illinois
Kansas
Kentucky
Michigan
Nevada
Oklahoma
South Carolina
Tennessee

This is an increase of two or three states over last year. Personally I am very happy to see these additional states fall in line with Tennessee and a few others in issuing a specialty license. As I have mentioned before in some of my reports, I feel that each state should have a Specialty Dental Practice Act in addition to the American Boards of the various specialties.

I quote below the Proposed Model State Dental Specialty Law as proposed during the meeting of the American College of Dentists in St. Louis:

Section I: "No dentist shall announce or hold himself out to the public as limiting his practice to, or as being especially qualified in, any branch of dentistry without first having obtained a license therefor from the Board as hereinafter provided.

Section II: "The specialties in dentistry are those defined as such by the Council on Dental Education and approved by the House of Delegates of the American Dental Association.

Section III: Candidates must satisfy the following qualifications:

1. Satisfactory moral and ethical standing in the dental profession.
2. Citizenship in the United States.

[14] Other members of the Committee are: Lew J. Smith.

3. Graduation from a dental school accredited or otherwise recognized by the Council on Dental Education.
4. A license to practice dentistry in the state of ———
5. A period of study after graduation from a dental school of not less than two years of advanced training recognized by the Council on Dental Education of the American Dental Association and by the specialty examining board as competent to provide adequate training in the special field. This period of study may be pursued wholly in a school giving graduate or postgraduate courses and may not lead to an advanced degree; it may also be pursued wholly in hospitals, clinics, dispensaries or fundamental science laboratories; or it may be pursued partially in schools and partially in other types of institutions. One full academic year of graduate or postgraduate study will be considered as equivalent to a calendar year. Teaching or a fellowship in the field of the specialty may be considered in partial fulfillment of this requirement. The character of this period of study will be determined by the Board.

Section IV: "A dentist may apply for a license to practice any one of the specialties as soon as he or she has complied with the requirements listed under Section III."

Section V: "A dentist may hold only one specialty license at a time."

Section VI: "A certificate may be issued to diplomates of a national certifying board without examination provided the applicant has a license to practice dentistry in the state of ——— and is in good standing with his or her respective national board."

The above information was received by me from a member of the Advisory Countil on Dental Specialties.

At the meeting of the American College of Dentists in St. Louis the Advisory Board on Dental Specialties decided that State laws should not all be individual, but patterned after some model law in order that they might have an acceptable degree of uniformity. As a result of this a committee composed of Advisory Board members has been appointed to endeavor to formulate such a model law. In other words it will be necessary for the members of various State Boards of Dental Examiners to get together and work out such a plan. This of course will take time, but in the end I am sure it will be accomplished.

EDUCATION

JAMES T. GINN, D.D.S., *Memphis*, Chairman[15]

Your Committee on Education would like to report on some of the perplexing problems facing dental education and the dental profession. A recognition of these problems, however, does not lessen their importance and their possible impact upon our profession. It is well to bear this in mind because at the present time there are many problems facing our profession and our country which cannot be solved by expedient action but must be solved by thoughtful study and action by groups such as ours.

Evidence of some of the current pressures and problems in the field of dental education is found in the fact that more aspirants are attempting to gain admission to the dental schools, more dentists are needed for the Armed Forces and the civilian population, more teachers are needed in the dental schools, more financial support is needed for dental education, and more emphasis must be placed upon the principles of ethical standards in our profession. In this report, we would like to comment briefly upon these factors.

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

This situation becomes more acute when we are told that the needs for dental manpower is a serious matter at the present time both

[15] Dean, University of Tennessee School of Dentistry. Other members of the Committee are: Estes M. Blackburn, Oren A. Oliver, Marion H. Gray, J. H. Phillips and Roy O. Elam.

for the Armed Forces and the civilian population. As Dr. Leo J. Schoeny, (1) member of the Health Resources Advisory Committee on the National Security Resources Board, which also serves as the National Advisory Committee to Selective Service, presented in 1951, the dental power needs of the nation during this period of national emergency, before both the American Dental Association and the American Association of Dental Schools. In discussing our dental manpower needs, he said:

"For purpose of planning, therefore, our Committee has made three basic assumptions as to our health needs that seem logical. First, we should maintain our 1949 dentist-population ratio and service. This basic assumption infers that the 1949 ratio of dentists to population was minimal. Second, we should meet the additional requirements of civil defense, of industry, of public health services, of rehabilitation services, and of staffing dental schools. Third, we must meet the needs of the Armed Forces."

His report stated in a forthright manner that "As far as it is possible to estimate, 9,200 dentists over and above those now in sight for the year 1954 will be required to maintain the present level of civilian dental service, to meet the special needs of industrial mobilization, to meet the minimum needs of an adequate civil defense program, and to meet the projected needs of the Armed Forces . . ."

His Committee placed this responsibility upon the dental profession, for he stated that "This deficiency implies a serious threat to the health and welfare of the people. It is the duty and privilege of American Dentists to meet this threat to the civilian and military population. The answer to how is the responsibility of the dental schools and the dental profession rather than our Committee."

From this report it seems that the Committee gave the dental profession a task to perform, a challenge, as it were, and pointed the way for its accomplishment. It is rather disturbing that, according to the history of organized dentistry, this is the first major challenge which has not been met by our profession; a challenge which has received very little consideration even in the face of a threat to our American way of life.

In addition to the military needs there is a greater demand for dental service by more people in our civilian population than ever before in our history. "Dentistry is no longer a simple matter of the relationship between patient and dentist. Our profession has grown

to such a state that the oral health of the people of this country is of national importance. As a consequence we observe and are pleased by the spotlight of national attention. However, this also attracts the planners and the do-gooders who come forth with programs to make us over. It would appear highly desirable that if we are to deal intelligently with such people and to advance the profession to the ultimate good of dentistry and the country, we must have a better understanding of our social problems. I can think of no group or organization in dentistry that is in a better position than the American College of Dentists to assume the leadership in developing a program which will ultimately result in expanded professional horizons, and a greater understanding by the profession as a whole of the place which the health services must occupy in our political economy." (2)

For years the College has been discussing the need for more teachers and better trained teachers, both at the local and national level, but those of us now on the practical side of dental education are now just asking for teachers. It is to be desired to have better trained and more qualified men in dental education. However, at no time in the history of organized dental education have we found so many difficulties in keeping a faculty together.

In a survey, recently released by the United States Public, on the "Financial Status and Needs of Dental Schools," (3) it was pointed out that "Dental education, in common with all other fields of higher education, has felt the impact of accelerating scientific progress and economic change. It is confronted with many complex problems in maintaining high educational standards and in meeting increasing demands. Difficulties have been experienced in recruiting and maintaining faculty. Facilities are not adequate to meet present and future requirements."

It was further pointed out that schools of dentistry, like other institutions of higher education need improved physical facilities, additional faculty, and increasing operating funds. The immediate needs for physical facilities, including equipment, was found to be $49,300,000.00, and $5,500,000.00 for teachers' salaries, supplies, additional equipment, and overhead functions. It is interesting to note that the basic operating expense per student in our schools of dentistry for the year 1949–50 was $1,316.00

"If the dental profession agrees that dentists must live by an in-

creasingly higher standard of conduct, then dental education, according to its traditional policy of preparing its graduates to meet new responsibilities and objectives, must devise ways and means of admitting and educating those who are capable of real professional development. The background, environment, and cultural preparation of the dental student must come in for closer scrutiny and evaluation. If this is to be the case, should we not consider the kind of a home from which the student comes? Should we not consider ways and means of identifying applicants who possess in addition to intelligence, interest, diligence, and aptitude an above average degree of integrity, kindliness and interest in their fellow men. I have grave doubts that a student has the capacity to develop these attributes if at every family gathering he hears the head of the house relate the day's successes of sharp practices and deals put over barely within the law. There is very little doubt in my mind but that development in this direction will be demanded of the dental educators. Examine your program for this morning, and you will find that a good share of the papers are concerned with ethics, conduct, the dental oath, and the philosophy of education. The interests and activities of the American College of Dentists have many times foreshadowed things to come, and I can well believe that this is one of those occasions." (2)

Briefly, these are only some of the problems facing our profession today. During World War II, our profession was faced with many serious problems. In the even more serious problems we face today, we fortunately have that experience to guide us. I am confident that we shall not fail now, for if we do we may be "found wanting."

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JOURNALISM

E. JEFF JUSTIS, D.D.S., *Memphis*, Chairman[16]

The Journalism Committee, as well as the dentists in the Tri-State Section, were shocked at the death of Dr. C. Claude Jernigan, a member of this Committee and Editor of the Arkansas Dental Journal on September 9th in St. Louis while attending the American Dental Association Meeting. Dr. Jernigan was interested in Dental Education and spent all day in the Reference Committee meeting on Dental Education before his death at 10:00 o'clock that evening. The Arkansas Journal was outstanding and his contribution as Editor made it one of the leading Journals in the country. His death is a great loss not only to Arkansas but to the dental profession.

Dr. Don Ham has taken over the publication of the Arkansas Journal and I am certain it will go forward under his direction and guidance.

THE JOURNAL OF THE MISSISSIPPI STATE DENTAL ASSOCIATION

In this Committee's report last December it was stated that the Journal of the Mississippi State Dental Association had been discontinued due to the Editor, Dr. D. C. Easley, being called back into service. We are happy to report that Dr. Carl W. Norwood, Jr., Corinth, Mississippi, has been elected Editor. After talking with Dr. Norwood we feel that this publication will continue and have an uninterrupted journey in the future. He has twenty-five dentists throughout the state on his Editorial Staff. Dr. Norwood has stated that the Journal will print National, State and District news. He feels that in as much as other magazines carry scientific articles it will not be necessary for the Mississippi Journal to publish them. In other words, this Journal will be a Journal for home consumption.

THE JOURNAL OF THE TENNESSEE STATE DENTAL ASSOCIATION

Since our last report Dr. Charles C. Chumbley has resigned as Editor of the Journal and Dr. Fauston Weber of Memphis has been elected Editor. He has used the same format as Dr. Chumbley. The major change however has been in the cover design. Dr. Weber

[16] Other members of the Committee are: George C. Jernigan and John C. Boswell.

plans on publishing a yearly index of all the scientific articles published during the year.

By and large the Journals in the Tri-States are published on the highest plane and are serving dentists in this area by publishing many outstanding scientific papers.

In closing I would like to make a plea for each one of us to encourage, and if necessary, assist the younger practitioners in their journalistic efforts.

MEDICAL-DENTAL RELATIONS

C. J. SPEAS, D.D.S., *Oak Ridge*, Chairman[17]

This has been an interesting year for this Committee and the year has been informative. No specific effort was made to prod members of this Committee into action. This was done with deliberation. The reasons for this seeming lack of interest can be summed up as follows:

1. We wanted to know whether progress in medical-dental relations would continue as the result of personal *interest* on the part of committee members if they were not prodded to do so.
2. We wanted to know what would happen where a good relationship had been started by dentistry, if we waited for medicine to make the next move.
3. We wanted to have something concrete in the way of "what to expect "from our activity as a committee in the future.

Your committee wishes to quote to you from some correspondence received by the Chairman, from a committee member, as of November 10, 1952.

"In our City it seems that the medical-dental relationship is very good at the present time and is improving. During the year the hospital staff has been broken down into smaller groups covering the different fields of medicine and I am glad to say that all the hospitals include the dental staff in these groups. One hospital allows us to meet in a group by ourselves and make our own reports, which I consider a factor in medical-dental relationship."

[17] Other members of the Committee are: M. H. Gray, H. M. Underwood, W. R. Levy and L. J. Smith.

This action is a commendable achievement which took place as the result of the personal interest and understanding on the part of one of our committee members.

While at first glance it may not seem true, another circumstance occurred which amounts to as commendable an achievement as the one just mentioned, although just the opposite in the way of accomplishment was realized. In one community last year, as the result of the activity of one of our committee members, a joint meeting of the physicians and dentists was arranged and was well received by both professions. This year this committee member made no effort to encourage a repetition of such a meeting to see whether medicine would take the initiative. It did not! Hence, we feel that the creation and continuance of a workable and productive medical-dental relationship is for the present at least, the responsibility of the dental profession. We dentists apparently feel the need for a good relationship between these two professions more keenly than medicine feels it. It is our job then to see to it that a productive and workable relationship does exist between the two professional groups. We must not do this for personal aggrandizement, professional autonomy or supremacy, but we must do it so as to create a relationship which will result in the best possible health service for our patients, be we physicians or dentists.

As dentists we may know far more about creating favorable relationships in this respect than medicine does. Perhaps we realize more vividly than the medical profession, the value of a good relation between these two professions so far as the benefit to patients is concerned. The vast experience we have had in dentistry in promoting the development of our profession to its present plane in just a little over 100 years, has equipped us with a powerful tool with which to integrate these two professions without subjugating the one to the other.

A steady advancement in better professional relationships was reported by each member of the committee in his community and state but for the sake of brevity here reference is made only to two committeemen's reports. The committee as a whole does not want to discourage any activity on the part of any member of the committee and the fact that some reports are not mentioned here, does not in any way reflect an inactivity on the part of any committee member. Each one has done his job well.

ORAL SURGERY

WALTON M. SHANNON, D.D.S., *Jackson*, Chairman[18]

The Oral Surgery Committee: wishes to make the following report. From Arkansas—reported by Dr. J. D. Jordan, of Little Rock: Dr. R. M. Lord, an oral surgeon, is in full charge of the senior medical students at the University of Arkansas School of Medicine, in the department of Anesthetics, and Oral Surgery.

From Tennessee—reported by Dr. Russell L. Moore of Dyersburg: A bond issue has been passed to build a million and a half dollar hospital, and it will be well equipped for oral surgery.

In Mississippi all of the new hospitals that have been built have been equipped for oral surgery, and dentists have been placed on the staffs of most of the hospitals in the State. Since this is true, dentists will be called on more and more to work under general anesthesia. Therefore I am going to take this opportunity to stress the importance of learning the advantages, disadvantages, and dangers of General Anesthesia.

GENERAL ANESTHESIA[19]

Anesthesia in dentistry and oral surgery presents many peculiar and singular problems because the site of operation is part of the respiratory tract. The surgeon and anesthetist each invade the field of the other. Thus each must be cognizant of the other's problems and sympathetic and helpful. Although the patient is anesthetized for a dental complaint, the latter is seldom if ever a matter of life and death. Therefore, during the period of anesthesia and immediately thereafter, anesthesia is more important than the surgery.

As elsewhere, a decision must be made as to whether regional or general anesthesia is the method of choice. Since dentists are skilled and experienced in regional anesthesia around the face and mouth, no attempt will be made to elaborate upon it other than to say that regional anesthesia is safer than general anesthesia and should be used in preference when at all possible.

A dilute solution of a barbiturate should be in a syringe and instantly available for intravenous injection to combat a local drug

[18] Other members of the Committee are: J. D. Jordan, Russell Moore, John Ogden and Rush Abbott.

[19] These are not only my own views but also the views of Dr. Curtis Caine, anesthesiologist, Jackson, Miss.

reaction. A source of oxygen, means of mechanical artificial respiration, and facilities for endotracheal intubation should be in the operating room and set up for instant use. The body is unable to withstand severe insult for more than three to five minutes and time cannot be lost in instituting resuscitative measures.

We now turn to general anesthesia. It must be remembered that using technicians for anesthesia morally and legally imposes the responsibility for anesthesia on the surgeon. Responsibility presupposes knowledge and skill. In other words, you are the anesthetist by proxy under such circumstances and every phase of the anesthetic management is under your direction and is your responsibility. So you must have an understanding of the physics, chemistry, pharmacology, and physiology of anesthesiology.

Regardless of the efficacy of anesthesia *per se* in a particular case, the patient must be adequately oxygenated. The advantages of a mechanical artificial airway in providing a patent airway far outweigh any possible disadvantage. An analysis of anesthetic deaths during dental procedures reveals that anoxia is the paramount offender. An endotracheal airway either via the oral or nasal route prevents laryngospasm, aspiration of blood or other foreign matter, mechanical obstruction of the airway by sponges or tongue, and provides an assured means of delivering oxygen to the lungs and removing carbon dioxide therefrom. Should respiration be severely depressed or abolished, such an airway provides the ideal means of artificial ventilation by rhymthic positive pressure inflation of the lungs.

Although the drugs used are a matter of individual personal preference, certain techniques predispose to trouble and others preclude difficulty. Thus intravenous anesthesia alone is fraught with considerable danger due to its pharmacology. The barbiturates are cerebral and medullary depressants and severely depress the respiratory and vasomotor centers leading to anoxia. The parasympathetic reflexes to the larynx and throat are not obtunded by the pentothal group of drugs thus predisposing to laryngospasm, especially if foreign material should touch the larynx. The barbiturates are not anesthetic agents, but hypnotics and must be used in massive doses to produce surgical anesthesia. All this and much other evidence leads to an opinion that pentothal alone is not the ideal drug for oral surgery and should be supplemented with an inhalation

drug such as nitrous oxide, ethylene, or cyclopropane administered preferably through an endotracheal tube. The judicious use of a curare preparation will facilitate intubation and provide good relaxation of the jaw.

Anesthetic emergencies are in the main either respiratory or circulatory. The preceding discussion deals with respiration. Circulation is maintained by adequate pumping by the heart of an adequate blood volume. Bleeding is considerable in some oral surgical procedures and replacement therapy is indicated. An infusion through a large calibre needle should be running before the induction of anesthesia in every instance. This not only affords a means for fluid and blood replacement, but for the administration of drugs such as curare, pentothal, vasopressors, procaine, etamon, et cetera.

When the circulation fails due to an inefficient or non-functioning pump, it is too time consuming to take time then to start an infusion in addition to the fact that under such circumstances the veins collapse making it nigh unto impossible to effect venipuncture.

The treatment of cardiac arrest is a vast subject in itself and will not be covered here. Suffice it to say that this complication is preventable most of the time. Anoxia is the main offender which sets the stage. The measures outlined above attempt to show the way to prevent serious difficulty.

Remember, anesthesia is serious business and is not to be relegated to one untutored and unskilled. Wise words spoken by my Lord two thousand years ago as recorded in Matthew 24:42–44 are apropos:

"Watch therefore; for ye know not what hour your Lord doth come. But know this, that if the goodman of the house had known in what watch the thief would come, he would have watched, and would not have suffered his house to be broken up. Therefore be ye also ready: for in such an hour as ye think not the Son of man cometh."

PREVENTIVE SERVICE

CARL L. SEBELIUS, D.D.S., *Nashville*, Chairman[20]

The Preventive Service Committee of the American College of Dentists submitted the following definition of Preventive Dentistry in its September, 1952 report:

> "*Preventive Dentistry* consists of the various educational procedures, used by dentists, dental hygienists, physicians, nurses, teachers and others, which will develop scientific oral health knowledges and habits and will prevent the development of improper oral health knowledges and habits; it consists of those technics which will prevent the initiation of oral diseases or conditions such as dental caries, diseases of the supporting structures of teeth, and non-hereditary malocclusion; and it includes the prevention of such sequelae of the neglect of these conditions as oral and systemic infections, interference with normal growth and development of the arches, loss of masticatory function, and impairment of the personal appearance or the social adjustment of the individual. The procedures utilized may be effective, scientifically correct, health educational measures or specific preventive technics, such as the topical application of sodium fluoride to teeth, the addition of fluoride to public water supplies, proper toothbrushing, proper diet, the interference with oral habits and the prevention of accidents to teeth. A measure may be considered a control technic if it is corrective in nature at the time it is utilized and if it prevents the development of sequelae. Such control technics are the early detection and correction of carious lesions, timely and proper orthodontic interference, the early detection and treatment of oral cancer and the developmental anomalies of the oral cavity."

Comments in this report will be limited to one sentence found in the definition. The sentence is, "The procedures utilized may be effective, scientifically correct, health education measures or specific preventive technics, such as the topical application of sodium fluoride to teeth, the addition of fluoride to public water supplies, proper

[20] Other members of the Committee are: Wm. R. Wright and Estes M. Blackburn.

toothbrushing, proper diet, the interference with oral habits and the prevention of accidents to teeth."

These methods are known to be effective in the prevention of dental diseases. Your committee feels that many of the paid commercial advertisements which appear in newspapers and even professional journals are not scientifically correct. To use an example, there appears a two-page advertisement of the American Bottlers of Carbonated Beverages in the September and October issues of the Journal of the American Public Health Association. The advertisement states, "Dental Caries . . . Incidence Entirely Unrelated to Consumption of Soft Drinks. The chart below, based on data from authoritative sources, shows the complete inconsistency between the incidence of dental caries (tooth decay) and the consumption of soft drinks. Attention is specially directed to the general manner in which the rate of soft drink consumption is highest where the rates of dental caries is lowest." Following the above statement, there appears a series of ninety-six impressive black and red bars by states.

It is certain that few of the thousands of professional and lay people who have seen this advertisement will take the time or have an opportunity to read the Nizel, Bibby article referred to since it was published in the Journal of the American Dental Association in December, 1944. The authors state that the findings should not be considered as representative of the entire population. In the article, it is stated that the D-M (Decayed-Missing) index was used since there was no record of fillings on the examination records. It would be especially interesting to those versed in survey technics to know that the weighted average for Nevada was based on three dental examinations and that in 11 of the 48 states there were 85 or less in each sample with the age group ranging from 18–45 years.

It is regrettable that paid commercial advertisements are not carefully studied and screened before being accepted by some professional journals since it is assumed that many individuals who read propaganda of this type consider the information correct. It certainly appears to the committee that such an assumption might be made since in this case the Journal is the official publication of the American Public Health Association.

The controlled fluoridation of water is a preventive measure which will no doubt rank in the future with the major public health

movements of all time. Even with the evidence and with approximately nine million people now consuming fluoride in controlled amounts in over 450 communities, there are many communities denied the benefits because of a lack of support from the local dental, medical and health authorities. In football language, the ball may have been on the five-yard line but the determination to put it over was lacking.

In conclusion, it seems appropriate to read the Commentary entitled "A Dental Paradox," which appeared in the July, 1952 issue of the Journal of the Tennessee State Dental Association.

"It would seem a truism to state that the most avid supporters of fluoridation of municipal water supplies are the members of the dental profession. Yet progress on the extension of the benefits of fluoridated water to more communities of our state is being impeded, in part at least, by a few well-intentioned, but not so well-informed members of our profession.

"The antipathy of these dentists to fluoridation is not an active, open condemnation, but a passive, behind-the-scenes, damaging indictment that is doing irreparable harm to the cause.

"Through their daily contact with patients who presume, rightly or wrongly, that the individual dental practitioner is an authority on this subject, the dentist has an opportunity to influence public opinion. Most people have heard of this new public health measure and, because it is concerned with the teeth, assume logically enough, that they can get authoritative information about fluoridation from their family dentist.

"Unfortunately some dentists have a kind of pertinacious prejudice towards fluoridation. It must be obstinate bias rather than reasonable scientific doubt that keeps these men from accepting as factual the proved dental benefits that follow the use of fluorides in municipal water supplies. Questions directed to such men will seldom evoke the objective answers they merit. As a result, the patient may be persuaded to regard fluoridation of water as an unproved, worthless or even dangerous process.

"It is difficult to understand an agnostic attitude on the part of any dentist regarding fluoridation. Dental literature is literally replete with reports from many sources of the tried and proved effects of fluoridation. The studies are well authenticated and the testing programs have had adequate controls. In view of this fact,

every important health service organization of this country has approved the measure as a safe and effective method of reducing the incidence of caries.

"For the individual practitioner to constitute himself as an authority of greater stature and higher repute than all the national health service agencies that are approving fluoridation is being vaingloriously egotistical.

"The profession may speed the more universal use of fluorides in water supplies by dissuading these errant members from expressing their opinions to the laity or persuading them to let those who are qualified talk for them. Admittedly either or both will be difficult to accomplish but worth an effort."[21]

PROSTHETIC DENTAL SERVICE

J. GUILFORD SHARP, D.D.S., *Knoxville*, Chairman[22]

Activities during the year include two committee meetings, discussions, and communications by mail.

The report of this committee for 1951 was concerned primarily with some of the conditions relative to prosthetic problems, and activities of various interested groups toward improving the dentistry-laboratory relationships, so that the membership could be familiarized with the background of this important matter.

The committee, at that time, felt that since the dental profession was responsible for the inception of the laboratory craft and is now responsible for its continued existence, further study of relationships, responsibilities, and limitations of the dental profession should be made with particular reference to the part which is taken by the individual dentist. Therefore, during the past year, the committee has been concerned with this phase of the prosthetic problem only.

[21] Attached to this report was a report of the Tennessee Department of Public Health, Dental Hygiene Service for the year July 1, 1951 to June 30, 1952. This report went into minute detail, consisting of twenty-three pages including six tables. Copies may be had by applying to the author.

[22] Other members of the Committee: T. Maxey McCaleb, Douglas Lewis, Roy O. Elam, Sr., John C. Boswell, and George Cone.

In considering the matter of the proper approach toward an awareness by the individual dentist, the integral part of the dental profession, that the laboratory craft was made possible and owes its existence to the teachings of the individual dental technician in laboratory technic and procedure by the individual dentist. The result of this teaching was the creation of an additional assistant to the dentist, a valuable assistant which, in many instances, has been left without the continued efforts of the "teachers" in maintaining proper relationships of the dental technician assistant with the profession. Is the time proper that we, the individual dentist of today, reflect upon the resourcefulness and the efforts of earlier individual dentists, take stock of ourselves, and put our own house in order?

In the study of the prosthetic situation it was brought out that responsibility for many conditions rests with the individual dentist and not with the dental profession although the dental profession absorbs the impact of the resulting problems.

The dentist of several, or even many, years of private practice may become complacent in his relationships with the dental laboratory technician and sanction or permit acts which constitute the illegal practice of dentistry by the dental laboratory technician. Most dental laboratories prefer to perform their work in compliance with dental laws but are sometimes placed in embarrassing positions because of requests, or permission to render certain services to the public, by the individual dentist. Such relationships with the dental laboratory technician by, shall we say, older individual dentists might not occur if in earlier years his training and background in dentistry had created an awareness of some of dentistry's problems.

With the above thoughts in mind the committee decided that the part the dental profession might take in creating a continued awareness of such problems by the individual dentist offered two methods of approach: one, through proper information and instruction of the dental student in these matters; two, through indoctrination of new members upon induction by the local dental society. The case of the individual dentist who has privately practiced for some years requires a third, or supplemental approach.

The first approach to such awareness should begin with the dental student. The training of the dental student being in the hands of the dental colleges such extra-curricular instruction would necessarily

be on a voluntary basis by the college administration. Instruction could be given by a member of the faculty, or by an informed and college approved private practitioner who would be allowed the privilege of addressing the student body, especially the senior class. Another method affecting the dental student approach could be inviting the senior class to a regular or special meeting of the local dental society at which time prosthetic problems and relationships could be discussed.

The second principal approach to such awareness by the individual dentist should be in the form of an indoctrination program by the local dental society upon induction of new members. Most dental societies grant membership to applicants by extending to them full privileges of the activities of the society without explanation of what the activities are or should be, and without explanation of the responsibilities of the individual toward the betterment of dental practice. These things may be learned in time but would it not be better to discuss them in the beginning? The indoctrination program may be of broad nature, including all activities of the local dental society, state and American dental associations, and matters relevant to participation of the individual dentist in social and civic affairs as well as other professional dental affiliations, also, it should include consideration that even though membership in organized dentistry entitles the member to many privileges it also carries with it individual responsibilities to the profession in all matters pertaining to the improvement of dental practice and the advancement of the dental profession. At this time the prosthetic situation could be stressed, presenting the national, area, state, and local problems together with environmental factors which may be of importance in that particular locality. This program of indoctrination should be carefully prepared and presented because it could be of significant assistance to any dentist who is beginning the private practice of dentistry.

The third, or supplemental approach to the awareness of proper relationships with the dental laboratory, or dental laboratory technician, by those individual practicing dentists of more than a few years of practice is probably the most difficult of all to cope with because of their obvious complacency, or their loss of, or indifferent contact with organized dentistry. Some dentists rarely attend dental meetings, read few if any dental journals or communications, and

are not concerned with the problems of the profession even though individually they may contribute to the delinquency. Some dentists participate in these problems unknowingly and would appreciate constructive criticism of their actions.

The importance of the part taken by those included in the third approach must not be under estimated for in this group will likely be found the greatest percentage of problem contributors. The problem of the profession then becomes, how to deal with this group. Would further communications appeal to fairness in relationships with the laboratories, the public, and the profession? If so, should a return card be enclosed the signature on which would indicate a receipt of the communication? Should an occasional inspirational speaker discuss the interpretation of the state dental laws and the code of ethics? Would personal interviews recall obligations and responsibilities? If so, who is the proper interviewer? Should the dental societies solicit the aid of the laboratories in ascertaining which individuals participate in these practices? Probably, some dental laboratories would cooperate because they, too, want proper professional relationships. Should the local dental societies require minimum attendance at regular dental meetings to provide occasional contact with all member dentists?

The above are only a few of the many questions brought to mind in determining a solution for the third approach. Such problems are local in origin and as such should be the concern of the local dental society, which, in realizing the importance of the minor delinquencies of the individual dentist should "put the house in order."

The committee believes that these phases of dentistry-laboratory relationships should be the first, and a very important step toward a solution of a matter which has become of national importance.

PUBLIC RELATIONS

C. N. WILLIAMS, D.D.S., *Memphis*, Chairman[23]

One of the major activities this year was water fluoridation. Ever since the first research was done on fluoridation people in all walks of life have been interested. More space has been given to this subject in all dental publications than most any other subject. More and more District, State and American Dental Associations are endeavoring to create interest in the fluoridation of all water supplies as an effective, safe, economical and constitutional health measure for reducing dental caries.

When this committee made its report last December it was stated that two towns in Tennessee had fluoridated their water supply. At this time there are eleven communities in Tennessee serving approximately 200,960 people; five communities in Arkansas serving 167,108 people; two communities in Mississippi serving 20.045 people.

In a recent report from the Division of Dental Public Health of the U. S. Public Health Service giving the status of fluoridation in the United States as of November 13, 1952; 474 communities have already fluoridated their water serving 9,773,259 people, and in 353 communities fluoridation has been approved. The above mentioned communities serve about seventeen million people. This has been accomplished by cooperation of many different aagencies. I would like to take this opportunity to thank the medical profession for their support in this most worthwhile program.

In Tennessee we have the Workshop Program which has been an excellent means of practicing real public relations. The Fifth Annual Dental Health Workshop is scheduled to be conducted in Nashville, Saturday, January 17, 1953 and will be devoted to a discussion of the "Challenges facing the Dental Profession in Public Health Dentistry." Interested dentists as well as members of the Health Education and Parent-Teachers groups will enter into a discussion of some of these problems with an effort to find a solution to many of them. Some of the problems to be discussed will be the progress being made in fluoridation, the proposed appropriation for Dental

[23] Other members of the Committee are: J. G. Ball, N. J. Leonard, Fred Child and E. W. Taylor.

Health in Tennessee and a discussion of the Dental Program of our States as well as the position held by dentistry in Public Health.

They also plan to discuss more effective dental health procedures, and the general problem of Dental Health which faces the dental profession of Tennessee today.

We think you would be interested in knowing of the initiative being taken by the dental profession in the establishment of first aid teams in the Civil Defense Program. Also the interest shown by dentists in entering into the program of promoting National Childrens Dental Health Day.

Dr. Harry Underwood, President of the Tennessee State Dental Association, is urging members of the dental profession to assist in obtaining an appropriation of $150,000 from the next legislature for Dental Health. He has asked that we contact our State Legislators and Representatives in regard to this matter.

You might be interested to know that the newest specialty in dentistry at this time is the Board of Dental Public Health at the state level in Tennessee and that there are now five full time dentists, each with a Master of Public Health degree. Dentists in Tennessee have the same classification as Medical Officers in the Health Department.

We have a report from El Dorado, Arkansas on their work in this program. This may not, of course, represent all that has been done in Arkansas but all I have been able to get.

1. After nearly two years of work we are near the point of securing fluoridation of water supply for El Dorado.
2. Have run the series (6) of articles on fluoridation of water supply in the local paper—very favorable reaction.
3. Dentists of this area cooperating in pre-school age dental examinations as well as examination of all school children through P.T.A. cooperation.
4. Series of dental health articles in local newspaper.
5. Entire local school system excuse children for recognized dental appointments.
6. Members of the profession speaking before the various P.T.A. groups on Dental Health.
7. New million dollar section being added to our hospital and in it will be included a fully equipped dental operating room for use by all dentists who have hospital patients. This was secured by insistence of local dentists for public convenience.

RESEARCH

FAUSTIN N. WEBER, D.D.S., *Memphis*, Chairman[24]

This report of the Research Committee of the Tri-State Section of the American College of Dentists is confined to a statement on the research of a purely dental character that is being conducted in Tennessee, Arkansas, and Mississippi at the present time.

Some of the projects herein reported on have been in operation for several years and were included in the Committee's 1951 report.

As previously noted, there is a considerable amount of research of a biological nature, indirectly related to the field of dentistry, that is being done on the Memphis campus of the University of Tennessee. No detailed account of this is included, but its importance is recognized.

The cleft palate team of specialists is continuing its program of clinical research to test the efficacy of various services in the rehabilitation of people having congenital facial or oral clefts. This project is in its second year.

The Pedodontic Department of the University of Tennessee has several investigations under way; one concerns the incidence of caries and the effect of various operative procedures on the permanent first molars of a group of 1500 children that have been under observation and treatment.

The Department of Oral Surgery of the University of Tennessee is continuing to classify the pathological conditions that are roentgenographically evident in the dental x-rays of all patients that pass through the school clinic.

Another project of this Department is concerned with assaying the effectiveness of selective antibiotic therapy in the treatment of infected root canals.

The amount of dental research being done at present is less than usual. The explanation for this is to be found in the diminished number of dental faculty members that remain to conduct the research programs. Many dental teachers have been inducted in the armed services. In most cases, it has not been possible to replace these instructors, and because of this, additional teaching demands have

[24] Other members of the Committee are: Carl W. Hoffer, Russell L. Moore, H. M. Flickinger.

been made on the time and energies of the remainder of the staff. This situation has not favored dental research.

SOCIO-ECONOMICS

WALTER R. LEVY, D.D.S., *Jackson*, Chairman[25]

In response to a growing need for definite information on various aspects of dental practice, the American Dental Association sent questionnaires a little over a year ago to 20,000 dentists throughout the country. The 3,726 returning usable questionnaires were distributed geographically in much the same way as are all dentists. Almost three-fourths of the respondents practiced in the state where they earned their dental degrees, despite the fact that only twenty-three states had dentists who graduated within the state. Their apparent incongruity results from the fact that states without dental schools have smaller populations and fewer dentists. Approximately one-fourth of the respondents reported having a degree (non-honorary) in addition to the dental degree. More than nine out of ten dentists held the D.D.S. degree, the remainder holding the D.M.D. degree. Nineteen out of twenty dentists spent the greater part of their time in independent practice, the remainder being salaried. About one out of every thirteen survey participants classified himself as a specialist. Among all specialists almost one-fourth were diplomates of specialty boards. Between one-third and three-fourths were members of national specialty societies, and one-fifth were licensed as specialists by the state licensing authorities. The greater majority, 86 3/10%, devoted 100% of their time to their specialty, others varied from 96.9% for oral surgeons to 32% for prosthodontists. The survey participants were asked what formal training preceded their establishment as specialists. The percentages reporting no formal training, ranged from 3% for oral surgeons to 25% for prosthodontists; hospital training was reported by 21.3% of all specialists; graduate school and short courses by 66.7%, and preceptorship, by 15.9%. Possession of X-ray equipment was re-

[25] Other members of the Committee are: George Cone, William B. Clotworthy and Roy F. Golden.

ported by over nine out of ten dentists. To the question, "Do you use a full mouth X-ray in making your original diagnosis and treatment planning?", 27.4% answered always and 48.4% answered frequently. Full time auxiliary personnel were employed by almost two-thirds of the dentists returning questionnaires. The total number of employees may be estimated as follows:

Dentists 1900; hygienists 3600; technicians 3300; and assistants 55,200. According to the survey, average monthly salaries paid to personnel were as follows: dentist $513.00; hygienists $236.00; technicians $264.00; and billing assistants $149.00. Over nineteen out of twenty dentists reported having a laboratory. The mean number of hours spent in an office for the average week was 42.2, of which 33 were spent at the chair, 3.8 in the laboratory, and 3.2 in free time. General practitioners averaged 5.4 more hours in the office than specialists, although specialists saw more patients during the week. Dentists employing no assistants averaged only 37.8 patients a week compared with 51.7 for dentists with one assistant and 63.8 with two assistants. Dentists who were members of the association had a mean of 48.9 patients against 42.4 for non-members. It is estimated that 3,700,000 persons saw a dentist in a single week in the month of April 1950. Based on results of the survey, it is estimated that approximately the following was provided the people of the United States during the week of April 16–22, 1950:

Examinations	640,000
Roentograms	1,600,000
Prophylaxis	610,000
Teeth extracted	1,040,000
Fillings and inlays	2,870,000
Single crowns	50,000
Fixed bridges	40,000
Full dentures	100,000
Partial dentures	60,000
Peridontal treatments	110,000
Orthodontic treatments	150,000
Fluoride treatments	50,000

The most common number of weeks worked was 48. About one out of ten dentists did not take a stipulated vacation; an equal

number took one week; about one-third of the total reported two weeks vacation and another third three to four weeks vacation.

Dentists, of course, provide many services not included in the survey. One of these has to do with the recruitment of dental students. As soon as this is discussed with a prospective student, the first counter question is that it is almost impossible to enter a dental school. We do not know whether the situation has always been as it is today or whether we are just now becoming conscious that too many of the dental profession are not willing to serve the public as they should. By this we mean that too many are only doing the type of work that gives them the greatest income and ignoring the child patient, for whose services they feel they cannot get a justifiable fee, or just don't want to be bothered with children. It has come to our attention that many of our profession do not attempt to do anything for the decidous teeth, except in case of severe pain and then only do extractions. This is a most deplorable situation from which the profession will suffer, since the child patient of today is the adult of tomorrow. Also we are not carrying out our responsibilities to our fellow man, to whom we as dentists are supposed to have dedicated our lives. The dentist who is not willing to work for children, should be honest with the patient and make arrangements to refer the child patient to a dentist who is both willing and competent to render all necessary dental services to the young patient. With the presidential election over, we think the immediate threat of socialized medicine is over for the time being, but professional men can keep the socialistic ideas from cropping up again by applying the "Golden Rule" in the conduct of their practices. Clinics shoud be established for the indigent and all practitioners either give their personal time or contribute money for their maintenance.

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