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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.

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Editor's Commentary

In keeping with President K. C. Pruden's theme of "Ethics and Human Relations" as the activity guide for College consideration during his tenure of office, we present in this issue of our JOURNAL a variety of material which we think pertinent to the subject. We include several papers submitted by the dean of a school of dentistry, as a suggestion that proper consideration of our project may well begin in our teaching institutions, perhaps with various phases of student-faculty relationship, and should include the basic philosophy and creed of the University itself.

Essential to the ultimate concept of Ethics and Human Relations, as expressed by the practising dentist and the teacher of dentistry, must be the grass roots foundation demonstrated by the individual's behavior and rapport with his fellow professional man, be he graduate or undergraduate. This grass roots foundation extends into the several areas of undergraduate teaching and learning, and the papers herewith presented should be accepted as commentaries and observations in these areas.

* * * *

In a departure from the usual content of our JOURNAL, you will find in this issue, material which has appeared in other publications—material which is worthwhile, in our humble opinion, and which most of our readers will never see unless *we* present it to them. As Fellows of the College, we should read with avidity articles and opinions aside from those on the technical phases of our profession. Some of the material we present in this issue approaches its message in a somewhat humorous although disapproving vein, some gives recognition to the unsung heroes of the dental meetings. We found the views of our confreres outside of the United States particularly refreshing and interesting.

We hope you like this issue of our JOURNAL—and we are receptive to your comments—be they critical or complimentary!

A.E.S.

In The Beginning—*

RENE ROCHON, D.D.S.**
Detroit, Mich.

"IN THE LAST FEW DECADES, dental education has made great progress. So engrossed have dental teachers been, however, with correlation of the technical phases of dentistry and their biological fundamentals that unwittingly they have retarded progress by their inattention to man's paramount problem—living.

Even though we graduated all our students with a thoroughly scientific state of mind, a sound groundwork in basic sciences, a complete knowledge of technical dentistry, and a masterful development of their manual skill, we could claim to be no more than plain teachers, not educators.

Educators should exert greater influence. While they teach their subject matter thoroughly, yet, by suggestion and example, they also in a subtle way, arouse in their students a desire and appreciation for a more satisfying way of life.

The ideal of dental education would be to prepare conscientious and competent members of the "health team" who at the same time are active in the civic, social, intellectual and spiritual life of the community. To attain this objective, they need a broad outlook, a sound philosophy of life, and a sense of social responsibility—in all of which the teacher should be the motivating force.

While we teach our students to do things well, we must also put fun and satisfaction into their labors. Happiness is needed; and happiness springs from a man's own breast. If we instill in our students an appreciation of ethics and esthetics as well as a knowledge of science and professional skill, they will perform their life's work with greater satisfaction and contribute a greater service to mankind.

At first thought, we may have the impression that our problems lie within the school, the dean, and the administration. This may be partially so but both our successes and failures root more deeply

* Presented at a Conference on Dental School Teaching, University of Detroit, August 27, 1956.

** Dean, School of Dentistry, University of Detroit.

within each teacher than they do within the institution or its administration. May we therefore together accept the term "self-evaluation" in its original significance and apply its meaning not to the institution as a whole but to all of us as individuals? Each one of us needs to make a self-evaluation in order to determine where we might have failed and again where we might as individuals through an improved performance make a greater contribution individually to the greater progress of the whole.

At the risk of appearing trite, I quote: "A chain is only as strong as its weakest link," and a school is just as strong as the combined efforts of its individual teachers. May we therefore use this conference to evaluate our personal achievements as well as our failures and in the light of self-evaluation project ourselves into the achievements of the school?

A mariner must have a compass, one which is good and true if he wishes to reach his destination safely and expeditiously. A school must also have a compass in terms of creed and objectives. Therefore, the first part of our study will be a review of the school's objectives relative to dental education and teaching. Finally we should adopt a classroom creed, one which will become the motivating as well as the controlling force behind our actions both in the classroom and clinic.

THE UNIVERSITY OF DETROIT CREDO

The University believes in God.

It believes in the personal dignity of man.

It believes that man has certain natural rights which come from God and not from the State.

It is opposed therefore to all forms of dictatorship holding the philosophy that the "total man" belongs to the State.

It believes in the sanctity of the home—the basic unit of civilization.

It believes in the natural right of private property, but likewise that private property has its social obligations.

It believes that Labor has not only rights but obligations.

It believes that Capital has not only rights but obligations.

It is vigorously opposed to all forms of "racism"—persecution or intolerance because of race.

It believes that liberty is a sacred thing, but the law which regulates liberty, is a sacred obligation.

It believes in inculcating all the essential liberties of American Democracy and takes open and frank issue with all brands of spurious "democracy."

It believes in the teachings of Christ, who held that morality must regulate the

personal, family, economic, political and international life of men if civilization is to endure.

The aim of totalitarian philosophy is to capture the mind of youth. American youth is exposed to "isms" of every sort whose pernicious poisons have the potency to destroy our hard-won liberties. Many great universities and colleges dare not or will not take a stand against such doctrines.

The University of Detroit refuses to allow "academic freedom" to be used as a pretext for teaching doctrines which destroy all freedom. It proudly boasts that, as a Catholic institution, it has always taught and always will teach the principles on which rest all law, order, and right government.

THE CLASSROOM CREED*

- I will comprehend and discharge my professional responsibilities—eagerly, honestly, and effectively.
- I will teach in harmony with the goals of the school that employs me, the concepts of the country which sustains me, and the goodwill of colleagues who surround me.
- I will carefully plan each course and class—the content, the methods, the motivation, the aids, the time, the student participation, etc. The activity must challenge the superior student, encourage the slow learner, and implement established goals.
- I will keep the students informed concerning the objectives of the course, immediate aims of each unit of work, the significance of each carefully planned assignment, and the standards of classroom achievement.
- I will be friendly, considerate, and confident—each student must feel welcome and secure in my class.
- I will daily approach my teaching with a keen interest in the students' comfort and progress, and with a genuine enthusiasm for the planned activity.
- I will attempt to dress neatly, speak clearly, appear poised, avoid annoying mannerisms, and not take myself too seriously.
- I will motivate my students through positively stimulating their interest, not by stooping to ridicule, or by using sarcasm, or by creating fear.
- I will maintain an "open" office door and welcome students with personal, remedial, and other learning problems.
- I will construct or select pertinent tests, review for them systematically, administer them frequently, evaluate them fairly, and discuss them fully.
- I will secure and study carefully the student's evaluation of my courses and my teaching.
- I will extend my insight into and my ability in the application of the psychological laws of growth and learning.
- I will search for knowledge in my special field and the teaching profession and disseminate this knowledge to my fellow dentists and patients.
- I will be ethical and professional in contact with students, parents, and other teachers.
- I will be a good citizen by giving unselfishly of time and talent to my family, my Church, and community.

* Adopted from Edward L. Christenson.

Publications and Clinics*

GARNET G. PERDUE, D.D.S.**

Detroit, Mich.

IT MAY BE DEBATABLE, but it is often said that "great institutions are made by great men." There is no doubt, however, that a school which has writers or clinicians as teachers is enriched in direct proportion to their contribution and prestige. This can be a reciprocal relationship, for when a well known writer is associated with a school, his presence challenges and tends to develop the full potential of the faculty. Thus the school and faculty are both benefited.

The dental student or the prospective dental student will naturally be interested in the literature of the profession to which he proposes to devote his life. It is therefore, our duty as teachers to perfect our skills in this method of dissemination of newer knowledge and ideas. If our faculty members would write on subjects in which they have special training and experience, it would instill in students a greater interest in dental literature. Students ultimately become our practitioners and teachers. If they be inspired to take a greater interest in current professional literature, they will undoubtedly be benefited and thereby their life's work enriched.

Interest in dental journalism should have its inception during the undergraduate years, and the logical time to bring about the activation of this interest is when the attention of the student is centered upon the faculty member's approach to a particular problem or subject.

What teacher has not been thrilled at the discoveries he has made while preparing or explaining his subject for students, or while committing his knowledge and opinions to a manuscript? The desire to hear others tell of their ideas and observations is a common experience. Ever more common is the urge on the part of everyone to tell others about his own ideas, feelings and opinions.

Learning is a two way process of giving and receiving. In his ef-

* Presented at a Conference on Dental School Teaching, University of Detroit, August 27, 1956.

** Member of the Faculty, University of Detroit School of Dentistry.

forts to influence the minds of others, man of necessity improves his own mind. The teacher who writes serves himself and his listeners or readers. A progressive teacher will then develop a logical mind; for when he writes on a topic, he collects his subject material from various sources . . . a bit here, a bit there . . . and organizes them. When he gives his paper, he presents his ideas in a logical sequence so that they will be readily understood; the essayist, who assumes the responsibility of speaking to professional groups on any phase of dentistry must of necessity familiarize himself with the literature related to his subject, and be able to support his thesis with an authoritative bibliography. The natural result of this will be the development of a more accurately informed individual. It may also help him in developing a logical sequence in his presentation of any subject.

The full implications of writing as a means of learning and teaching is apparently not completely appreciated by many teachers. It is a way to promote continued learning, a way which can stimulate original thinking and the discovery of new ideas while eliminating mere repetition. It may also result in a clarification of understanding, appreciation of the subject matter and integration. The professional standing of a teacher is enhanced by his publications and clinical presentations. Also by these means and because of his association with a school, the institution attains a higher professional standing. The men on a faculty are usually selected because they have teaching potential. Some stimulus, either self-initiated, or by a systematic plan may be needed to activate their full potential. If teachers were so encouraged, many worthwhile articles and interesting clinics could be produced and if each faculty member would give clinics and do more writing in his own special field he would gain additional knowledge, and perhaps might discover new and more useful applications of that knowledge toward the solution of dental problems. The presentation of clinics will tend to improve his manner of teaching, and also will generally aid him in his every day teacher-student contact.

Both clinics and writings for publication by a beginner might well be first presented before a small organization. Thus the writer and clinician may perfect his style and manner of presentation before appearing before meetings or seeking publications that are conducted on a state or national level.

Through clinics and articles for publication, many ways may be brought to light that would aid faculty members in the integration of their related subjects. For example—a much more desirable treatment plan might be fostered for patients by clinic demonstrations, where two or more divisions are concerned. This might be applicable to the interrelationship between the Surgery and the Denture Divisions. A clinic could be prepared which would demonstrate the problems presented by a specific patient, and show how the different teaching divisions might cooperate in arriving at a decision of when, where, and how much surgery is required to produce the most desirable result. Similar case presentations might well be prepared for all related divisions. The greatest aid to treatment planning is a comprehensive knowledge of the aims, the possibilities, and limitations of all the different phases of treatment related to the problems related to a particular patient. A more effective diagnostic procedure could be gained by the presentation of clinics or short informal papers by members of the various divisions.

Specific supervision or consultation might be instituted to promote, assist, and review presentations. Unless writings are submitted for review, suggestions, and guidance, many articles might be a duplication of effort and might be inadequately prepared. This could be very important and could develop to be a great aid to the beginning writer or clinician.

A worthwhile suggestion might be that clinicians be annually selected from the faculty in September and again in February. The September group would be asked to prepare clinics and presentations for the Detroit District Annual Dental Review; the February group to contribute to the Michigan State Dental Meeting. These opportunities are available. It is also suggested that all faculty members annually prepare a short article on any phase of his specialty. Such articles, without historical approach or summary, are attractive and readable and there is always a demand by current publications for them. In addition, other editors frequently "lift" short articles for their own publications, which increases the author's reading public.

Through the media suggested, writings and clinics, we as members of the faculty may grow personally in professional stature and by such growth contribute to the lofty position we desire our school to attain.

Research in a Dental School*

EUGENE L. HODAPP, Ph.D.**

Detroit, Michigan

AT THE OUTSET IT appears essential that we define what is meant by the word "research." In the general sense it means a "studious inquiry" or a "... careful search." The term is usually used in the sciences in a more specific manner to indicate a "... critical and exhaustive investigation or experimentation. . . ." The nature of the purpose of the investigation has led to a distinction between basic (fundamental, pure or theoretical) and applied research.

Basic research is concerned with the discovery of new facts and the formation of, or the revisions of, fundamental concepts, not directed toward practical objectives, yet it provides the building blocks for applied research.

Applied research utilizes the basic discoveries in an effort to find new and better practical applications. In the medical and dental sciences applied research is frequently referred to as clinical research.

It should be emphasized that scientific methods of investigation must be employed in the conduct of research. For most individuals this requires special training or guidance of a type found only in university graduate schools wherein the student serves an apprenticeship as a research assistant, or is tutored through some research problems by a research advisor on the staff.

Research in the sense to which we here refer, does not mean self-education acquired by studying current scientific or professional periodicals in an effort to keep up with the newer advances and knowledge, but rather active participation in the advancement of knowledge.

The role of research in a university is clear-cut. The general purpose of the university is to advance knowledge in all fields. This is generally fulfilled in most colleges of a university in two ways:

1. The dissemination of knowledge through classroom instruction.

* Presented at a Conference on Dental School Teaching, University of Detroit, August 27, 1956.

** Member of the Faculty, University of Detroit School of Dentistry.

2. The advancement of knowledge directly through research activities.

The research activities within a university are generally conducted in conjunction with a graduate student training program under the administration of the graduate school. Research experience and education should form the core of all good graduate programs. It is the opinion of many leading educators that research in the university should proceed hand in hand with education, "... otherwise research might as well be carried on elsewhere . . .," such as in separate research institutions.

In a discussion such as this where we are concerned with research in a dental school, the relationship between research and a graduate program in dentistry must be kept in mind. In recent years the number of graduate dental students enrolled in universities has increased. This increase is explained chiefly by the demands of the various specialty boards which do not require research education. Since these demands of the specialties are satisfied in graduate programs leading to the M.S. degree, research education and experience are generally included.

In 1941 it was stated by O'Rourke and Miner that research "... is the most compelling force for change in dental education . . ." and that in it "... lie the hope and opportunity of educational advance." Advances in dentistry have paralleled an increased productivity in both basic and applied dental research. The present need for scientific investigations in dentistry is greater than ever. The dental schools must fulfill this need since it is their obligation to contribute to the advancement of knowledge and the necessary revision of concepts relative to dentistry and its relation to medicine and public health.

As the result of a survey of the immediate needs for research in dental institutions in the U. S. for 1956, conducted under the auspices of the American Dental Association, it was concluded that:

1. Dental research must be recognized as a major force in the field of disease prevention through fundamental scientific investigation.
2. Dental research activities have progressed and expanded during the post-war years and have now outstripped the availability of funds.
3. The facilities and personnel available at many dental institutions are not saturated with respect to research capacity.
4. It was further concluded that the majority of dental research studies relate to national health and welfare and it thus appears that the Federal Government has direct responsibility to provide the major portion of the financial support.

At the present time the Institute for Dental Research of the National Institutes of Health has a relatively very small budget for research awards. A year ago this was attributed to the fact that there were very few applications for research grant awards in the basic dental sciences and the more fundamental aspects of clinical dentistry. The administrative officials of the I.D.R. were begging qualified personnel to apply for funds for worthwhile projects, because only when the need for additional funds is demonstrated in this manner can an increased budget be appropriated for research grant awards.

The National Advisory Dental Research Council of the N.I.H. has been considering the problem related to the needed expansion of research in dental subjects. This advisory council has found that the major initial problem hindering progress of dental research is the lack of qualified personnel. This arises from the fact that dental research is competing with the rest of the medical field for scientific personnel and apparently is not being too successful in the competition. Since the research potential of present dental school graduates is considered low, the Council is of the opinion that the competition for research personnel can be met by increasing the training and education in basic sciences available to dental students at both the undergraduate as well as the graduate level of education; and also by establishing a medium whereby the clinician can refer his problems to basic scientists and capture their interest in these problems. The National Advisory Dental Research Council is at present planning to recommend funds to establish a limited number of Research Training Centers in dental schools and dental research institutes. It is hoped that these funds will be utilized in part to increase the competence of the basic science staff and to find a means whereby these disciplines can be brought into direct contact with students evidencing ability and interest in dental research. It is sincerely hoped by this reviewer that such a procedure will not lead to a monopoly whereby only a few schools are recognized as research centers thus tending to restrict dental research. Ideally, research and research training should be fostered in all dental schools.

Research in a dental school which is part of a university should be more than research and publication by the faculty; it should permeate the entire educational program. The students should be given

a type of training characterized by a scientific outlook. The graduate should have a grasp of the scientific method, and above all, he should be able to evaluate and utilize the newer knowledge and concepts as they emerge.

In most dental schools the problem of research versus teaching demands consideration. It is generally recognized that the primary obligation of the faculty of an educational institution is teaching. Though many have voiced opinions to the contrary, it is also generally recognized that teaching and research can and do complement each other, and may thus be mutually beneficial. Thus, both the teacher and the researcher must have a thorough knowledge of their immediate and general field of interest; they must both study continuously to keep abreast of current advances; and they must both maintain an unbiased scientific attitude in order to be capable of analyzing and selecting the newer knowledge for incorporation into their activities. The researcher must have a genuine interest and enthusiasm for scientific inquiry plus some training in the scientific methods applicable to his field. Time may also be a very necessary commodity since research in the basic sciences progresses slowly and tediously. Clinical research on the other hand may require only a relatively small expenditure of extra time beyond teaching duties, such as for instance: the preparation of more detailed and accurate patient histories and records, a more accurate check on patient progress, and comparisons with some acceptable norms.

Teaching and research may also compete against each other and if uncontrolled, research activities may become detrimental to teaching. Thus, there may be too much emphasis on research, especially if there is a forced program of research wherein research productivity is the sole significant criterion for faculty promotions. Some individuals may place so much emphasis on their own research interests and carry them into the classroom to such an extent as to exclude more important and basic material.

We must acknowledge and attempt to solve the pressing problems of how to promote research and encourage research training in a dental school; how to attract dental students into research; how to increase the research potential and scientific attitude of our graduates; and also at the same time not impede the progress of our teaching.

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The Horizons of Clinical Teaching*

PAUL S. CROSBY, D.D.S.**
Detroit, Mich.

ASSAYING THE EFFECTIVENESS of clinical teaching can be of value only if it results in increased learning. The clarification of objectives is an essential first step in that assay and in the improvement of clinical teaching.

Methods of teaching and attitudes toward instruction have tended to follow the line of professional and vocational competence, rather than placing any particular emphasis on broad liberal education.

Educators want independent thinking by students so long as it is not marked by irrational conclusions. Many times these conclusions are drawn from the ever open pit of misunderstanding and ignorance. When our aims are stated in specific language in terms of particular abilities, qualities, and skills, teaching and learning become a matter of following certain processes to gain certain effects. The motivation, interest, and efforts, of both teacher and student are the primary factors in the general effectiveness of teaching. *All teaching will be better if it is constantly borne in mind that the educated graduate is a person prepared for a way of life rather than a specific technical competence.*

The purpose of a conference evaluation of teaching is not to arbitrarily suggest mechanical or operational changes for immediate adoption, but to initiate a file of information that may, at some later time, enhance our views of clinical teaching in a manner that would tend toward improvement.

The early clinics were founded as a means of providing medicines for the indigent and were, in effect, dispensaries. Later, several hospitals set up out-patient departments in which students could be taught methods of examination, diagnosis, and treatment by personal contact with the sick. Thus, in the beginning, the term "clinic" became associated with treatment for the poor and with teaching.

Blauch in "Teaching in Colleges and Universities" defines a clinic

* Presented at a Conference on Dental School Teaching, University of Detroit, August 27, 1956.

** Member of the Faculty, University of Detroit School of Dentistry.

as "an institution which offers examination, diagnostic, and therapeutic service to ambulatory patients."

That definition would appear to be not inclusive enough if we are to regard clinical education as improving the entire value of an individual. *During the clinical years the teacher can be a powerful influence in molding the student's conception of social service and dignity of a health profession.* Also, in the wake of diagnosis in dental school clinics today there usually follows the many phases of reconstructive dentistry that is almost the major part of clinical practice. Table demonstrations to groups of non-patients or contemporaries in the profession have also been labeled "clinics." This would seemingly indicate that the very name should perhaps be more clearly and inclusively defined.

OBJECTIVES OF CLINICAL TEACHING

I. The demonstration of general methods of examination, diagnosis, and treatment, to groups or individuals. The student sees the patient and senses in this method of instruction the direct solution to his future problems.

II. Instruction of the student in the specific applications of principles learned in the predental and preclinical courses to the solution of actual problems. There are few fields that offer a student a better opportunity to transfer and apply his knowledge than in a dental school clinic. The teacher here has his best opportunity to lead, advise, and observe the student. He can also check the omissions and inadequacies of the prerequisite courses. Student motivation is usually high, and a student may comprehend in a single clinical situation all of the previous instruction pertaining to the solution of a specific problem. He grasps the meaning of heretofore unrelated bits of information from other courses, particularly the basic sciences.

III. The clinical teacher should always be more concerned with the application of principles than a succession of technical products. He can increase his effectiveness by regulating his instruction along lines that can be comprehended and practiced at student level. *The student should almost constantly be confronted with a mature concept of the importance of ethics and his value to a community. He should become thoroughly imbued with the idea that he must become a respected citizen as well as a useful dentist.*

There are a number of factors that affect clinical teaching. The ability of an instructor to impart constructive information in a manner that can be clearly understood, plus his willingness to do so; the ability of the student to seek, accept, and absorb information; the desire of the teacher to keep abreast of the methods taught and accepted by the institution, both in the practical and science courses; the unity and continuity of techniques and principles taught in different, but similar areas, courses which clarify a student's understanding of the instruction; the availability and proper use of equipment and material particularly in diagnosis and demonstrations. In addition there are factors such as instructor differentials, e. g.:

1. Basic knowledge.
2. Operating ability.
3. Attention to precision and detail.
4. Degree of specialization.
5. Personality.
6. Instructor-student relationship.
7. Validity of supervision and grading.

There are also some interference factors which have a marked influence on clinical teaching, such as:

1. The quantitative clinical requirements with their vocational training objectives have usually been the chief concern of both student and teacher.
2. State license examinations emphasizing clinical proficiency, and the results of which are decided from a very limited number of projects which do not cover all of clinical teaching.
3. The readiness on the part of both student and teacher to substitute trial and error methods for a serious acceptance of principles.
4. Routine technical habits that do not stimulate but impede thinking.

The methods of instruction naturally and habitually tend to follow certain patterns. The acquisition of abilities and attitudes by the student, their retention, and their application to new situations are the usual agenda.

There are a number of techniques such as:

Drill	Case history procedures and comparisons
Reading	Group discussions
Demonstrations	Examination

The success of techniques depends upon an understanding of the objectives desired, and the selection of proper methods to attain these objectives. Also, a consideration of the individual differences in students, and the employment of ways and means to provide

motivation, and appreciation for performance at the individual particular level.

Good clinical teaching is not merely demonstrations of technique upon technique, but emphasizes principles as well as methods. Rote teaching means drill or repetition and alone is ineffective as it does not aid the student in the transfer and application of principles. A well trained student is one who has a keen appreciation for the importance of exacting dental techniques; who has the background to become competent in the diagnosis and treatment of oral disorders; who understands the methods involved in preserving and promoting oral health; and who has the ethical and moral stamina to continuously follow that pathway; he must be able to continue to practice dentistry well without supervision.

It should be remembered that the dentist is the only professional graduate who must immediately provide for the needs of the public in the actual practice of a profession. He must necessarily then be educated to meet the varying situations of practice as they arise. It follows that clinical teaching embodies considerably more than techniques and supervision over a prescribed number of specific operations.

There must be a pattern evolved to correlate the various course contents, and to stimulate the student's pride in his own ability and in his chosen profession. He then, potentially at least, can be of greater social benefit to all those who come within his sphere.

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Examinations*

STEPHEN G. APPLGATE, D.D.S.**

Detroit, Mich.

EXAMINATIONS AS OFTEN conducted in dental schools fail to accomplish the purposes which should be the goal of such testing. While this may seem to be a sweeping indictment, a careful survey of the situation will establish the truth of the statement, but this failure can to a large extent be laid to a lack of understanding, rather than to a wilful lack of interest in the matter.

Shailer Peterson in his "Manual on the Preparation of Examinations in the Field of Dentistry" has said: "Examinations are not just a necessary evil. They have an important function to perform and they should reflect the high standards that dentistry has set for itself." Although he states that examinations are not just a necessary evil, it would appear that they are so considered by most dental students and at least a considerable number of dental teachers. In this our own school is not exception. When asked: "Why do you give examinations?" a common answer was, "because they are required by the school." Only rarely was an answer returned that would indicate any measure of appreciation of the real objectives and possibilities of testing programs.

When asked a similar question: "Why should you take examinations?" students generally gave the same type of answer. It was, however, refreshing to find a considerable number of students that did recognize some of the values that they themselves might derive from examinations.

The replies, received to this question, of those on "both sides of the teacher's desk" seem to indicate that students and faculty alike all too often fail to understand and appreciate the basic principles of and the reasons for testing programs.

With this lack of appreciation prevalent is there any reason to wonder that cheating on examinations is felt to be so common? A second possible factor influencing honesty during examinations

* Presented at a Conference on Dental School Teaching, University of Detroit, August 28, 1956.

** Member of the Faculty, University of Detroit School of Dentistry.

stems from a misconception on the part of some teachers regarding their real responsibility. Some seem to feel that it is "their job" to fail a certain percentage of the students in their classes. This idea probably had its origin in the arts college where students are often admitted without entrance examinations and where numbers are expected to, and generally do, fail at the end of the first semester or first year. Such an idea is untenable in a professional school. Here we have students who have prepared themselves especially for dental school and who have already survived several screenings. They have been screened from high school to the arts college; from the arts college to the dental school. Each was faced with the requirement of an adequate aptitude test score and an army test grade; finally they were carefully screened at the hands of an admission committee. These admitted students therefore should seldom fail to make suitable progress. Confronted however with the implied, if not openly stated, threat of failure, plus the lack of understanding of the objectives of examinations, they rationalize that passing by any means is perfectly excusable.

I believe that Peterson's statement is true and that if our faculty and students alike were fully aware of the importance and value of testing programs, they would approach the problems involved with vastly altered viewpoints. The faculty member must place the proper value upon examinations; he must spend as much or more effort in constructing and administering good examinations as he would in preparing a proper teaching outline. The student, on the other hand, must be made to realize that examinations can be a very valuable part of his educational program. The traditional "contest" between the student and teacher must be supplanted by a mutual appreciation of the objectives to be gained and the values to be received.

It is my hope to stimulate thinking directed toward a better understanding of this entire problem and to do so I submit three general questions that demand solution:

1. Why are examinations given, that is to say, what are the objectives of examinations?
2. What are we attempting to test?
3. What constitutes a good examination?

As we consider these three we find additional provoking and more specific questions, some of which will be considered by the committee group in its sessions. What are the objectives of examinations? A major one to be found in any good testing program, is the opportunity afforded the student for self-evaluation. If an examination, given in the body of a course, is well formulated it will quickly indicate to the student the areas of his weaknesses and to some degree at least direct his concentration of effort.

Examinations given periodically throughout a course will afford a measure of student progress. Those who show an upward trend in testing results are demonstrating favorable progress, while others who only maintain a grade level show lack of progress, even though the latter may have a higher score.

Comprehension of the subject material may be revealed by proper examinations. Failure to understand the subject matter may then be rectified by either individual conference or by a review of the examination before the entire class. It must be recognized that assignment of a grade is not the end result of an examination. Unless an examination is subsequently reviewed before the entire class it has not fulfilled its entire objective. Obviously this does not apply to terminal or so called "final" examinations.

Possibly the greatest value of examinations is to furnish a means of evaluating the teaching program. It has been said: "that unless someone has learned, there has been no teaching." Failure therefore, of students to indicate on examinations that they have reasonably mastered the subject would seem to point to a possible weakness of instruction. Individual classes vary but little in potential abilities and may reasonably be expected to give very similar results when subjected to the same examination, given under the same conditions. Thus if a class does poorly on an examination on which previous classes did well, the fault may be attributed to the instruction. In this connection it should be noted that examination questions themselves must be subject to constant evaluation. True and false statements, for example, that are answered correctly by every member of a class are obviously useless and do not test anything. Conversely, if over fifty per cent of a class answers a question incorrectly it is rather evident that one of three things is present: 1) The question is poorly worded and subject to misinterpretation, 2) The subject

matter was inadequately covered, 3) The subject was not covered at all. A careful survey of the number of incorrect answers given to a question may reveal much about the validity of both the question and the adequacy of the instruction.

The need for submission of grades to be used as a guide for possible student advancement, or when honors are to be granted, is to some extent fulfilled by testing programs. It must be stressed however, that, just as a single observation is unreliable, so also is a single examination. The practice of issuing course grades has little defense when they are based entirely upon the results of a single examination. Although the time available in a one hour course may limit examinations to a final test, or at best to a mid-semester and a final, this does not preclude the consideration of other factors in the total student evaluation. Reports on assigned reading, note books, attendance at scheduled classes, attitude, etc., may all be given weight in arriving at the final course grade.

The grades achieved on examinations may in some instances stimulate a competitive spirit among students. This, properly directed, can have beneficial results. Grades however, should not in themselves be stressed as the major goal of a student. The relative position in the class, as shown by graphs, is probably of much more importance.

The second question: "What are we attempting to test" is of vital interest. It is not sufficient to say that we are attempting to find how much or how little the student knows. All too often questions are concocted at the last minute and without adequate thought devoted to them.

It may be our desire to test the factual knowledge retained by the student at a given point in the course. This can be done by asking for listings of requirements, indications, contraindications, etc. This does not, however, test the understanding of the matter nor does it test the ability of the student to apply the factual knowledge to the solution of a problem. A different type of question must be employed if these areas are to be tested. The value of testing for factual knowledge, for understanding, and for application of knowledge is recognized but in general we should remember that the latter two are the more important. It is admitted further that the independent thinking student may actually be penalized by factual tests.

The attitude of a student toward his chosen profession is of such

importance that we ought to test in this area. This can be done by the use of problem questions wherein the patient's socio-economic and physical conditions are made part of the data furnished on the problem.

We should not pass this part of our discussion without noting that a single examination can be set so that it will test in several areas. Each individual question may test in one area but the overall examination will test in all the necessary areas if proper thought and construction has been employed.

Granting now that we understand why we are to give examinations and know what we wish to test, there still remains the question: "What is a good examination?" In considering this, the techniques of giving the examination are not of paramount importance, for many kinds of examinations may qualify as being good.

It should be obvious that a good examination is one that tests what it is intended to test. That is, if we wish to test only factual knowledge, the questions should not be so worded as to involve application of the facts; nor should we, in grading a factual examination, consider grammatical errors, misspelled words, poor penmanship, etc. If we wish to consider these points they should be included in the avowed test areas and the students so informed in advance.

A good examination must be reliable. The same quality of answer should always receive the same rating and be uninfluenced by the one who grades the examination.

The examination must be practical in application. The amount of time allocated for answering, for example, must be considered; an examination that is too long for the time given, or one that is too short for the average student, can scarcely be considered good. It is possible of course to set an examination that even the better students cannot complete in the allotted time and if the areas to be tested are to include speed, this might well be a good examination. In such an instance the students should be previously informed.

Properly constructed, the examination should be correctly difficult. One that is very difficult for the better students will obviously fail the average and poor students. One that is easy for the poor students will fail to test the average and good students. In general it may be said that good test items should be fairly easy for the better students, moderately hard for the average, and difficult for the

poorer students. If such a plan is followed, the examination will automatically distribute the students into their proper respective places in the group. Careful tabulation of the number of incorrect answers to each question, if followed for a few examinations, will properly evaluate the difficulty of questions. It has been suggested that, on a good test, the average student will answer about fifty per cent of the test items correctly and that on a difficult examination a passing mark might be as low as thirty. These are not percentile grades however, but are scores, intended only to place the students in their relative position in the group, from which position a letter or percentile grade can be established.

Examinations have long been taken for granted and have generally been considered as incidental phases of educational programs. The time has come when we must view examinations and testing programs in a more realistic manner.

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CALENDAR OF MEETINGS

CONVOCATIONS

September 30, 1956, Atlantic City, N. J.

November 3, 1957, Miami, Fla.

November 9, 1958, Dallas, Texas

September 20, 1959, New York, N. Y.

BOARD OF REGENTS

September 29 and October 1, 1956,
Atlantic City, N. J.

February 3, 1957, Chicago, Illinois

November 2 and 4, 1957, Miami, Fla.

Convocation
American College of Dentists
Atlantic City, New Jersey
Sunday, September 30, 1956

PROGRAM

Vernon Room, Haddon Hall

MORNING MEETING, 9:00 A.M.

INVOCATION

Canon Horace E. Perret-Gentil, Th.D., Rector, St. James Episcopal Church,
Atlantic City, N. J.

EXECUTIVE SESSION

Minutes

Report of the Secretary

Otto W. Brandhorst, St. Louis, Mo.

Report of the Treasurer

William N. Hodgkin, Warrenton, Va.

President's Address

Kenneth C. Pruden, Paterson, N. J.

Report of the Necrology Committee

Charles F. Harper, Chairman, Jersey City, N. J.

Report of the Nominating Committee

Fritz A. Pierson, Chairman, Lincoln, Neb.

THE PROGRAM

PANEL DISCUSSION

TOPIC: "HUMAN RELATIONS: ONE MORE RIVER TO CROSS"

MODERATOR: Willard C. Fleming, D.D.S., San Francisco, Calif.

Chairman, Committee on Human Relations

PANELISTS:

"HUMAN RELATIONS AND PUBLIC RELATIONS"

Jay H. Eshleman, D.D.S., Philadelphia, Pa.

Member, Committee on Public Relations

"SOWS' EARS AND SILK PURSES"

J. Wallace Forbes, D.D.S., Philadelphia, Pa.

Member, Committee on Recruitment

"DENTISTRY'S HUMAN RELATIONS TODAY"

Allison Gale James, D.D.S., Beverly Hills, Calif.

Member, Committee on Dental Prosthetic Service

"ETHICS AND ETIQUETTE"

Harry B. McCarthy, D.D.S., Dallas, Tex.

Member, Committee on Education

GENERAL DISCUSSION

LUNCHEON, 12:30 P.M.

Carolina Room, Chalfonte Hotel

*Under auspices of the New Jersey Section of the American College of Dentists,
Willis R. Osmun, Chairman*

ADDRESS: "DENTISTRY'S PUBLIC RESPONSIBILITIES"

The Honorable Robert B. Meyner, Governor,
State of New Jersey

* * *

AFTERNOON MEETING, 3:00 P.M.

Vernon Room, Haddon Hall

INVOCATION

CONVOCATION ADDRESS: "ETHICS AND HUMAN RELATIONS"

Ernest B. Colwell, B.D., Ph.D., Litt.D., LL.D., S.T.D.

Vice-President and Dean of Faculties, Emory University, Atlanta, Ga.

CONFERRING OF FELLOWSHIPS

CONFERRING OF THE WILLIAM JOHN GIES AWARDS

* * *

EVENING MEETING, 7:00 P.M.

Vernon Room, Haddon Hall

DINNER

INTRODUCTION OF GUESTS

INSTALLATION OF OFFICERS

PRESENTATION OF SERVICE KEY

By Fritz A. Pierson, Lincoln, Neb., Past-President

INAUGURAL ADDRESS

Gerald D. Timmons, Philadelphia, Pa.

Speaker: Dr. Raymon Kistler, D.D., LL.D.

President, Beaver College, Jenkintown, Pa.

SUBJECT: "THE JOYS AND WOES OF MODERN LIVING"

Federation Dentaire Internationale

As a Fellow of the American College of Dentists, you are invited to join the outstanding international organization in dentistry, the Federation Dentaire Internationale, which is supported by the American Dental Association.

You can support the Federation by becoming a *supporting member* for annual dues of \$10.00. You will receive your membership card, a subscription to the International Dental Journal, a quarterly News Letter and reduced fees for official international meetings. More importantly, your membership will do much to strengthen dentistry in the international field. The application blank below should be sent to Dr. Obed H. Moen, U. S. National Treasurer for F.D.I., Watertown, Wisconsin, with your remittance of \$10.00.

You may also be interested in the annual meeting of the Federation at the Dental Congress in Rome, Italy, September 7 to 14, 1957.

APPLICATION FOR MEMBERSHIP

I wish to become a Supporting Member of the Federation Dentaire Internationale and subscribe to the International Dental Journal.

Name

Address

I am a member of the American Dental Association.

I enclose \$10.00 for Supporting Membership and subscription to the International Journal.

Signature

Please complete and return with your remittance to Obed H. Moen, U. S. F.D.I. Treasurer, Watertown, Wisconsin, U.S.A.

Convocation Address*

SIR WILLIAM KELSEY FRY

London, England

YOU ARE TODAY CELEBRATING the 50th Anniversary of the founding of your Dental School. Fifty years have elapsed since I entered the profession and I should like to take this opportunity of reviewing some of the changes that have taken place in dentistry during these years, and at the same time of presenting to you some of my ideas on dental education both for today and for the future.

In the past fifty years, dentistry has risen from the position of a highly skilled craft to that of a profession held in respect throughout the world. That change has come about largely because we have come to realise that we are a part of the medical services.

It might be worth while considering for a moment why from the teaching point of view we are not in fact a specialty within the field of medicine, for both of our professions have as the basis for their work the fact that they are entrusted with the prevention and treatment of disease. That we in dentistry are not part of the medical faculty is, I believe, largely an historical accident.

My own first contact with the profession was as an apprentice in a private practitioner's laboratory, and on entering hospital I found that I had to continue with further bench work. The emphasis in those days was almost entirely on technique. With this as the basis of dental training, it was small wonder that dentistry was considered separately from medicine and that dental education was divorced from medicine. As the dental schools have developed, we have acquired a wider concept of oral disease in relation to systemic disease; we have come to realise the truth of the observation of your great physician, Sir William Osler, that the mouth is a biological mirror of the patient's health.

Today, in many schools, especially on the continent of Europe, dentists may practise only if they hold both medical and dental

* An address delivered on the occasion of the granting of an honorary degree of Doctor of Science to the author at the Fiftieth Anniversary of the Faculty of Dentistry of the McGill University.

From the *British Dental Journal*, August 7, 1956.

qualifications. I do not think it necessary to go to that extreme, but I do feel that we should be constantly aware that we are part of the medical service, and that we should regard ourselves as physicians with a particular part of the body in our care. If you accept this idea, then one or two further ideas can be evolved from it.

First, the physician throughout the ages has been a symbol of wisdom, learning, and human kindness. Such virtues depend largely on his education both pre-university and university; and, in turn, his education depends less on the facts that he can absorb and display as knowledge, than on his contact with the disciplines and enthusiasms of other branches of learning. A university gives him opportunities for such contact.

At McGill University, you have a great advantage over some dental schools, such as my own at Guy's, where the dental school, whilst being part of the medical school, is situated some distance from the London University buildings, and there is in consequence too little contact between the different faculties to permit of a true university education. You at McGill have a reputation for encouraging this aspect of a dentist's education. For this you have to thank amongst others your two most recent Deans. To Dr. Walsh must go much of the credit, for he saw as clearly as anybody and far sooner than most that dentistry is allied more to the art of medicine than to the craft of the mechanic.

Dr. Walsh was followed by your late and beloved Dean, Dr. Mowry. I knew of him as an outstanding clinician and enthusiast for progressive dental education. I had hoped one day to have the honour and pleasure of meeting him and indeed, during my visit to Montreal, I was to have conferred upon him the Fellowship in Dental Surgery of the Royal College of Surgeons of England. We are all deeply conscious of the shadow cast by his absence from our celebrations here today. At the present time, when there is constant economic pressure urging schools to produce qualified men with the minimum delay, and there is a continuous battle for schools to retain the right to turn out men who are educated rather than qualified, we can ill spare such a man as Dr. Mowry.

My second point is that if we are in a sense physicians, then perhaps we can learn something from the education of a doctor. The essential feature of a medical education is that it makes the student think. When he qualifies, a doctor has a fair knowledge of the basic

sciences, and is acquainted with the general principles of clinical medicine. But what is more important, he has been trained to observe for himself and to reason from his observations.

I feel sometimes that too much of our dental education is concerned with acquiring techniques such as I practised so wearily at the bench fifty years ago. I fully appreciate the value of techniques. I consider it is of importance, and I might say even of vital importance, that dentists should be highly trained in technique, but I believe that there are many post-graduate courses and study clubs both at home and in other countries where men may devote as much time as they wish to advancing their technical skill in any branch in which they are interested.

I would like to see professors of dental surgery beginning each academic year by going over the curriculum carefully to see if they can reduce the hours devoted to technical and mechanical knowledge. I feel that far fewer serious errors arise from technical incompetence than from errors of judgment and lack of thinking.

My third point. I suggested that we should regard ourselves as physicians dealing with a particular part of the body. If that is so, are we not now specialists enough? Compared with the field of work of the consulting general physician and surgeon, the work of the dental surgeon is limited. And yet it is not uncommon today to find a dental surgeon concentrating on a narrow part of this already narrow field, without having any substantial knowledge of the whole, and for such a man to be considered a specialist. I wonder, is specialisation in this sense justified? I do not think so. I would reserve the term "specialist" and "consultant" for men of wider attainments.

The term "consultant" would to my mind imply a man with a wide experience of the whole field of dentistry. In addition to general practice, he should have spent at least three to four years in post-graduate study, especially in hospital out-patient clinics. He should have a wide knowledge of the ways in which systemic diseases present themselves in the mouth. He should be a man to whom his dental colleagues could refer patients for consultation and who could be called in by his medical colleagues for advice on their patients' oral conditions. He should in truth be a physician dealing with a particular part of the body, as is the cardiologist or neurologist.

I would reserve the term "specialist" for those men who, whilst

having a consultant's knowledge of the whole, have concentrated their attention on one particular problem or technique. Such "specialists" are necessarily limited in number because of the wide training and experience they must have, but it is to them that we are largely indebted for the advances in our knowledge. They have a deep understanding of their subject, they have studied the world's literature and they have travelled and have undertaken original research. Our reputation as a scientific profession depends very largely on these men. If I am right, then no man would call himself "consultant" and even less "specialist" without a long and arduous training.

One further point: if we are physicians, then our concern is primarily with the sick and needy. Yet can we honestly say that the best dental treatment goes to those who need it most? In my experience most patients in private practice are in reasonably good dental health: indeed, much of general practice is concerned with cosmetic dentistry which, vital as it is, absorbs a lot of our time. Contrast this with the treatment available to those in real need, especially the hospital patient, the chronic sick and the children. I believe that the school dental service should be given the highest priority, that the clinics should be amongst the best equipped and the appointments amongst the highest paid. Unhappily in England at the present time, the school dental service is badly understaffed. I do not know the position in this respect here in Canada, but I am quite sure that you have this vital problem well before your minds.

In my opinion all large general hospitals should have on their staffs a consultant dental surgeon, and by "consultant" I mean such a man as I have already described. He should have a department in his charge and it should be his task to arrange for the ordinary dental care of the patients, including the routine oral hygiene before major operations under general anæsthesia. He should also be able to advise his colleagues on the relevance of any oral sepsis to the patient's condition. This, I think, is a particularly important problem. Dental surgeons tend to be governed by an all-or-none law. Either dental sepsis is thought to be involved in many diseases without justification, or it is thought to be of no importance, with unfortunate results. I myself have been in consultant practice long enough to see results and to satisfy myself that dental infection is on

many occasions an important factor in systemic disease. But it is a problem requiring judgment and experience—just the sort of problem for a dental consultant. There are many other problems in which the dental consultant could help his medical colleagues, with the treatment of facial pain and bony injuries to the face to name only two.

In all these, he could help his hospital to give a more adequate service to the sick.

Finally, although I said at the beginning that I would mention some of my ideas on dental education, I have said little about what is probably the most important aspect of all, that is, the education given to the average student entering private practice. One reason for this is that apart from possibly an excessive amount of technical work, such education is usually adequate and in a school such as yours more than adequate. Another reason is that although the general practitioner is the man who treats most of the patients, the standards for the profession as a whole depend upon the quality of the consultants and specialists who teach him. For this reason, I would like to see an interchange of teachers at all levels, not only between universities in their own country, but with those of other lands. In particular, if such an exchange could be arranged between our two countries I am sure we would both learn much of value.

Some of these thoughts may have been very controversial, others less so, but the fact remains that when I had completed my laboratory training I realised that I could never fully appreciate my work until I was more familiar with the whys and wherefores of it, and it was this that made me decide to enter medicine before completing my dental course.

I thank you, Sir, for allowing me to address you on a subject dear to my heart.

Writing Award Competition

Sponsored by
The American College of Dentists

The American College of Dentists is initiating and promoting a competition in the writing of papers and essays, and in the preparation of manuscripts, for graduating students in the dental schools of the United States and Canada.

The purpose of the competition is to create reader interest, to stimulate the more wide-spread use of libraries, and to develop competent dental writers.

A prize of \$500.00 and a plaque will be awarded the national winner. In addition, an appropriate plaque will be given the winner of each school entry.

RULES AND PROCEDURES

- 1) The competition is open to all senior students in the dental schools of the United States and Canada.
- 2) Students will be notified of the competition in the spring of their junior year, and manuscripts must be received by the Secretary of the American College of Dentists by February 1 of their senior year. This will allow ten months for preparation. Announcement of the winner will be made not later than April 1. The time and occasion of awarding the prize and the plaques shall be determined by the schools, but it is suggested that this take place prior to the graduation of the recipients.
- 3) Deans will be asked to designate a faculty member to promote the competition, to decide how the competition will be conducted, and to determine the manner in which the winner is selected, in each school. Only one essay may be submitted from each school in the National competition.
- 4) Manuscripts submitted shall be accompanied by a letter from either the faculty member designated to conduct the competition, or from the dean of the school from which they originate. This will assure the authenticity of the manuscripts submitted.
- 5) For each annual competition, the American College of Dentists will select and announce a topic.

- 6) The topic will be on a non-technical aspect of dentistry. The ethical, social, historical, or cultural relationships of dental practice, education, research, organization and journalism will be the areas from which the topic will be selected.
- 7) No hard and fast rule concerning length of the manuscript will be established. However, it is suggested that the manuscript not exceed ten to fifteen double-spaced typewritten pages, exclusive of bibliography, tables and charts and illustrations. White bond paper, 8½ x 11 inches must be used.
- 8) The original and five (5) copies must be submitted; this is for judging purposes. Manuscripts must be sent either flat, or folded once in the center. Pages must be held together by clips or fasteners. Footnotes must be designated by placing them at the bottom of the appropriate manuscript page, separated from the text by a line. References and bibliography must be on separate pages and must conform to the style adopted by the American Association of Dental Editors and the American Dental Association. Tables, charts and illustrations also must be on separate pages. Good compositional form must be followed.
- 9) Manuscripts will become the property of the American College of Dentists. None will be returned. The winning manuscript will be published in the JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS.
- 10) The Committee on Journalism of the American College of Dentists will assume the responsibility of determining the winner. Its decision will be final.
- 11) Manuscripts will be judged as they reflect these general qualities: purpose, scholarship, accuracy, impartiality, neatness, objectivity, and as a contribution to the periodical literature of the profession.

For details concerning this competition consult your dean, your faculty adviser or write to:

DR. O. W. BRANDHORST, *Secretary*
American College of Dentists
4221 Lindell Blvd.
St. Louis 8, Missouri

The Development of Dentistry*

IF ONE LOOKS BACK a hundred years or so the crudeness of dental practice leaves one amazed, but it is probable that the practitioners of the time thought that there was not much amiss with their technique or knowledge. The practitioner of today, though he realises that there are improvements to be made and gaps in present knowledge to be filled, probably does not imagine that his counterpart of 2056 will look back to our days with the same appraisal of our methods as we have of those of the middle of the last century. One feels somewhat aggrieved at the suggestion of such a possibility, but dentistry has changed considerably even during the professional life of many in practice today, and as there are no indications to suggest that the rate of change is diminishing it may safely be assumed that our great grandchildren will be likely to view present times with tolerant amusement.

If the development of dentistry continues, where will it lead? No one can answer this, but the trend of events may give an indication. The complexity of conservative work increases with regard both to surgery of the tooth and the eliminating of factors which promote disease of the supporting tissues; development proceeds in dental medicine and in the treatment of injuries and malformalities of the jaw; physics and biochemistry provide advances of increasing importance. The study of these and allied subjects encroaches so much upon the time of the student that his training in dental mechanics has to be reduced, and few of those who qualify today have the skill in this which used to be required. This is in no sense a criticism of the student or of the methods of teaching him: it is a fact which shows a trend of dental practice. If it continues it may well be that by the end of the century the dental student may have discarded dental mechanics entirely.

We do not know what views will be held in a generation's time upon such matters as root treatment, the treatment of the infected apex or the effects of focal sepsis, but it is reasonably certain that dental orthopædics, or some extension of it, will become of increasing importance. Preventive dental medicine is an aspect of dentistry

* From the *British Dental Journal*, April 17, 1956.

which has an unknown field and, in the future, may well come to be the main activity of the general dental practitioner.

No one in 1856 visualised a dental team including a trained chair-side assistant and a dental hygienist; nor was there then such a thing as a maxillo-facial unit: the Armed Forces had only the most elementary provision for dental treatment. These and other developments which have taken place have done so because new discoveries and a wider vision have extended the service, both scientific and technical which dentistry can give, and the process will continue.

What discoveries lie ahead we cannot say, but we can be sure that there are more than we can imagine waiting for the flash of inspiration, or more probably the patient interpretation of a mass of data, and when they are brought to light changes will follow as profound as any we have known. What the evolution of sociopolitical thought will bring is anyone's guess, but we can hope that 2056 will think in terms of generous indulgence of our present experiment in the provision of health services.

Dentistry is at the moment poised for its next endeavour: it seeks to find an escape from the tyranny of dental disease and to develop dental medicine at the expense of dental surgery. The former can never supplant the latter entirely but it may oust it from its present premier position.

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Each generation lives in blinkers; it is difficult for it to see the past clearly and impossible to peer any distance into the future. But though the future remains inscrutable we can see in the past something of use to us if we exercise that understanding with which we desire our times to be viewed by posterity. When we do this we find that real values have not changed; that the development of skill in any particular will vary from time to time, but, as old ones die, new arise; that big improvements are usually made by giants of the day but that the majority of them are of value only in so far as they are acceptable to the ordinary practitioner, whose degree of skill and knowledge forms the standard of service available to the public. If this is so then the future of the profession does not lie solely with the research worker, the specialist, and the politically eminent; it is in the hands of all of us.

Manners and Molars*

EDWARD SAMSON, F.D.S., R.C.S.
England

"MANNERS MAKYTH MAN," no doubt. But which kind of manners is necessary to make the ideal man, and which kind of man is ideal, will probably remain a matter for philosophical disagreement *ad infinitum*. Since good manners vary in their demands with every age and place, they must *ipso facto*, produce varying types of men. Here, however, I am more interested to show that good manners, as we understand them, have done much harm, at least physiologically, to our manhood; that in fact, bad manners incline to better health.

When I was a small boy I was nauseated by the then frequent spectacle of a labourer grossly blowing his nose in the gutter by placing a finger, first on one nostril, then on the other. Thus, with great effect, but distressing vulgarity, he cleared his nostrils. Years later I was told by a lecturer that this was the proper, the hygienic way to evacuate the nose, that people who use a handkerchief, closing both nostrils simultaneously, often create for themselves middle ear infection. Thus does refined behaviour endanger health. A thought most disturbing to sensitive folk.

Nearer to our particular work are the precepts of good table manners. People delicately nurtured should, they are told, eat with their mouths closed. Nanny does not like to *see* food going down the "red lane." Yet what evils in later life is Nanny responsible for! To keep lips in close contact while attempting to masticate efficiently is mechanically impossible. Good breeding and thorough manducation are totally unrelated. Only by opening his mouth and giving full play to his muscles of mastication can little Basil complete the process as efficiently at Nature intended. Anything less than unrestricted movement of his mandible will seriously impair bone development, resulting in crowded dental arches. So, poor Basil faces the awful alternative of punishment from his vigilant Nanny, or later inconvenience at the hands of his dentist and orthodontist. It is too, more than likely that typical English countenances so often caricatured

* From the *British Dental Journal*, August 7, 1956.

by our Continental neighbors, derive directly from centuries of practice in good table manners, chronic adenoids apart. That constricted upper jaw, with its protrusive incisors, often denotes a man of good breeding, a gentleman who, like his forebears, has long tried to eat with his mouth closed.

Less altruistic orthodontists might encourage these refinements or behaviour. The rest of us should subdue their sensibilities, advise little patients and disciplinarian mothers to indulge in vigorous, lusty open-mouthed eating. If dental degeneracy is not to continue as an endemic racial condition, bad manners must make way for good teeth. Even Gladstone's biting of each mouthful seventy times cannot be achieved to much advantage behind closed lips. As a nation we have learned well how to keep a stiff upper lip, but have done ourselves great dental harm by continuing the habit at meal-times.

For dental historians a fruitful field of research lies in records of the growth of our good manners. Those related to the degeneration of our teeth may reveal fascinating, even useful data. For example: Erasmus, not so intellectually superior as to consider himself above trivia of daily affairs, published *De Civilitate*, an excellent and contemporaneously popular manual of civility and deportment. In it he advises young men not to clean their teeth with a knife at table. A most unfortunate prohibition, though forgivable in one who knew nothing of oral hygiene. Since few people then cleaned their teeth at all, it would have been better to allow them to use a knife than suffer the subsequent, and probably inevitable caries. No doubt fewer of our countrymen would now be edentulous or as shamefully amalgam-ridden had toothpicking, even with so clumsy an instrument, remained an accepted practice. As it was we later became so genteel that even the Continental, well-designed toothpick is now frowned upon. I sometimes wonder whether it is more ill-mannered to pick one's teeth than to talk to people over septic gums and foul, carious teeth. Certainly it should be more shameful to wear dentures than to indulge in prophylactic picking, even at table.

Apparently the habit of using the knife was common enough, for Howe Rhodes in 1554, among many others, insists that it ill becomes young gentlemen so to use their knives. What a pity these arbiters of good taste had not heard of the Arab's ceremonial toothpick

(*Siwak*). They might so easily have introduced that elegantly carved instrument to England, thus establishing simultaneously a fashion and a valuable routine of prophylaxis. As it was, manners improved and health deteriorated. Admittedly William Vaughan in his *Directions for Health* (1602) insisted that teeth should be cleaned after every meal. But, as we are now told, unless they are virtuously cleaned within ten or twenty minutes of eating, the ritual is ineffective. Nor is the present state of British teeth evidence that Vaughan's advice was widely heeded.

I hesitate to suggest that toothpicking should be reintroduced at our mealtimes, or that the knife be used for this purpose. (Modern knives anyhow being ill designed for useful, interdental cleansing.) It is however, easier to accept strange, even distasteful habits than sensitive people like to believe. At the court of Louis XIV, where strict etiquette, if not perfect manners, was enforced, "after every meal" Harold Nicholson tells us in *Good Behaviour*, "the men would gargle with scented water, spitting it out into their finger bowls." St. Simon speaks of "that busy moment of confusion after a meal when everyone is busy washing out their mouths." Doubtless a somewhat revolting spectacle and, as a hygienic measure far less useful than toothpicking. Yet I am sure even well-bred Englishmen could learn to accept such a ritual without disgust, or with as little concern as is occasioned by the present deplorable state of their teeth.

Nor was it only the seventeenth century which presented these unpleasant though useful indelicacies. "I have myself," continues Harold Nicholson, "at the Cercle de l'Union in Paris, witnessed elderly senators using their *rinse-bouche* with clamour but no shame." What a spectacle, my colleagues! A Torrent of Rinsers performing their ablutions, not in our surgeries, but in full view of all. Magnificent! That French teeth are far better than our own may be due to profounder causes than use of the *rinse-bouche* or toothpick. We might, however, approach nearer to dental perfection if our table manners were less fastidious, especially as in other ways of caring for our teeth so many of us are still almost mediaeval.

Nor can we object to a return to bad behavior at table on grounds of their unacceptability. In a few short years we have accustomed ourselves to the sight of countless people sucking ice creams in the streets, and our ears to that same noisy performance in cinemas. Few

of us now recoil when confronted with a mouth of chewing-gum, often open and usually less graceful than a cow chewing cud. All these things are a matter of usage—Edward IV had a bath only on Saturday night, and then merely washed his feet and hair—We may shudder to think of a king so unclean. He might well have shuddered more violently had he seen the mouths of his people five centuries later.

I do not expect to see dental health education seriously changed in its approach as a result of these considerations. I do not believe that the Central Council for Health Education will be moved to advise our public to adopt such retrograde manners as eating open-mouthed, tooth-picking at table or gargling with water from finger bowls. Neither would the advice be of much value, other of our dental habits being what they are. Yet withal, one of our more erudite research workers might profitably take a few hours respite from his microscope to study the effect upon teeth of manners—in my opinion most harmful.

Pause to reflect, my well-mannered colleagues, how useless teeth have been rendered by "better" living. In the kitchen a diet is prepared which needs no effort to masticate. Suet puddings, minced meat, stewed fruits, cereals—a vast assortment of foods which could be injected subcutaneously as easily as taken by the mouth. (From Monday to Sunday we eat little requiring mastication. If meat demands an effort of chewing the butcher or chef is blamed.) Then with knife and fork, implements of our progress in refinement, we further disintegrate our feed before it reaches our teeth. ("Louis XIV was so irritated by the clean feeding of Mme. de Thianges . . . 'who always used her fork,' that he told his valet to put hairs into her plate.") Finally we give a predigested mouthful of food two squeezes with teeth or dentures, gulp it down, satisfied that we have eaten a meal. In fact we have only ingested it. Where in all this strange procedure of habit and manners teeth perform their natural function it is hard to discover. As J. G. Turner remarked many years since, most of us could manage as well without teeth. Nor will it be long before we will have to. Should we be wrong in amending the epigram to read "Manners Makyth Man Edentulous"?

Brekhus of the U.S.A. improved the coefficient of mastication of a controlled group of dental students by simply making each chew a

half-inch cube of paraffin wax one hour a day for fifty consecutive days. These chewers averaged 23-26 lb. per square inch better than the non-chewers, and an increase of bite strength was shown in 87 per cent of them. A notable, a significant achievement, and not too irksome an experiment where chewing is regarded as a pleasurable habit. It might be deduced from this that the bovine chewing of gum is a beneficial exercise, as indeed it is. Unhappily, habitual gum-chewers impair the value of the ptyalin in their saliva, so inducing dyspepsia. One cannot therefore compromise by advocating gum while retaining good table manners. There is, in fact, no tolerable alternative to open-mouth chewing. After all, Mother Nature knows best!

Likewise Neumann and Disalvo reduced the "rate of caries" in a large group of children by use of a "specially prepared substance consisting of resin base requiring considerable effort in chewing." I hazard a guess that neither of these results was produced by genteel, closed-mouth mastication. Not if I know my gum-chewers. We are thus forced to an unpleasant conclusion. Good table manners and good jaw development are unlikely to exist in the same person. Unhappily, most of our diet, as I have shown, could be as well taken without jaws. Time may find us ingesting our nourishment amœba-like, by merely enveloping it with any part of our bodies sufficiently mobile.

No one would wish to propose a further lessening in quantity or quality of our good manners, already fast vanishing. In an age almost entirely lacking charm or grace, good manners come, when they come at all, like a refreshing summer breeze. Yet dentists, when they ponder upon the problems of dental disease—as undoubtedly they do during quiet evenings when the TV fails—cannot logically overlook the relationship between dental physiology and over-refinement in table manners. Nor can they, as guardians of public health, neglect their duty to expose to parents such dangers as lie in closed-mouth eating and like refinements. After that the choice must fall on the parents—delicately behaved children with crowded arches and years or orthodontia, or crude little creatures, disgustingly—albeit naturally, chewing an all-too-visible bolus of food. I pray I will not be suspect of ulterior motives, of gainful artfulness if I admit to a preference for good manners.

Demonstrations*

AT ANNUAL CONFERENCES, and sometimes at Branch and Section meetings, there may be seen the Demonstrator, working in a twilight world half-way between the glare of the public platform and the seclusion of the intimate circle. He is an exceedingly useful member of our community for several reasons. He propounds new ideas and shows new techniques in a far more intimate way than can be done by book or lecture; he discusses finer points at length with those who seek either knowledge or the opportunity to argue; he provides an occasion of value not only for the erudite but also for those of us who wish to move in academic circles without the tedium of attending a lecture or reading a book. Demonstrators in the mass cater for a wider range of interests than do any other type of instructor.

The life of the demonstrator is not an easy one and its difficulties vary with the manner of demonstration. A wide range of demonstration technique exists, dependent upon the subject and the views of the demonstrator, ranging from the simplest to the most elaborate. There is the simple style consisting of a series of pictures with explanatory legends and notes displayed on a suitable background. This often needs considerable thought and takes a long time to prepare, but once set up most of the demonstrator's troubles are at an end. Sometimes he stands on one side waiting for intelligent questions from interested visitors; frequently he removes himself to some quiet spot where he seeks inspiration for his next endeavour; in either case he is usually free from lengthy discussion or argument and can enjoy his demonstration in a philosophical manner.

At the opposite end of the scale is the demonstrator of complex apparatus and devices. He arrives with yards upon yards of electric cable of varying colours and thicknesses. This, together with an assortment of transformers, resistance, and, if possible, batteries and wet cells, he proceeds to arrange in a complicated design, together with a variety of associated objects. If he can also employ running water his job is complete. He remains at his post, impervious to heat and indifferent to thirst and outlasts a long succession of interested

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spectators who stay until physical weariness and the need for refreshment compel them to move on.

The various grades of intricacy of apparatus are served by a variety of demonstrators. There is the old-timer who has been doing this sort of thing for a long while and will continue while health and strength last. He is dismayed by nothing and nobody for he has demonstrated under all imaginable conditions to all sorts of audiences. He has additional lengths of wire if he is unusually far from the supply of electricity; he has plugs of antique shape and size to fit old-fashioned sockets; he is prepared for odd voltages; he can utilise an assortment of tables of varying height and width; neither darkness nor draughts distract him; he encourages the timid enquirer, discusses at length with the colleague of similar turn of mind, and deals promptly with the perverse; he likes to keep a continuous audience and never notices the clock. Beginners may have all these admirable characteristics in embryo but only time, courage, and the overcoming of a long series of disappointments and disasters will bring them to full term.

Behind any demonstration meeting of any size stands the Demonstration Committee and the difficulties the members of it have to solve are legion. Space, light, power points, plumbing, tables and programmes are by no means the full list. Duplications, omissions, costs, personalities and idiosyncrasies, all contribute their quota, and the calm orderliness of most of our demonstration meetings is a tribute to those who arrange and conduct them.

As in many other activities a useful, smooth-working demonstration hides, by its excellence, the fact that very many hours have been spent in producing it. Time, thought, skill and money may have been liberally expended but because everything goes well the audience does not realise the difficulties which have been encountered. This is of course to be expected and it applies in many other spheres of endeavour, but that should not prevent us from occasionally giving thought to these matters and expressing our thanks for the labours of so many of our colleagues who work both before and behind the scenes for our edification.

Standing Committees 1955-1956

Auxiliary Dental Service

ETHELBERT LOVETT, *Chairman* 1956
MERRITTE M. MAXWELL, 1957
Vice-Chairman
PAUL L. CHEVALIER 1958
ALLISON M. STINSON 1959
FRANCIS B. VEDDER 1960

Continuing Educational Effort

WILLARD OGLE, *Chairman* ... 1956
CYRIL F. STRIFE, *Vice-Chm.* .. 1957
GEORGE W. REDPATH 1958
LESTER E. MYERS 1959
AMBERT B. HALL 1960

Education

ROY G. ELLIS, *Chairman* 1956
PHILIP E. BLACKERBY, JR. .. 1957
FRANCIS J. CONLEY 1958
HARRY B. MCCARTHY 1959
WALTER A. WILSON 1960

Financial Support for Dental

Education and Research

FRED B. OLDS, *Chairman* 1956
LESTER W. BURKET, *Vice-Chm.* 1957
DOYLE J. SMITH 1958
CLEMENS V. RAULT 1959
JACK M. MESSNER 1960

Health Relationship

JOHN STEEN, *Chairman* 1956
WILLIS R. OSMUN, *Vice-Chm.* 1957
JAMES E. JOHN 1958
DAVID W. BROCK 1959
RAYMOND J. NAGLE 1960

Human Relations

WILLARD C. FLEMING, *Chm.* .. 1956
HARRY S. THOMSON, *Vice-Chm.* 1957
HAROLD H. HAYES 1958
PERCY G. ANDERSON 1959
FORREST OTT MEACHAM 1960

Journalism

LEROY E. KURTH, *Chairman* . 1956
T. F. MCBRIDE, *Vice-Chairman* 1957
HARRY LYONS 1958
W. W. MACQUEEN 1959
CHAS. A. SCRIVENER 1960

Preventive Service

WALTER J. PELTON, *Chairman* 1956
RUTH MARTIN, *Vice-Chairman* 1957
D. ROBERT SWINEHART 1958
DOROTHEA F. RADUSCH 1959
RUPERT H. GILLESPIE 1960

Prosthetic Dental Service

HERBERT L. ESTERBERG, *Chm.* 1956
LUZERNE G. JORDAN, *Vice-Chm.* 1957
ALLISON GALE JAMES 1958
VICTOR L. STEFFEL 1959
ALBIN W. RAUCH 1960

Public Relations

ALLEN O. GRUEBBEL, *Chairman* 1956
KENNETH R. GIBSON, *Vice-Chm.* 1957
MARION F. JARRELL 1958
EDGAR DEWEES BAKER 1959
JAY H. ESHLEMAN 1960

Research

THOMAS J. HILL, *Chairman* .. 1956
MYRON S. AISENBERG, *Vice-Chm.* 1957
WILLIAM G. MCINTOSH 1958
MAYNARD K. HINE 1959
THEODORE E. FISCHER 1960

Socio-Economics

THOMAS R. MARSHALL, *Chm.* 1956
DONALD H. MILLER, *Vice-Chm.* 1957
WILLIAM B. RYDER, JR. 1958
RICHARD C. LEONARD 1959
OBED H. MOEN 1960

Student Recruitment

RALPH J. BOWMAN, *Chairman* 1956
FRANK P. BOWYER, JR., 1957
Vice-Chairman
J. WALLACE FORBES 1958
FRANK J. HOUGHTON 1959
O. M. DRESEN 1960

Necrology (one year appointments)

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C. WILLARD CAMALIER
LOWRIE J. PORTER

Nominating (one year appointments)

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*"Every man owes some of his time
to the upbuilding of his profession."*

—THEODORE ROOSEVELT

