THE JOURNAL OF THE AMERICAN ACADEMY OF GOLD FOIL OPERATORS

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In order to be considered for publication all articles must be submitted typewritten and double spaced, at least three months prior to the date of publication. Papers presented before any of the Academy meetings will become the property of the Academy and will be published in the *Journal* as time and space will permit.

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THE PRESIDENT'S MESSAGE

The Interim Meeting for 1962 is now history. Our Chicago registration was large, but I feel a fleeting sense of frustration that all of the loyal and devoted members across this broad land could not participate in our splendid meeting.

The aims and purposes of this Academy, made up of strong men dedicated to fundamental procedures and enduring gold foil restorations, are largely being accomplished in a two-fold manner.

First, the attainment of excellence in the performance and knowledge displayed among our members as evidenced at our two meetings held each year. The high quality of our clinicians and essayists with their illustrated lectures together with the research reported by many of our gifted members, all have contributed to the individual stature of members of this Academy.

Second, the Academy has with equal fervor sought to influence the profession at large with these same ideals. This year at Chicago our morning session was held jointly with the American Association of State Board Examiners. There seemed to be a warmth and kinship between this Association and our Academy motivated by a desire to encourage by practicing and teaching excellence in operative procedures. Also, at our Interim Meeting the senior students of Loyola and Northwestern Universities were our guests. This undergraduate program is now a custom at all meetings.

Constant and startling progress is taking place within the committees of the Academy. Noteworthy is the announcement from the State Board Committee that there are three more states requiring the gold foil operation as part of the State Board Examinations, with three more seriously considering this requirement. There are several new gold foil study clubs in the formative stages and much enthusiasm toward building others.

To the sponsors of new members let me say this: candidates who in all fairness cannot qualify in the spirit and letter of our constitutional requirements for active membership should be proposed as associate members. Thus they may absorb by association and ready themselves for active participation later.

Fifty warm letters of appreciation, some with a personal touch, were received from the deans of dental schools for the gift to their libraries, the *Atlas of Gold Foil and Rubber Dam Procedures* by Ingraham, Koser and Quint. While presented by the Academy this gift was made possible through the cooperation of the publishers.

Plan now to attend our Annual Meeting in Birmingham, Alabama in October next. This is on your way to Miami and the American Dental Association Meeting there. Please keep in mind that our Interim Meeting in February 1963 will be held slightly east of Chicago, at the University of Indiana. Plans are well developed for these two meetings.

And now a closing wish for all of you. As the snows, the storms and blizzards of this winter dissipate and melt away into spring, may you find yourselves refreshed by a tranquil summer.

George A. Ellsperman
620 Herald Building
Bellingham, Washington

OFFICERS 1961-1962

President

George A. Ellsperman

"Just listen to your Uncle George" has been a favorite expression this year in the Academy. Dr. George A. Ellsperman has carried the fine procedures which he uses in his office in Bellingham, Washington, into the administration of his duties as President. Since 1917 when he graduated from the University of Southern California College of Dentistry, George has accepted responsibility as a leader in his profession. He was a member of the Washington State Board of Dental Examiners in 1923 and served two terms on the executive council of the Washington State Dental Association, beginning in 1920 and again in 1929. In 1928 he served as President of the Whatcom County Dental Society and became the President of the Washington State Dental Association in 1931. He has always stressed fine gold foil procedures and has presented clinics not only in various parts of the continental United States and Canada but also in Europe and in Hawaii. He has published many papers during his years of practice and in addition has met the test of a truly capable dentist by doing chair demonstrations of fine gold foil procedures. His teaching has also been of a more formal nature, for he has given postgraduate courses in gold foil work to initiate the organization of new gold foil study clubs. At the present time he is the instructor of the Vancouver Ferrier Study Club and is a guest lecturer in Operative Dentistry at the University of Washington.

George has been a member of the Seattle Dental Study Club since 1922. His numerous contributions have been recognized by his election to the American College of Dentists, Omicron Kappa Upsilon, the International College of Dentists, the American Academy of Restorative Dentistry and the group known as C.A.I.C. With his hobby of bird hunting and his skill as a yachtsman, George has somehow found time to keep up his civic duties by serving as a member of the Bellingham Chamber of Commerce.

The Academy is honored and fortunate to have as its President a man of such skill, enthusiasm and organizational ability.

President-Elect

Henry A. Merchant

Henry A. Merchant, D.D.S., Creighton University, Dental School, 1913. American Dental Association; American Denture Society; American Society of Dental History; Omicron Kappa Upsilon; American College of Dentists; Life Member, Woodbury Study Club; Director, Research Gold Foil Study Club; Past-President, Nebraska State Dental Society.

Secretary-Treasurer*

Charles C. Latham, D.D.S., University of Southern California Dental School, 1923. American Dental Association; Southern California State Dental Association; Past-President, San Diego County Dental Society; American Academy of Periodontology; San Diego Academy of Medicine; Staff Member, Coronado Hospital; Staff Member, Rockfield Field Army Hospital; Assistant Director, John C. Metcalf Gold Foil Seminar; Past-President, Rotary Club.

Charles C. Latham

* Deceased.

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FORTHCOMING EVENTS

1962

October 25. Executive Council Meeting.

October 26. Birmingham, Alabama. The Eleventh Annual Meeting of the Academy to be held at the University of Alabama, School of Dentistry, 1919 7th Avenue, South. Details and preliminary program will appear in the next issue of the *Journal.*

October 29-November 1. Miami Beach, Florida. American Dental Association Meeting. Requests for hotel reservations should be made on the application form directly to the American Dental Association Housing Bureau.

1963

February 1. Interim Academy Meeting. A one-day meeting to be held at Indiana University, School of Dentistry, preceding the Chicago Mid-Winter Meeting.

In Memoriam

Dr. Charles C. Latham

A real humanitarian, a devoted family man, a true friend, a dedicated dentist, and a community leader — these are some of the terms which describe Charles C. Latham.

Having been born in the rural community of Lemoore, California, in 1898, his great love for the outdoors was created at an early age. Throughout life he continued as an ardent hunter and fisherman. His other principal hobby was golf, where his proficiency won him numerous championships and trophies.

Dr. Latham graduated from the College of Dentistry, U. S. C. in 1923 and came to Coronado the following year. He practiced dentistry continuously on the "Crown Island" until his retirement in 1955.

Charlie Latham was always a respected and true leader; a charter member and past-president of the Coronado Rotary Club; a life member and past-president of the San Diego County Dental Society; a charter member and past-president of the San Diego Gold Foil Study Club; and for 3 years until the time of his death the Secretary-Treasurer of the American Academy of Gold Foil Operators, a position he accepted even after he had retired from the active practice of dentistry. He also served for several years as an instructor for the John C. Metcalf Gold Foil Seminar Group. His other associations and accomplishments are too many to list. Suffice it to say that his sincere dedication to his community and to his profession created an outstanding example for all to follow.

In spirit Charlie Latham will live forever in the hearts of those who knew him. In his quiet unassuming way he instilled a confidence and dedication for good dentistry in both patients and other dentists during his 32 years of practice.

"Our thoughts for Charlie shall e'er be strong; for it's not goodbye—but just so long."

Surviving Dr. Latham are his wife Helen, daughters Virginia and Betsy, 6 grandchildren and his brother Lyman.

THE CHALLENGE OF OPERATIVE DENTISTRY*

Lee A. Counsell,** B.A., D.D.S., Chelsea, Massachusetts

To anyone seriously interested in the practice of operative dentistry,[1] it is disturbing to observe so many young dentists striving to avoid it. Who has not heard the derogatory expressions so often used to describe this vital area of dentistry, and has not blenched at the thoughtless disparagement and uncomplimentary connotations? The fact that these shopworn clichés are often glibly spoken in jest does not excuse or sanction them, least of all when spoken by dentists. No less grievous is the "short-cut" approach to restorative dental services, and with it the inevitable backwash of inadequate treatment, lost teeth, disgruntled patients, and disillusioned dentists. There is, also, the intramural discord exemplified by the wasteful ferment between the schools of the research minded, the so-called theorists, and those of the more technically oriented, each group viewing the other with misgivings and even disdain.

Why is it that the area of practice we know as operative dentistry is so often regarded as the "ugly duckling" of the dental family, the least honored, without a cognizant specialty board, abandoned by degrees for the established specialities by as many as have the wherewithal to do it? Is it that the body of knowledge in the field is not great enough to warrant a certifying authority, or that the spectrum of operative procedures is not sufficiently comprehensive, or is too simple, or is not sufficiently vital? Is it agreed that operative dentistry can be adequately practiced by any and all without benefit of serious or intensive postdoctoral study? The questions are rhetorical in a sense and yet they cry out for emphatic answers.

Assuming that the student was well motivated to begin with, which, unfortunately, is not always the case, the solutions lie largely in the quality of dental school teaching, the quality and extent of the pre-professional preparation, and, perhaps most critically of all, in the examples, for better or worse, set by practicing dentists. Students of operative dentistry, whether at the undergraduate or the graduate level, require the same enlightened, scholarly instruction, the same inspiration as do students in any exacting field. Indeed, these are the very facts which make high quality teaching by devoted teachers the more necessary. The day-to-day practice of operative dentistry in its fullest extent is no place for the indifferent, the complacent, the unobservant, the casual.

*The opinions or assertions contained in this article are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

**Commander, Dental Corps, United States Navy.

[1]The term "operative dentistry" is used in this paper despite its shortcomings, because no substitute term has yet been given broad acceptance by the dental profession.

A teaching objective of first importance should be the cultivation of a thinking pattern or fundamental attitude within the dental student and recent graduate wherein the practice of operative dentistry is regarded as a clinical discipline whose major aim is that of preserving the human dentition in health and function with an emphasis on prevention.

In this context, the technical procedures involved in achieving this difficult and often elusive objective become means rather than ends in themselves. In cultivating an outlook within the student based upon such a concept, technical procedures assume a planned relationship to the dynamics of function rather than a chance relationship, or worse, no relationship at all. It will be seen, moreover, that every procedure must be predicated upon basic biological and physical principles if it is to serve its ultimate purpose: preventing, arresting or correcting a progressive disease process; specifically, the most prevalent disease in this country. It is this marriage of biological and physical precepts in the treatment of disease, one utterly dependent upon the other, requiring a degree of technical skill for their expression in therapeutics, which is the quintessence of that area of dental practice embraced by the term "operative dentistry."

The operative dentist must be skilled, resourceful, perceptive; he must be able to translate a preconceived mental image into visible reality. While the ability to do this represents no mean accomplishment in itself, yet, unless the practice of this hard-won ability is related to the treatment needs of the total patient and the uncompromising demands of function, it represents the skill of an artisan and nothing more. In no other single sphere of dentistry are the skills and knowledge of other dental specialties so sharply focused as they are in the practice of operative dentistry.

Perhaps the best example of this interdependence is the relationship between operative dentistry and periodontics. Restoration of teeth to health and function simply cannot be accomplished without a lively, pervading appreciation for and understanding of the meaning of periodontal health. Indeed, the alert operative dentist is in a position to recognize, intercept and prevent a high proportion of periodontal disease if he is practicing operative dentistry in its fullest sense.

Likewise, and no less importantly, the operative dentist must cultivate within himself a keen sensibility for pulpal response to mechanical operations on the teeth if he hopes to attain a measure of success in achieving the aim of his practice. To the same degree that he learns to respect and to understand the nature and reactivity of the dental pulp in response to a great multiplicity of operative procedures—to that same degree and no more, he will also prevent pulp pathosis or establish a favorable climate for its resolution, when it is not already irreversible. The most expert operator will fail in his labors to restore teeth to health and function, however well-intentioned his efforts, unless he has subordinated the execution of operative procedures to a basic and discerning comprehension

of the underlying requirements and limitations imposed by the dental pulp.

In the field of orthodontics, the operative dentist must ever be on the alert to recognize actual as well as latent orthodontic problems during growth, some requiring treatment, some not. Important as this function of recognition and interception is, and while many operative dentists have spared their young patients much hardship and anguish in later life, through timely referral, still many others have let countless young patients grow into adulthood with never a word of warning of impending functional or cosmetic problems related to tooth alignment, occlusion and jaw relationships.

Probably all dentists have recoiled inwardly, at one time or another, at the question, "Are you a doctor or a dentist?" If the reasons for this tacit distinction in the lay mind were sought out, one of them would most certainly turn out to be the restricted concern of some dentists with the execution of technical operations upon individual teeth. Sometimes it would almost seem that the dentist has forgotten that a living human being is attached to the tooth upon which he may be operating. Moreover, preoccupation with the development of speed in operating can easily blur and disorient the over-all perspective. This is not to say that cultivation of technical skill and expeditious operating practices is undesirable—quite to the contrary. Both attributes are among the hallmarks of any good dentist.

When we lose our concern for people and become distracted by the acquisition of operating speed for its own sake, and when we confine our vision to the teeth alone, out of context with the treatment needs of the patient, we cease being dentists in the doctoral sense and become technicians, apparently unaware of our real objectives. Far from decrying the attainment of excellence in the efficient execution of the technical phases of operative dental treatment, a philosophy of, or approach to, clinical practice wherein technic is a means to an end, rather than the end in itself, cannot help yielding a quality of practice in which the tangible and visible product not only is more perfect in a technical sense, but also serves a genuinely therapeutic purpose. This is the point at which "fillings" become restorations.

As the practice of dentistry becomes more complex year by year, the challenge to the operative dentist becomes ever more exigent. New knowledge, new and improved technics, new attitudes—all must be studied and evaluated and then selectively incorporated into one's practice. It is up to the operative dentist to lift the theory and practice of operative dentistry to new heights of achievement and service not only within the dental profession but in the total community as well. How well or how ill the operative dentist does this will largely determine the image of all dentists and of dentistry in society. Here lie the real answers to the dilemma of the operative dentist; only he can decide whether he is practicing operative dentistry by choice or by default.

United States Naval Hospital

PRELIMINARY REPORT ON GOLD FOIL STUDY*

Robert B. Wolcott,** D.D.S., M.S., and Gunnar Ryge,† D.D.S., M.S.

Introduction

At the 1959 meeting of the Academy it was decided to undertake a conparative study of methods of condensation of gold foil alone and in combination with mat gold.

Sixteen members of the Academy participated in the first phase of the study. They were selected at random to operate under the following experimental conditions:

(1) mat gold and cohesive gold, hand condensation
(2) mat gold and cohesive gold, high frequency condensation
(3) all cohesive gold, hand condensation
(4) all cohesive gold, high frequency condensation.

Kits with materials, instructions, and questionnaires were distributed to each participant. Each participant condensed 4 specimens, 1 x 2 x 12 mm., in a lucite mold. The following tests were performed:

(1) visual inspection and photographic recording of mold surfaces and edges
(2) Knoop hardness determination
(3) bending strength determination.

Results

The visual inspection revealed that considerable scoring of the surface areas adjacent to the gold foil specimens was evident in most instances. The degree and prevalence of this scoring merit attention. Two severe examples of this scoring are shown on the attached prints, together with a print of a mold which had been filled without scoring of the surface or margins. Note that one of the molds shows evidence of condenser point indentations in the bottom surface ("pulpal wall") of the mold. (Figures 1, 2 and 3).

Knoop hardness determinations gave values ranging from 44 to 85 (filar units 252-352), but no correlation was found to exist between hardness and materials or method.

The individual differences between operators within each group were larger than the differences between groups. It should be noted, however, that greatest consistency was observed within the all cohesive-high frequency group.

*Conducted under the auspices of the American Academy of Gold Foil Operators.

**Captain, DC, United States Navy, Great Lakes, Illinois.
†Professor and Chairman, Department of Dental Materials, Marquette University School of Dentistry, Milwaukee, Wisconsin.

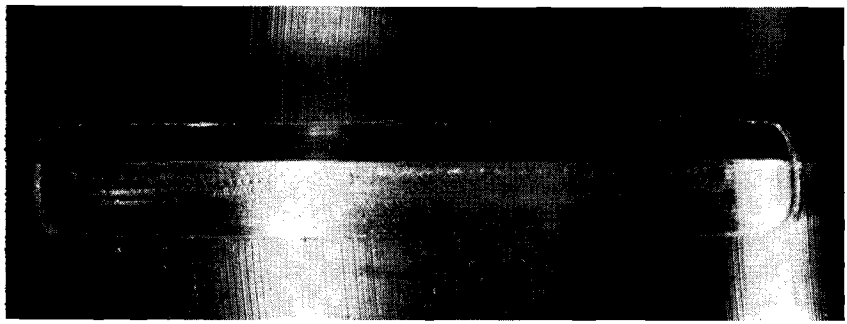

Figure 1

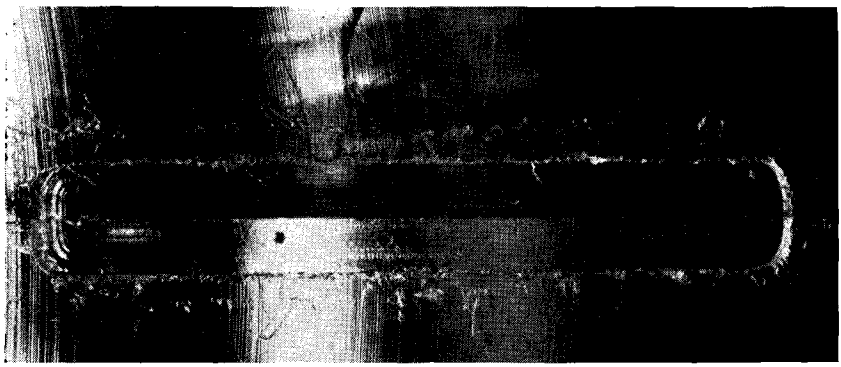

Figure 2

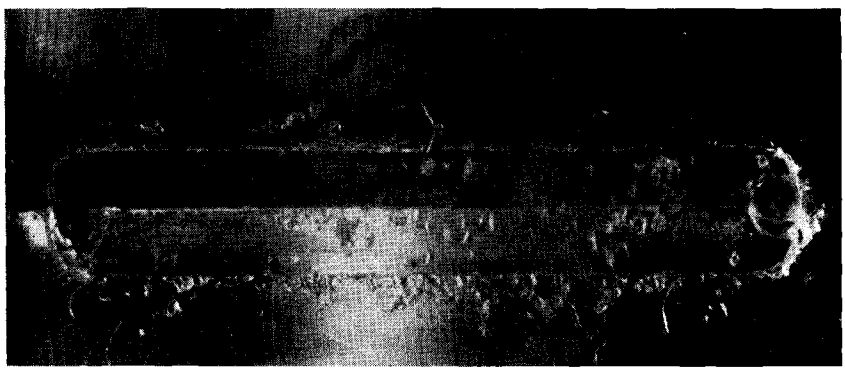

Figure 3

The bending test gave rise to two sets of results, namely, modulus of elasticity (Young's modulus for bending) and ultimate bending strength. Both of these results give information about strength and resistance to occulusal forces. As for the hardness test, a wide range of variation was observed. Modulus of elasticity values varied from 1.1 x 10^6(million) to 3.0 x 10^6(million) p.s.i. (for ordinary dental gold alloys the corresponding values are of the order of 4-5 x 10^6 p.s.i.).

Bending strength values ranged from 4,500 p.s.i. to 30,500 p.s.i., with higher values for the all cohesive gold specimens, as compared with mat cohesive specimens. In general, specimens condensed by the high frequency method had higher bending strength than those condensed by hand. Individual variations, however, were large, and there was a considerable overlapping in the results, so that statistically significant differences could not be confirmed.

The mean values and the coefficient of variation, in percent, for hardness, modulus of elasticity, and bending strength values are given in Table 1 to illustrate the trends of the study. The very large individual variations within groups indicate that further study with several procedures performed by each participant is required in order to establish whether statistically significant differences exist between mat cohesive and all cohesive specimens produced by the 2 condensation methods included in this report.

TABLE 1

	Method of of Condensation	Knoop Hardness	Modulus	Ultimate Bending Strength
Mat + Cohesive	Hand	67 ± 29%	1.9 x 10^6 ± 60%	13,000 ± 68%
Mat + Cohesive	Hi-Fr.	66 ± 21%	1.6 x 10^6 ± 25%	14,000 ± 30%
Cohesive	Hand	69 ± 20%	1.6 x 10^6 ± 28%	16,000 ± 35%
Cohesive	Hi-Fr.	67 ± 19%	1.8 x 10^6 ± 24%	20,000 ± 26%

An analysis of the questionnaires which were returned by the participants gives good clues to the wide variations experienced in the study. Condenser-point areas varied from 0.13 $mm.^2$ to 1.5 $mm.^2$ (av.: 1.0 $mm.^2$); annealing temperatures from 220° F. to 550° F. when alcohol lamps were used, and from 525° F. to 980° F. for electric annealing units. The estimates of percentage distribution between cylinder sizes also showed great variations. Some operators used 85-100 percent of No. 64 cylinders; others, 95-100 percent No. 32 cylinders. A maximum of 5 percent of No. 128 cylinders was used. Most operators using mat gold indicated that 75 percent or more of the cavities were filled with this material, with a veneer of cohesive gold cylinders.

EVALUATION OF RUBBER DAM TECHNIC*

Floyd E. Hamstrom,** D.M.D., Burlington, Washington

It should be emphasized that the treatment of carious lesions by restorative means is surgery. The restorative dentist is operating on living tissue; he must always be aware of this fact and handle the tissues with which he deals with proper surgical technic. It is undoubtedly true that in the past operations on individual teeth were not regarded as highly technical surgical procedures but more as a patch job done on a more or less inanimate portion of the body which might be likened somewhat to the ministrations of a manicurist. The dentist is largely engaged in the practice of surgical procedures and is always conscious that he is working on living tissues which are a definite part of the human mechanism. These thoughts are those expressed by Dr. George Hollenback in his very excellent essay, "The Most Important Dimension." I am sure that Dr. Hollenback intended to imply the use of rubber dam when he wrote of proper surgical procedures.

The most positive relation that we have is the association as members of this Academy. The objectives are very clearly stated in our constitution, which declares that besides encouraging the use of gold foil, we will encourage by practice and by teaching the performing of restorative procedures in the best possible field in respect to operative cleanliness and in this phase of the Academy's program we will utilize as its medium and as its criterion of other materials—rubber dam.

It would seem unnecessary to discuss the merits of rubber dam technic before this Academy, since it has obligated itself to its use in the constitution. Dr. Michael Murray of Omaha, Nebraska in a paper read before this Academy and later published in the *Journal*, very correctly and inclusively pointed out the advantages of its use. The standard for operative cleanliness has been established, but the degree to which that standard is acceptable is most controversial. For all that has been said in its favor, there are some who contend that only 10% of the dentists find it necessary. Of those that subscribe to its use one group will use it 20% of the time, while others will find it necessary on up to 99% of the time.

The importance of its use varies with the operator. The man of one type will say, "I never place the rubber dam for the cutting of cavities, but only for placing the restoration." So here we observe that cavity preparation is neglected in favor of the material. However, there are those who feel that the rubber dam should be

*Presented before the Tenth Annual Meeting of the American Academy of Gold Foil Operators, October 13, 1961, Philadelphia, Pennsylvania.

**Fellow of the American College of Dentists; Member, Washington Gold Foil Study Club.

used in all areas of operative procedures and that its limitations are few. We are then confronted with the thesis that it can or cannot be used and that it is not an obligation for the dentist to use it in all cases of operative procedures. It is these areas of doubt that are disturbing. We must ask ourselves, if it is necessary for the success of an operation in one area, why isn't it required in another? Shouldn't cleanliness be the paramount issue with all of the regions of operative procedures? It is beyond the realm of comprehension that we can be surgically clean in the one instance and not in the other. Its use cannot be good and bad at the same time.

Our perspective changes too as we view the attitude of our dental colleges. The paradox is the same that we find in the profession as a whole. The one school will teach that the use of rubber dam is the basis of all operative procedures and has adopted that standard unequivocally for all of the professors to follow; while others will compromise all down the line to the point that little attention is given to the discretion of the students as to whether they care to use it in the dental school operatory. In some schools the only association with rubber dam is the rare gold foil operation that is taught for state board examinations. It is quite obvious that the attitudes of our dental teaching institutions are not consistent, and that surgical cleanliness is not the basis on which operative dentistry is founded. Surgical cleanliness in our hospitals is standard, no matter in which state the hospital is located, and the teaching of surgical procedures to the medical student is the same, no matter which medical school he attends. Unfortunately, the teaching technics used by various instructors in our dental schools are usually a reflection of his own attitude, and not necessarily of the standard that has been established by the school.

The student is not in a position to exercise judgment as to whether the use of the rubber dam is important, and if a technic for rubber dam has not been firmly established, he will take the path of least resistance and follow the professor that says, "It's all right, but you can get by without using it." The deviation from the standard acts as a deterrent rather than a stimulus. It is very important for the dental student to be placed in a happy, consistent environment, one without conflict or fear, and be inspired by those teachers with whom he has been associated. We must establish a doctrine of principle on rubber dam in all dental schools and mold in our students the determination to use it.

As a former member of the Washington State Board of Dental Examiners, it was my privilege to observe the variety of opinions that existed as to what constituted the basis for operative procedures. It was interesting to note that those applicants possessing a basic understanding of rubber dam technic were equally consistent in all phases of operative procedures, while those not informed on the use of rubber dam were proportionally inferior. As a dental examining board, we felt that it was unfair to an applicant, from a supposedly accredited dental school, to expect him to pass an exami-

nation in the most elementary principles of operative procedure when he had not been adequately prepared. Dr. Goldman, in a recent article in *Oral Hygiene,* blasted the methods employed by the State Examining Boards and advocated reciprocity between the States. Let me remind him that our dental schools are the keeper of dentistry's conscience and the State Boards should never lose sight of their obligation to maintain it. In examining students from all areas of the United States, it was observed that many faults and inconsistencies were present in the technics exercised in the application of the rubber dam. Some candidates believed that it was necessary to ligate all of the teeth in order to accomplish a seal, not realizing that it was painful to the patient and damaging to the soft tissues. They used gingival clamps and separators without the stabilizing influence of compound, unaware that impingement of the soft tissue had occurred and the cementum had been scored. It was quite obvious to the Board that the attitude of our dental colleges toward the use of rubber dam is not consistent.

Beginning with Florence Nightingale's new concept of nursing, hospital care and organization, cleanliness, and kindly treatment of the sick, hospitals have been engaged in a program of continuous improvement. The American College of Surgeons' hospital standardization program, which began in 1918, set professional goals for hospitals to achieve. Great progress has been made in surgical technic and equipment, which must meet the standards set forth in order to merit accreditation. The community has been protected by these developments. By virtue of this standardization, all society has benefited through a reduction in the mortality rate. It was in 1864 that rubber dam was first introduced to dentistry. Vast improvements have been made in the technics for its use, but here the comparison breaks down. Only a small portion of society has benefited from the use of rubber dam, even though we know that the mortality rate in teeth decreases.

Of the seven varieties of rubber dam tested, it was found that the dark extra-heavy, made by Hygienic, is the most suitable. It is tough and does not tear easily and allows for the gentle retraction of tissue. The dark color offers excellent contrast with the teeth and is pleasing to the operator's eyes.

Suitable napkins add to the comfort of the patient. In Figure 1 the top two are cut from outing flannel with pinking shears, while the bottom one is custom made and designed by Dr. Harry True.

The new rubber dam punch made by Ivory is the one of choice (Figure 2), as the goose neck offers ease in centering the holes. Figure 2 also shows three rubber dam clamp forceps that are useful: the regular for most cases; one with long prongs for the placement and removal of clamps on tipped molars; and the straight for the placement and removal of clamps on molars, also with the Ferrier 212 clamp. The straight forcep offers a direct approach which is sometimes advantageous.

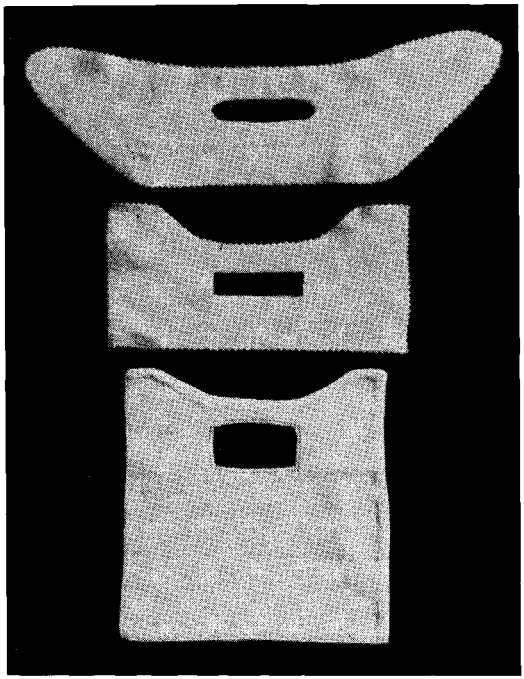

Figure 1

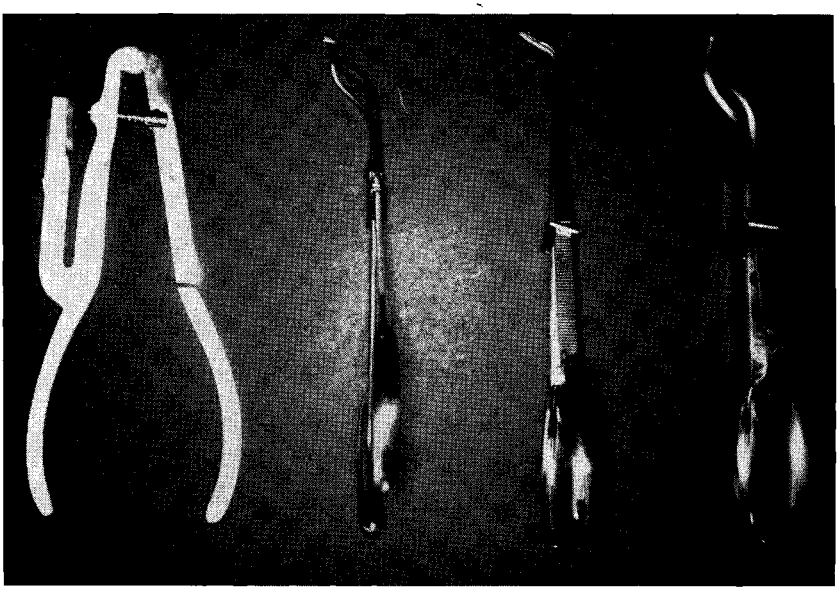

Figure 2

Suitable clamps are necessary in many cases for the successful application of the rubber dam. It is important to remember that often the rubber dam can be held in place without the use of clamps, by passing a short piece of rubber dam in between the teeth to prevent it from slipping off. Clamps can cause much damage when improperly used. With the few clamps that I have for my use, I have found that they must be recontoured, all sharp edges and points must be removed, and the temper destroyed in some instances.

Although there are many clamps designed for the molar teeth, I find that I use the Ivory 8A most often. It is manufactured with or without wings, stainless steel or carbon. I prefer the old carbon steel with the wings. The wings may be cut off and the points recontoured for variously shaped molars and diverse situations (Figure 3). The 8A clamp is used not only as a holding means but also for retraction in the preparation of crowns. It will be found that as the rubber dam retracts the tissue the clamp can be reset; this can be done several times until satisfactory subgingival extension has been reached.

The Ivory 0 and 00 (Figure 4) are utility clamps with many uses. They can be used for the preparation and cementation of ¾ crowns (Figure 5), jackets, bridges, and gingival surface of bicuspids and molars. Adequately supported it has been used for Class V gold foil restorations on molars.

The Ivory 14A clamp is used on partially erupted molars (Figure 6).

The Dr. Arthur Schultz clamps are manufactured by J. W. Ivory, Incorporated (Figure 7). The S1, S2, and S3 are designed primarily for the anterior teeth. The design of the bow offers excellent operating room in contrast to the Ivory 0 and 00 (Figures 8 and 9). Although the 8A shown here can be used in various cases, Dr. Schultz suggests that other 8A clamps be recontoured from the old type 8A clamps.

The Ferrier 212 clamp is redesigned in the manner shown in Figure 10. The labial and lingual jaws are cut to small, medium, and large widths; all sharp points and edges of the jaws are removed. The lingual jaw is heated to redness and allowed to bench cool so as to remove all of the temper. The lingual jaw is tipped up about 2 or 3 mm., so that when the clamp is in position on the tooth the lingual jaw is at right angles to the cingulum. For twisted teeth the jaws of the clamp are treated as before except that the jaws are cut on an angle so that the clamp can engage the tooth squarely even though it is not in alignment with the rest of the teeth (Figure 11). Since the 212 clamp rests on cementum, it is important to remove all sharp edges and also remove sufficient temper so that it does not grip the tooth and score the cementum. Correct placement of compound will stabilize the clamp and support the tooth. A simple method of adapting the compound is to place a small

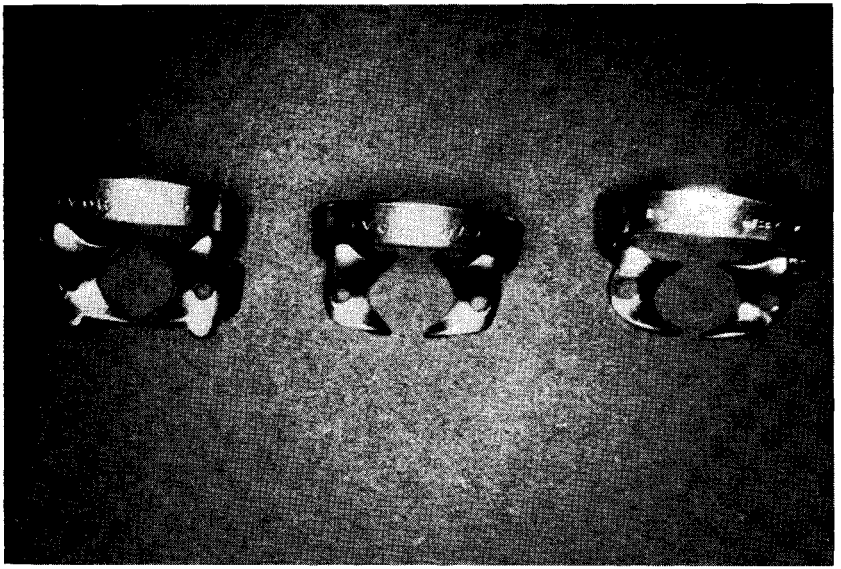

Figure 3

Figure 4

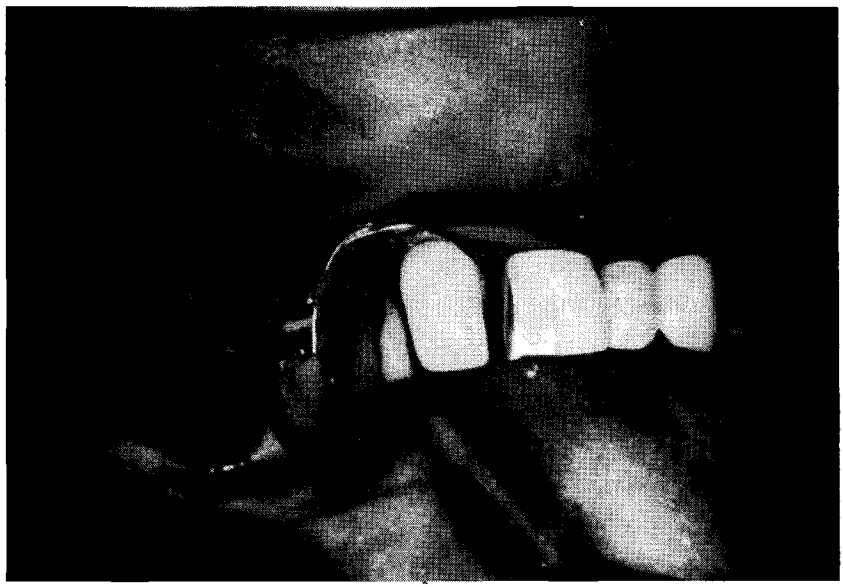

Figure 5

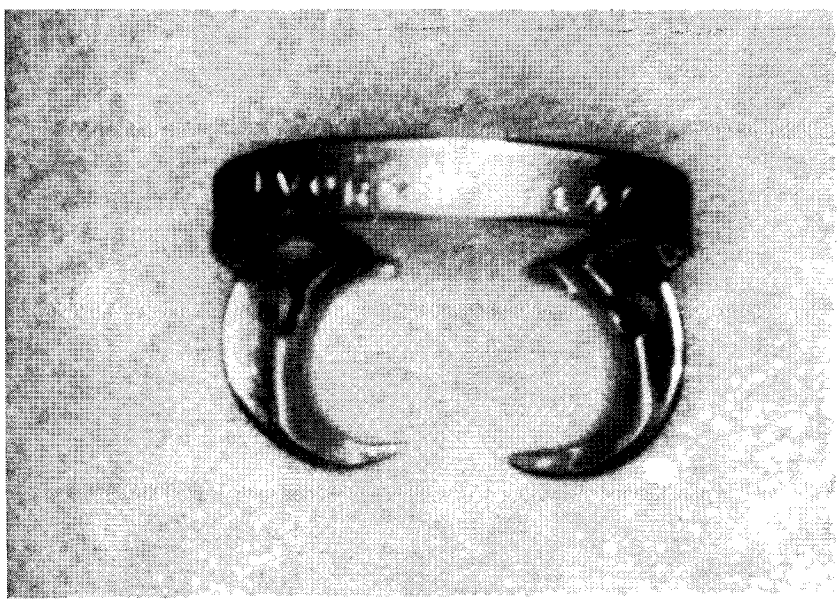

Figure 6

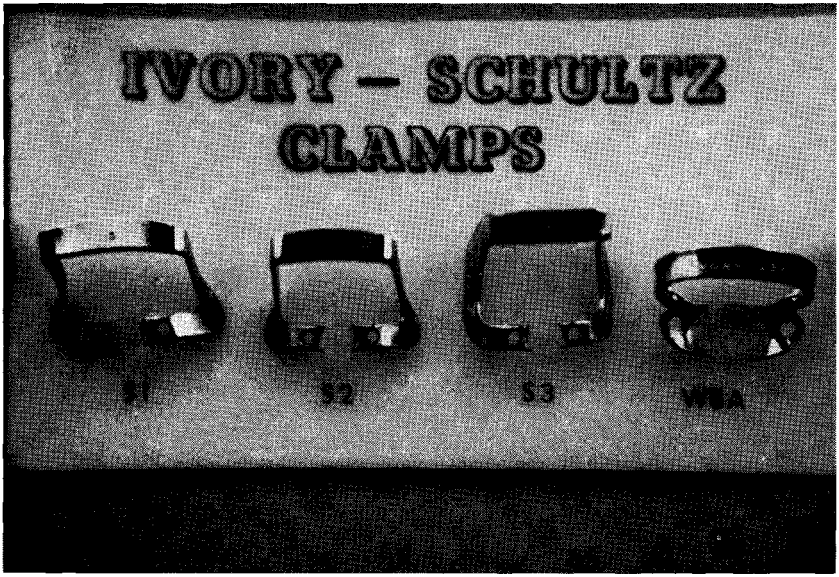

Figure 7

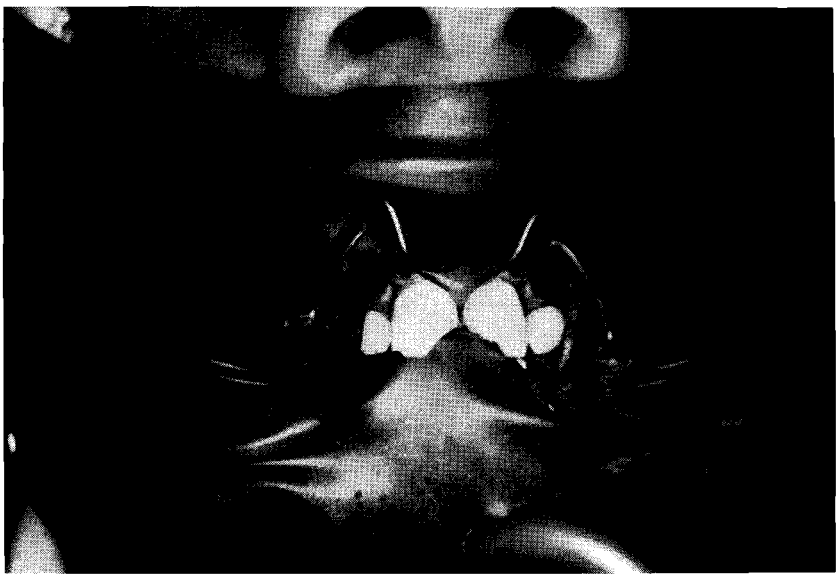

Figure 8

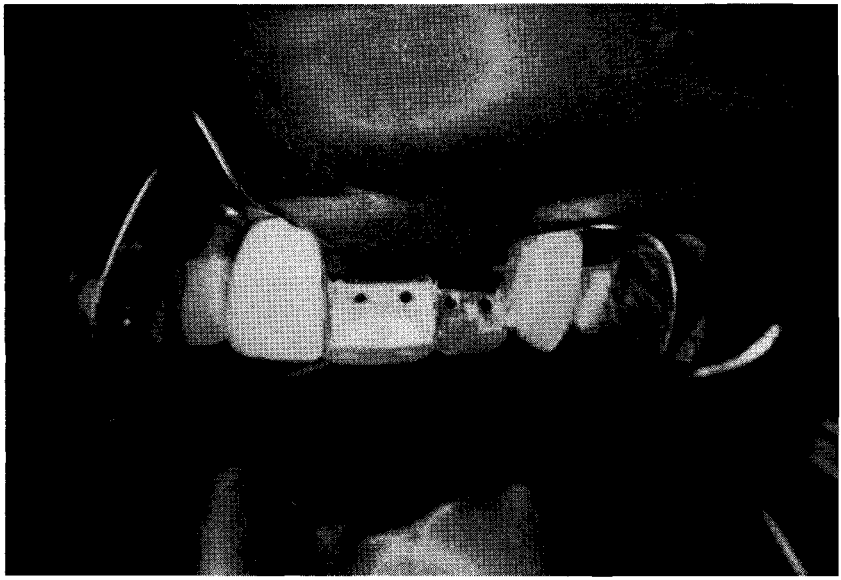

Figure 9

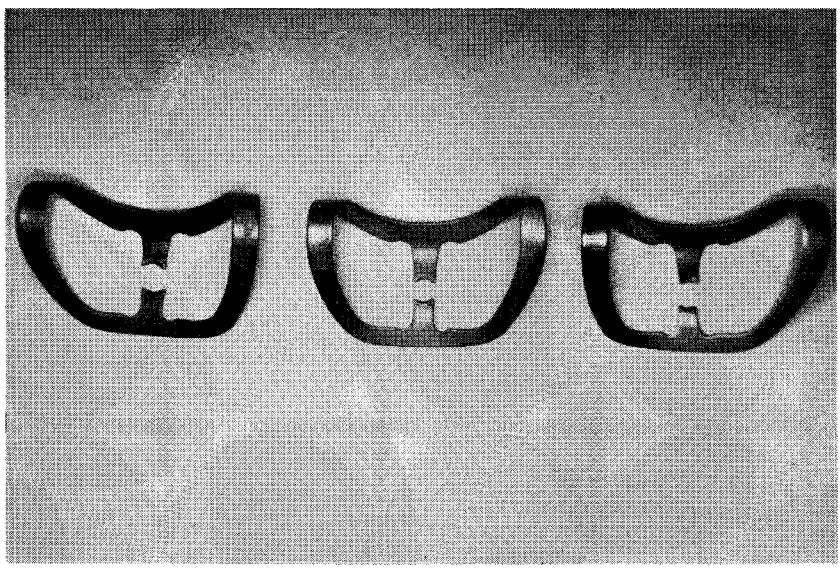

Figure 10

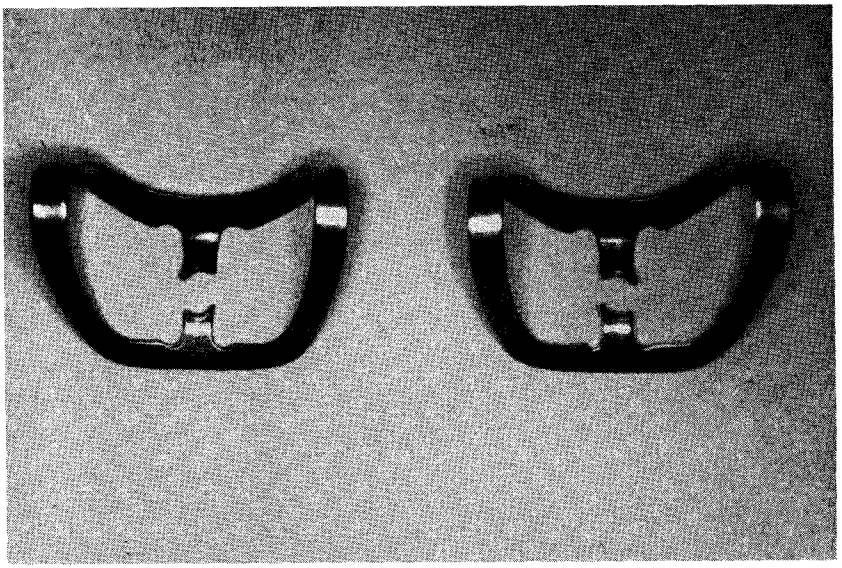

Figure 11

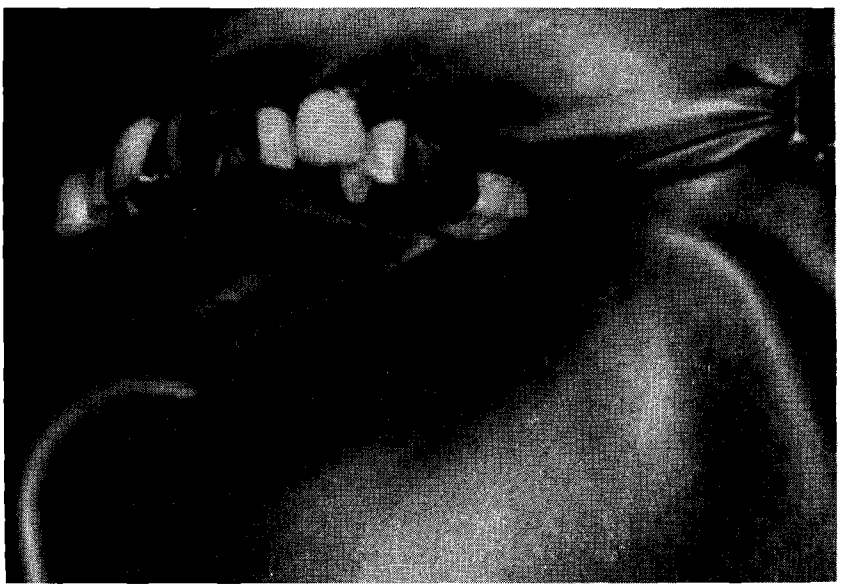

Figure 12

Figure 13

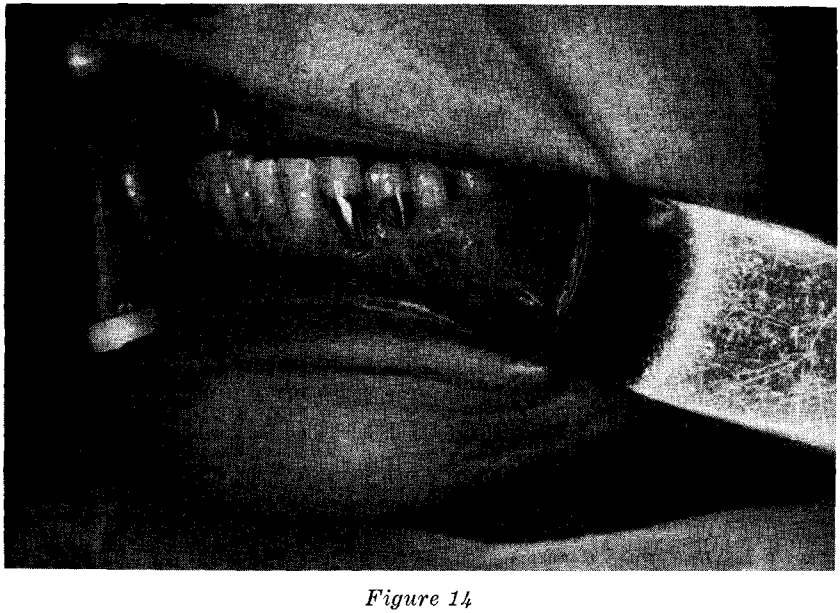

Figure 14

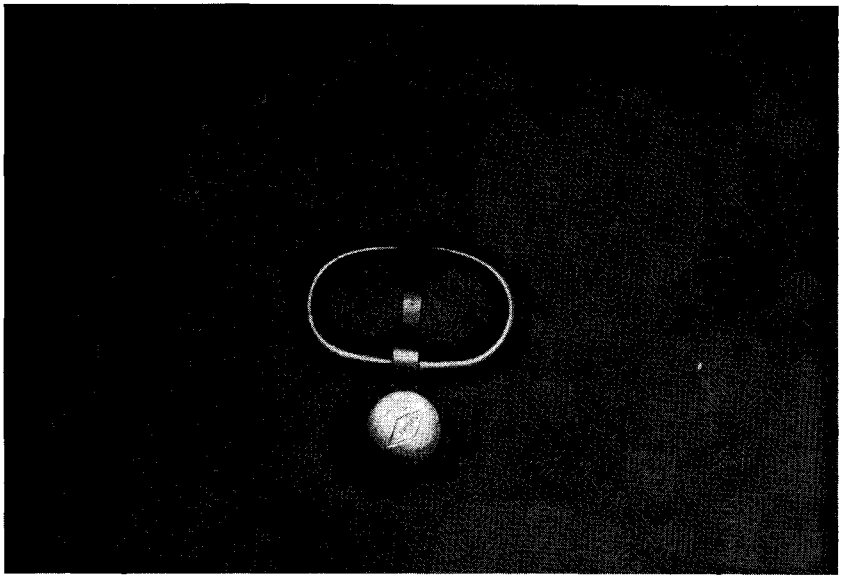

Figure 15

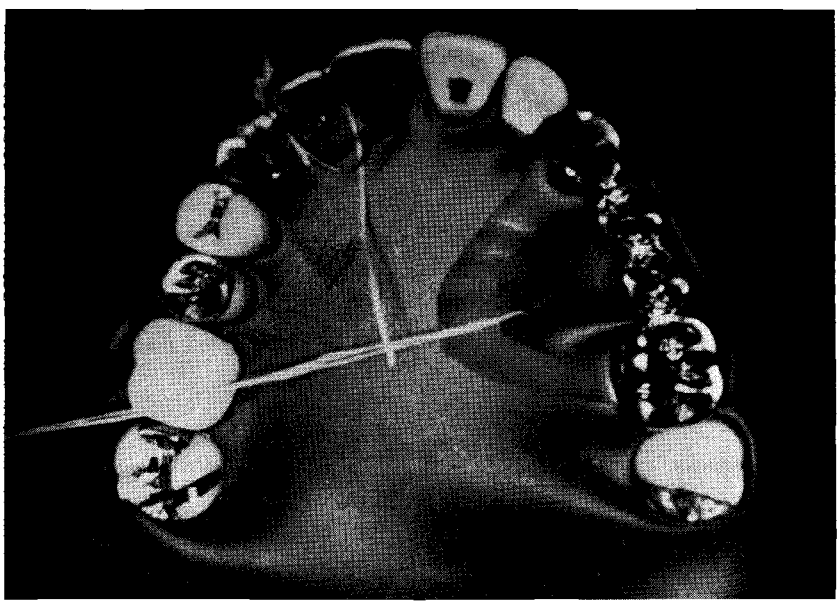

Figure 16

amount of compound into the embrasures before placing the clamp (Figure 12), and attach the second portion after the clamp is in position (Figure 13). Great care must be exercised in the removal of this clamp, particularly after a gold foil operation; it is in this situation that a forcep with long prongs or one that is straight should be used, to prevent the slipping of the clamp from the prongs of the forcep.

Occasionally, a clamp is needed where the lesion extends gingivally to the point where the Ferrier 212 cannot be used (Figure 14). The modified Hatch clamp, manufactured by Clev-Dent, can be used since it does not have any bows (Figure 15). A piece of carbon steel is soldered to the labial prongs and reshaped the same as the labial jaw on the 212 clamp.

Two methods for placing the rubber dam around bridgework are shown in Figure 16. One is to make an elliptical cut between the holes of the dam, punch a hole in the apex of the cut and place a loop of ligature about four inches long. The ligature is threaded under the pontics of the bridge and the rubber is drawn through; the ligature is then attached to the rubber dam holder on the opposite side of the mouth. Another method is to make a straight cut between the holes and sew the edges together with a suture needle.

I have tried to establish the facts that rubber dam can be used in almost all areas of operative procedures; that we must establish a doctrine of principle for the use of rubber dam in all dental colleges; and that even though gold foil is the rule and guide by which we identify ourselves in this Academy, rubber dam technic is the means by which this refinement is made possible.

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GOLD FOIL—DISCIPLINE FOR SERVICE*

George A. Brass,** D.D.S., B.S.D., Winnipeg, Canada

The title of this short presentation was chosen after much thought and much care, for it has long been my conviction that gold foil has a unique place in dentistry as a restorative material—simply because it is the best of our filling materials and the *most worthy.*

Gold foil is best because, like Portia's description of mercy, "It is twice blessed; it blesseth him that gives and him that takes."

I must, however, make some further comment upon the title, for misunderstanding and objection may creep in and disturb attentiveness before the thesis has been pursued.

The word "discipline" has significance in six separate meanings, each of which you will recognize—study, training, order, restraint, religion and punishment. It is in regard to each of the first five meanings that I wish to discuss "discipline" as it relates to gold foil; but all of the discussion of discipline will be done upon the basis that gold foil as a service is worthy because of the advantages that result not only to the operator but also to the patient, the recipient of the finest and best of operative undertakings.

Stibbs quotes from the Apocrypha: "In the handicraft of their trade is their prayer." All of us will, I believe, agree most heartily that the' pursuit of excellence in any constructive effort carries definite moral overtones. We can refer back some 2500 years to the Greeks and their religious belief expressed in their saying that "the Gods see everywhere." I recognize the point of this philosophy and I am prepared to align myself with the meaning—that the moral man does all things well, accepting every detail as a challenge which, when met, results in greater service to his fellow men and thus satisfies the requirements of "the golden rule." I would, therefore, emphasize that there are moral and religious aspects involved here as with every worthwhile pursuit carried out with dedication. Meeting the challenge of gold foil is therefore a discipline in this sense. This point being established, I will not pursue it further.

In two separate articles printed in the May, 1959 issue of our own *Journal,* both Stibbs and Romnes referred to discipline as it is associated with foil, Stibbs using the term "mental and technical discipline" and Romnes, "discipline and judgment." Here, then, we have two of America's leading operative teachers recognizing in simultaneously published articles that discipline is related to the practice of gold foil. These quotes relate to "discipline" as it is used in the sense of study and the sense of training.

*Presented before the Tenth Annual Meeting of the American Academy of Gold Foil Operators, October 13, 1961, Philadelphia, Pennsylvania.

**Fellow, International College of Dentists; Professor and Chairman, Department of Restorative Dentistry, Faculty of Dentistry, University of Manitoba.

From a monograph by W. I. Ferrier recently republished by the University of Washington Press, which appeared originally in Dr. C. N. Johnson's *Text-book of Operative Dentistry* (1938), I should like to quote the following:

> I learned through trial and error, through the work of others who were confronted with the same problems, through Study Club work where I could direct the preparing of cavities, that gold foil operations could be made with less sacrifice of tooth structure than any other material of a permanent nature and no fundamental principle laid down by Dr. G. V. Black be violated. I learned that through refined cavity preparation, exacting technic, and systematized operative procedure that gold foil fillings could be made in less time than inlays could be made in the same situation, less conspicuous and with no more inconvenience to the patient and operator . . . . Furthermore, that by means of a harmonious outline form, gold foil may be placed in the anterior teeth without offending the esthetic sensibilities of many people . . . .

To emphasize the meaningful portions of the quote, let us condense it, presenting just the operative elements: through refined cavity preparation, exacting technic, and systematized operative procedures with less sacrifice of tooth structure and no fundamental principle violated, one can produce with gold foil in less time, restorations less conspicuous than inlays, with no more inconvenience and without offending esthetic sensibilities.

Systematized operative procedures—refined cavity preparations and exacting technic: each adjective is one implying discipline. It is this very heart of the matter to which I wish to refer in this short presentation. For do these attainments not in a precise sense describe the characteristics of the dedicated operator? Do these accomplishments not represent the characteristics of all good restorative efforts, the achievement of which calls for the mental and physical determination and the practice and devotion that are reflected in one word: discipline. For without this—the dedicating of one's capabilities to establish and follow to completion, with exactness and dispatch, in an organized and meaningful program—one cannot anticipate ever achieving the summit of one's own operative capabilities in any restorative phase. If these requirements represent the necessary elements to operative success and if one is prepared to discipline oneself to achieve this end, it would seem no less than reasonable that one would attempt to do so, using the material that would most surely reflect good judgment, a material that would conserve tooth structure to the greatest degree, a material that would offer length of service, not just length of duration, that would re-establish contact, and replace contour of a durable nature at least as much as any other worthy material and in terms of esthetic acceptability.

There is only one material which satisfies Black's primary requirements and that material is the same today as it was when Black defined them. It is the only material that offers (1) complete adaptation to the cavity wall, (2) resistance to the action of the

mouth fluids, (3) resistance to masticatory forces, (4) resistance to attrition and (5) freedom from shrinkage or expansion.

As to secondary qualities, it would hardly be doubted that a metal will transmit thermal impressions, but experience has taught me that thermal reaction in a well-placed foil, is at worst a transient objection, and I say this with a background of over twenty years both as an operator and as a patient. With the exception of a well-placed porcelain inlay, it is still the least objectionable material esthetically, and I might add in this regard, too, that my personal experience has taught me, after some 25 years, to be happy and proud of the foils placed in my anterior teeth and resentful of the shortsightedness and neglect that account for two ¾ crowns that were necessary to replace those "pasty pearls of dental deceit" that were so easy to accept and are now so hard to forget. So I have been forced to conclude that the esthetic advantages that are so easily accomplished with less demanding materials are only transient, and that the overriding responsibility of a truly professional man will demand of his conscience an honest and straightforward representation when decisions involving esthetics are being weighed.

The third of the secondary factors listed by Black is ease of manipulation. When one reflects that it is a secondary consideration and is being weighed by a professional man, entrusted with the welfare of his patient and the integrity of his profession, it seems impossible to justify any but one answer in cases involving cavities of classical proportions.

I am sure that no one here will object when I say that the vast majority of the decisions of choice, the decisions that in the end deceive the patient and prejudice the integrity of the profession, are made on these shallow grounds: the inability or unwillingness of professional men to use the most worthy of restorative dental materials. This reason, to a large degree, can be traced to a lack of discipline, the moral discipline that should dictate foil as the material of choice in the majority of cases where caries is present in the anterior teeth interproximally, and posterior teeth cervically; the moral discipline that should dictate the desire and determine the course necessary to make foil a routine part of the service afforded by every operator practicing restorative dentistry.

As North Americans, I think we have a serious resentment to regimentation, and for free men this is without question a healthy attitude. Discipline, because it is referred to so frequently in a military context, is commonly confused with regimentation; but, unlike regimentation, discipline, while it is essential in the military, is no less necessary in the non-military, for discipline in the personal sense is essentially holding oneself to a prescribed code or pattern.

Now success in anything is dependent on, first, properly determining what the pattern should be and, second, steadfastly adhering to the pattern.

Bannister's success in accomplishing the four-minute mile is as fine an example of discipline in sports as one could find.

Banting in science is as clear a case as comes to mind. Banting disciplined himself: he set his goal, and, in spite of discouragement and ridicule, he pursued it until he had insulin and had licked diabetes.

Where success is found in terms of personal accomplishment, discipline is a component.

Where success is found in dentistry, dental success that is, discipline is also a component; and if one is to strive for dental success in the restorative field, one must make a beginning toward self-discipline, and nowhere in dentistry can one hope for a greater degree of success in terms of achievement than in the discipline of gold foil. For time spent in gold foil is an investment that not only pays tremendous dividends on what one contributes professionally, but pays added dividends which accrue through accepting its disciplinary lessons, and leads to success in almost every other operative report.

Ferrier refers to "systematized operative procedures." Black recognized this characteristic, for he uses the term "orderly procedure" when referring to the manner best suited for cavity preparation.

Pope said that "Order is Heaven's first law," and he could well have been speaking about gold foil. "Order" is well suggested in both meanings by this particular word, for it relates to both sequence and organization, and this application starts before the patient is seated. It starts before the patient is seated because it must be based upon cleanliness, and cleanliness is in no other walk of life as mandatory as cleanliness in dentistry. The discipline of cleanliness is all encompassing in our professional field, for it involves every aspect of dentistry and demands constant self-criticism, criticism of the way one organizes and regulates one's office and one's person. One's unclean pleasures or unacceptable habits should be reserved for the after hours, week ends, vacations and conventions. I am referring, of course, to the use of tobacco, of alcohol and highly spiced foods. Just as unclean foil will surely reduce an individual operation to confusion and the operator to frustration, so will uncleanliness, in a general sense, relegate a practice however well supported by academic knowledge and training to the backwash of professional failure. The discipline of cleanliness in detail that is so much a part of the success in gold foil operations can only multiply and reflect itself creditably to the advantage of the whole of one's professional existence. No profession is as personal as dentistry, and the critical survey that is imposed upon the foil operator will emphasize constant reappraisal and is mandatory if one would have for a practice, patients who are themselves fastidious and with whom it is pleasant to associate oneself in the close personal relation that is represented

in the practice of our profession. A dentist must be the epitome of this virtue and be able to say, while displaying less pride and more honesty than "Holy Willie," "I am here a pillar in thy Temple, strong as a rock, a guide, a buckler and example to thy flock."

It is another strange commentary upon our calling, a profession dedicated to the health of our patients, that in routine operative procedures so many dental graduates refuse to avail themselves of the advantages of the rubber dam—advantages that reflect themselves not only in better restorative accomplishment but also in better visibility, reduced tension, reduced operating time, improved operating conditions and improved conditions for working with assistance, to mention but a few of the more obvious advantages.

There is not a single filling material used in dentistry that is not, in the final analysis, better placed when the rubber dam is used. When a patient comes to us and accepts our service, we must presume that we have been carefully selected for this position of trust. It implies that the patient expects that we shall avail ourselves of all the current information and technics that can and should be employed in his behalf. This expectation, I should imagine, assumes the use of the rubber dam.

Why the rubber dam is not used routinely has always been a point of great concern to me and was a tremendous force in my deciding upon a career in teaching. While my conclusions may not be totally correct, they do, I believe, contain some factors that are valid. It is my impression that men do not avoid the use of the rubber dam because of the reasons most commonly advanced. They do not, for instance, avoid the rubber dam because their patients object, and I say this with a good deal of background in the subject.

I graduated in the spring of 1939 and enlisted in September of that year when my country mobilized for war. In the succeeding 6 years, I served for only 2 months in a base where there was nothing like a cuspidor or an aspirator with running water available; yet I used the rubber dam without an aspirator as regularly and routinely as I do now, and I can truthfully say that it represented a greater advantage then than at any other time in my experience, and it completely convinced me of its high place in practice. Patients are quickly and easily convinced of its merits if one places the dam smoothly and without fuss or comment. I do want to emphasize the point that unlike others who suggest that it be explained first, I proceed to place a dam with as little comment and in as matter of fact a manner as I exhibit in asking patients to open their mouths. Occasionally, a patient does exhibit signs of distress such as difficulty in breathing, in which case I cut a hole in the back of the dam about the size of a five-cent piece and the objection usually terminates.

If a comment seems in order, emphasize the safety factors, the factors that would seem to represent the greatest amount of concern

to the patient. Loose gum tissue won't catch in the bur. Working in cavity walls deep under the attachment will not result in cut and bleeding gums. Bacteria from the decayed area will not be carried into these cuts. The patient will not be swallowing pieces of diseased tooth that are laden with bacteria. It eliminates mouth breathing and consequent inhalation of this same material into the lungs. These features loom large in the mind of the patient and reflect an earnest concern for his well-being. If, after the operation is concluded, he desires to continue the discussion, there are many other factors that one can emphasize: for example, that harmful drugs can flow out of the cavity and that bacteria mixed with saliva can be churned into dentinal tubules by rotating instruments.

There is a long list of adequate reasons that will do you credit, but first and foremost one must be able to place the dam quickly and easily. I am convinced that the dentist who decries the use of the rubber dam is a man who cannot meet this simple challenge. He may use any one of many reasons, but if the truth be known, he cannot place a rubber dam with dispatch. Order as a discipline is, along with other shades of meaning, the dominant feature here; for in placing a dam one must recognize that the equipment must be readily available and laid out in an organized manner. The technic must proceed in an orderly sequence of steps.

The basic tenets to routine-easy use of rubber dam, if you have ever sought to separate principles from technic, are really 3 in number. (1) The equipment must be at hand and easily available. (2) Placing a dam is a four-handed job and the place and importance in the sequence of events of the extra 2 hands must be recognized. Primarily, they are to hold the lower corners of the dam down when the dam is placed on upper teeth. They are to hold the upper corners up when the dam is placed on the lower teeth. Different operators use an assistant to different degrees and in different manners, but the most important help is holding the dam out of the way while it is being adjusted. (3) The dam is placed on the most posterior teeth first, moving forward one unit at a time as quickly as one can. This procedure generally results in the anchoring of the dam at both ends. The rubber dam mask and holder are placed and one returns to seat the dam interproximally about those teeth still unenveloped.

This is a good place to cite an additional contributing factor—the thumbnail. This commentary may seem unprofessional and odd, but there is every reason to suggest that it is helpful in achieving a further degree of limited or specialized skill; for no instrument is so effective and so handy as the thumbnail in obtaining that slight separation of the teeth that is so helpful to the process of getting a taut dam to slide between the contacting areas of two adjacent teeth.

The novice is always overly inclined towards conservatism. He must be encouraged to place the dam over an adequate number of

teeth, to use a heavier weight of dam, not lighter, to use a dark contrasting color, and to reject the frame in favor of a headband type of holder. These differences constitute a way of telling whether the dam is placed with confidence; or whether it is placed under duress, under apprehension, or under the guidance of someone not fully cognizant of the many advantages that are to be gained in using a well-placed rubber dam.

The rest is mostly detail and easily and quickly becomes part of the technic of rubber dam placement. As a whole, it represents discipline, the product of order and of training.

The cavity preparation itself is another facet, reflecting the major aspects of discipline as we have chosen to interpret them. Operating instruments are laid out so that they can be easily reached. They are in an orderly arrangement and are exactly the instruments needed for the operation. There is no haphazard bouncing from instrument cabinet, to the cavity, to the tray, with an increasing accumulation of items rejected as unsuitable for the job at hand. The job at hand has been studied, it has been practiced, and the instruments necessary are catalogued; they are laid out in an orderly manner and are readily accessible. The sequence of their use is the result of the same study practice and order which can be expected to reflect itself in other fields of dentistry, because this discipline cannot help proving its true worth to any perceptive student.

The earnest gold foil operator reveals his true identity early by the way he prepares his cavity, with full knowledge of the tissues with which he is dealing and their relation to each other. He reveals his study, for he proceeds with rare assurance. Here the rods are long and their direction is horizontal; note how they cleave and afford us a solid wall: here they are short and inclined to the gingival; observe the difference in their angle approach. Extension for prevention calls for the inclusion of this area. This area is undermined by carious dentin, and outline form must be altered.

Retention can be increased in this area by slight undercuts in the line angle. Undercuts in the dentin will display color to esthetic disadvantage. The texture of the dentin would indicate that it is sound, its color notwithstanding. The color is better but the texture would imply remaining caries.

Yes, it is true that line will satisfy extension for prevention, but the line will not be harmonious and the result not esthetic. Here, carry it to this point and see how it blends with the labial of the proximating tooth; more gold will be displayed certainly, but it will not cut across the lines of harmony and in the end will be less conspicuous.

Esthetics is the study of harmony—harmony of shape, of color, of outline—and only study will disclose its subtleties; but once mastered it is applicable to some degree in all other restorative enterprises and is a part of one's perceptive sense.

The rewards accruing to us in our daily efforts are many, and among these is a special one, the emotional thrill that is reserved for the foil operator alone; for as calm and unaffected as any of you would like to represent yourselves to be, you have all fallen under the spell that is reserved alone for that individual who handles pure gold, placing it, condensing it, finishing and polishing it. Your name, then, is but another that can be added to a long list of names, famous and infamous, men through all ages that have been influenced by the magic of gold. And magic it is, for gold can be worked, it can be wrought, changed, given form and beauty; and it is these characteristics which exert the challenge to the foil operator.

The placing of gold into a cavity today may be done entirely with cohesive foil, or with a combination of mat gold and cohesive foil. These methods are not entirely interchangeable. For example, the latter is not practical in restoring the proximal cavities of anterior teeth. Regardless of cavity type, however, placing and condensation call for concentration and attention to detail unmatched. Few will question the superiority of the restoration produced by application of the hand mallet, but there is a place for other forms of condensation, and the judgment of the operator is the deciding factor.

The application of principles of stepping and wedging, with a full understanding of the use of lines of force as described by Black, comes only through patience, study and practice. The increased quality and worth arising from this training in concentration and persistence cannot fail to demonstrate the value of such discipline, and intelligence will demand its application in the other avenues of our professional life.

The finishing and polishing hold special rewards. Only after this sequence of filing, stripping, planning, discing and bringing the gold to its final finish, in both contour and polish, is the true result disclosed; for then, and only then, can one survey and judge the whole for its restorative merit.

What is the integrity of the margins? Have rods been damaged? Is the gold uniformly condensed? Has there been bridging? How about the contour and contact? Is the result a filling or a restoration? Is the gingival physiologically secure, or will it be subject to the abrasive and traumatic results of functional inadequacy?

The Dean of our school, Dr. J. W. Neilson, a periodontist, in a paper presented before this body at last year's meeting in Los Angeles, raised the question of the great stress laid upon "the principle that in . . . finishing gold foil, extreme care must be exercised to preserve the complete integrity of the cementum," and then proceeded to point out that the removal of cementum and even some dentin is almost a routine procedure of the periodontist. At the same time he said, "I confess incidentally that I have never read or heard of any merit in the ditching procedure." Dr. Neilson queried

if such "painstaking and time-consuming" effort should be continued.

It is around this thought and this practice that I propose to lay my case for restraint as a discipline in gold foil.

An ancient father in the field of the healing arts is still quoted as saying, "Whatever you do—do no harm." While the removal of healthy surface cementum and some dentin may "do no harm," it is conceded that its removal does no good, much less the resultant ditching. Who is to say where no harm ceases and harm begins, and as deft as our finest operator may be, can this skillful person determine this limit? There is, too, a great deal of difference in approach between our treatment of the pathological and the healthy, and I would suggest that until the delineation of the depth to which one can remove tooth substance is determined, and until this problem can be approached with a fully accurate technic, we can pride ourselves on both our attitude and on our restraint. This, then, is a summary of what a man of conviction and dedication can expect to achieve by working with gold foil, for gold foil is a discipline, a discipline that broadens and enhances the whole of the operator's field of service.

It plays a full role in teaching us the value of order, of study, of training and of restraint, while at the same time contributing to the patient's health through being the finest restorative material yet available. In conclusion, I would inquire if the truly professional objective can be more completely encompassed by contributing to a health service with the best available materials and technics, while at the same time one is carrying out an exercise in self-improvement. Gold foil alone has these functions to offer to such a high degree, for gold foil is unique in that as a master it makes demands that lend to the continuing progress and respect of the pupil, and as a servant it offers excellence. It is both master and servant, and we are well advised to accept its lessons and respect its contributions, for they are unobtainable with any other restorative material.

Faculty of Dentistry

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Happiness is the true end and aim of life. It is the task of intelligence to ascertain the conditions of happiness, and when found, the truly wise will live in accordance with them. By happiness is meant not simply the joy of eating and drinking—the gratification of the appetite—but good, well-being, in the highest and noblest forms. The joy that springs from obligations discharged, from duty done, from generous acts, from being true to the ideal, from a perception of the beautiful in Nature, art and conduct. The happiness that is born of and gives birth to poetry and music, that follows the gratification of the highest wants. Happiness is the result of all that is really right and sane.

—*Robert Ingersoll.*

A PHILOSOPHY OF DENTAL PRACTICE*

José E. Medina,** D.D.S., Baltimore, Maryland

Dentistry as a profession is facing a rather dim future. Recent surveys have uncovered the extreme shortage of dental manpower that will become evident during the next fifteen years. During the same period it is estimated that the dental health needs of the population will be increasing in an alarming degree. Solutions to these foreseeable difficulties are being seriously considered and evaluated. Increase in the number of graduates, improvement in the efficiency of our practices, better utilization of ancillary personnel, and emphasis upon the preventive aspects of dental diseases are but a few of the ways and means under advisement. We are indeed confronted with serious problems that must be solved if dentistry is to provide adequate dental health care in future years.

In my estimation the primary objective of our profession is to preserve the natural dentition in such a physiological state as to provide proper function and to maintain the total oral health of our patient. Every means at our disposal whereby the preservation of the dentition can be accomplished should be utilized in our practices. Oral hygiene, dietary control, fluoridation, periodic dental care and other preventive measures which have been shown to be effective against oral disorders should be incorporated in a carefully planned program for patient education. Patients must be made aware of the disturbing problems facing the profession, and they, too, must make every effort to alleviate or diminish the future service demands that our profession will face.

However, we must also educate our patients in the importance of sound restorative procedures as a preventive measure. An early recognition of oral pathology with subsequent sound treatment can provide one of the best preventive measures for saving the natural dentition. Please note that I said "sound treatment." I refer to those manipulative procedures employing adequate skill and clinical judgment that will provide a lasting service in maintaining the integrity of the masticatory apparatus. Services that are rendered in a haphazard fashion without any regard for permanency do not in any way serve as a preventive mechanism, but are merely stepping stones leading to the eventual loss of the dental components.

Prevention, then, in all its diversified implications, is a most important consideration. We must concentrate our efforts in this field if

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we are to maintain the status of dentistry as an important component of the health professions. We must support fluoridation programs; we must educate our patients in home care; we must assist our scientists in their quests for the etiologies of dental diseases; and we must equip ourselves to render sound and lasting services to our patients. We should make concerted efforts to incorporate or provide these important aspects of dental health care in our practices and in our communities.

The practice of dentistry should be conducted with these objectives in mind. It should also be conducted with a high regard for the importance of service to mankind. We should consider ourselves extremely proud to be members of this enviable profession, for there is no one to whom we must report our shortcomings and fallacies; no one who supervises the quality of our services; no one who criticizes our judgment. No other profession can boast these privileges. Therefore, we owe it to our patients, to our profession and to ourselves to be prepared and willing to render the highest possible quality of health care.

Of the objectives previously mentioned, that dealing with the rendering of sound and lasting restorative services merits further consideration. After all, dental practice is primarily based upon this aspect of professional care. Sound restorative procedures are of utmost importance in the prevention of oral disease and the preservation of the dental mechanism.

Recent developments in restorative dentistry both in concepts and in technics have greatly revolutionized the practice of our profession. We have at our disposal the means by which tooth structure can be removed efficiently with minimum effort and almost insignificant pulpal damage. Patient apprehension and operating fatigue have been considerably diminished.

Research in the field of dental materials has provided us with a better understanding of the behavior of restorative materials. It has also provided a large variety of materials for our use in rendering dental services. Unfortunately, most practitioners utilize the results of preliminary research reports before complete clinical evaluation has been reported. Such action is evident in the numerous opinions appearing in the dental literature advocating technics or materials without substantial evidence as to their acceptability for clinical accuracy and permanency.

I do not mean to imply that we should discard these research reports. On the contrary, dental research holds the key to the prevention of oral disease and to the discovery of the ideal restorative material. We should support these worthwhile undertakings with all the resources at our disposal. Dental progress and the future of the profession depend in part upon those men who devote their energies to these research activities. I am concerned primarily with the misinterpretation and misuse of these developments. We

are inclined to jump overboard, so to speak, whenever we read or hear of a new material or technic. We fail to use effective judgment in evaluating these preliminary reports.

I sincerely believe that the future will provide for dentistry the long-searched-for ideal material—one that will encompass all of the qualities necessary to restore loss of function, provide marginal integrity, institute permanency and reproduce tooth color. However, until the time when all restorative procedures shall have been revolutionized by the discovery of the Utopian material, we must continue to render restorative services with the materials now at our disposal.

What materials and technics, then, should we use in order to provide our patients with sound and lasting restorative services? Amalgam, cast gold, gold foil, porcelain, cements, and autopolymerizing resins are available to the profession for the restoration of tooth loss. Each of these materials has its place in the practice of dentistry; each requires an exacting manipulative technic; each possesses certain physical properties which affect its selectivity; each provides a different degree of permanency, function and marginal integrity. The greatest responsibility we must exercise is the use of sound judgment in determining which material and what restorative procedure will render the best service for the individual patient. Clinical judgment, then, determines in a great measure how we practice dentistry. Our clinical experience, our training, our association with other practitioners, and our undergraduate education have marked influences upon our ability to develop sound clinical judgment.

Until the ideal material is developed, we should concentrate our efforts in understanding the qualities and behavior of the previously mentioned six restorative materials and employ good clinical judgment in their use. Four of these materials—amalgam, cast gold, gold foil and porcelain—have been proved clinically to possess lasting qualities when used judiciously and where indicated. The two others—cements and autopolymerizing resins—possess properties which are detrimental to their success and therefore are capable of serving only in a temporary manner.

The four permanent materials should be employed and manipulated with a due regard to their physical and biomechanical properties. Certain fundamentals in their manipulation, such as (1) adequate cavity preparations providing preventive and retentive features but with conservative surface involvements, (2) the use of a dry field, and (3) proper selectivity, should always be carefully observed and constantly applied.

Cavity preparations should be performed with a minimum of extensions in order to preserve as much sound tooth structure as possible, since we do not have the ideal restorative material. Conservatism is a basic fundamental in the practice of dentistry. There

is nothing at our disposal that is capable of duplicating what nature provided for our dentition. The unnecessary removal of tooth form to establish different occlusal relationships should be avoided, unless the presence of pathological disturbances can be attributed to the loss of vertical dimension, in which case the treatment associated with reconstruction and rehabilitation may be the only solution.

A preparation should be designed to serve the needs of the tooth in question: it should have adequate internal and external outlines to remove the existing pathology and prevent further complications; it should possess adequate bulk for retention and strength; it should provide protection to the pulpal tissue; and it should be in harmony with the tooth and its surrounding structures. It should never be designed to reproduce a classical form or a textbook picture, but should be prepared by the application of sound judgment as to what would serve best for that particular patient.

A dry field for the manipulation of the permanent materials is an essential fundamental. The rubber dam is the best means by which this dryness can be accomplished. Its use is imperative in the performance of all restorative procedures, as it will also assist the operator in discerning diseased tooth structure, in providing better vision, and in protecting and retracting soft tissues. The rubber dam is the best adjunct we have in operative dentistry, not only in the manipulative procedures of preparations and restorations, but also in serving as an incentive mechanism to stimulate in us the desire to perfect our technics and render better dental services.

The third fundamental we should constantly observe is the proper selectivity of the material. The use of amalgam in areas where support to weakened enamel is imperative leads to eventual breakdown of the material or of the tooth; the use of porcelain where excessive occlusal forces are prevalent inevitably results in failure. In other words, in order to obtain the greatest success in our clinical service we should use the materials at our disposal only where an indication exists so that we may preclude the possibility of failure.

Having considered the objectives in a dental practice with respect to the preventive aspects and having discussed the fundamentals in restorative procedures, what, then, are our responsibilities as practitioners, as teachers and as students to the profession.

As members of our profession our primary responsibility is to serve humanity—to serve with honesty, humility and integrity. We should continually attempt to achieve perfection. We should provide our patients with the best possible service at all times. We should never deprive them of excellence of service.

If we as practitioners feel inadequate in the performance of a service, we should waste no time or effort in equipping ourselves with that additional knowledge or training necessary for rendering such service. For example, if we are unable to apply the rubber dam,

if we find gold foil and porcelain difficult to manipulate, if we find it impossible to reproduce accurate castings, or if we delete any treatment service from our practice because of lack of knowledge or training, then we should and must seek the necessary information and training to enable us to render to every patient the required service.

Dental practitioners can obtain the necessary information by participating in refresher, postgraduate or graduate courses, by attending scientific programs, by reading dental literature and by engaging actively in a study club. All of these means will provide information for the acquisition of knowledge; however, membership in a study club is by far the best way of improving digital skills and acquiring working knowledge. Membership in a gold foil study club is essential in order to master the precise technic required for this material. Such a study club also provides training in the use of the rubber dam. The exactness required in using gold foil and rubber dam is usually applied in the handling of the other restorative materials. Such discipline invariably improves the quality of all other services rendered.

A dental teacher has an even greater responsibility. He must educate himself in the same manner as practitioners, except that he must be able to demonstrate his ability and skill and transmit them to the student. A dental teacher is not really a teacher unless he can demonstrate the procedures he requires his students to perform. He must also instill in his students the desire and the motivation to provide their future patients with high quality services. He must share his knowledge, training and experience; he must be an inspiration and an example. He must teach dentistry with the philosophy of service at heart. He must not give the impression that the rubber dam is an adjunct to be used only in school, or that gold foils are inserted because of state board requirements. He must honestly and sincerely believe in what he teaches, and that all that he teaches is an integral part of a dental practice.

Dental students gain their training and develop their skills by listening to and emulating their teachers. Students who come in contact with teachers who possess that philosophy of practice based upon service to humanity should have no fear of the quality of dentistry they will render. Unfortunately, some schools are conveying to the students misinformation relative to the rendering of certain services. It is a pity to see these young graduates entering dental practice without the proper philosophy—that of serving people to the best of their ability and with the greatest possible degree of permanency. I sincerely believe that all students are eager to learn, if given an opportunity to receive the best possible instruction from dental educators.

May I as a teacher extend to the members of the Academy my congratulations for their unselfish devotion to dentistry, their ever-constant desire to share their skills and knowledge, and their continual efforts on behalf of research activities. During the past decade

the members of this Academy have performed admirably and have achieved a reputation unequaled by the other specialized groups of the profession. Their desire and efforts to uphold the principles of restorative dentistry and their emphasis upon always rendering a lasting service based upon sound judgment are deeply appreciated by those of us who are engaged in dental education.

To the dental students may I express my sincere hope that you realize that graduation marks only the beginning of your professional careers. Your undergraduate training has provided you with those fundamentals which will serve as the cornerstone upon which you will build a successful structure. This training coupled with your clinical experience will eventually develop in you the judgment necessary for rendering the required health services. However, may I suggest that, upon graduation, you seek membership in a study club, or if one is not available in your area, that you organize one, so as to afford you the opportunity by which to perfect your technics and improve your skills. Remember that the conferring of the doctor's degree gives you a great number of privileges, but that it also carries even greater responsibilities. It is your duty to be ready to render all services adequately, not to deny or delete a dental service because of your own inadequacy or lack of knowledge. If you feel untrained or inept in performing certain restorative procedures, then seek those channels through which you can improve upon them.

Practice dentistry with kindness and understanding. Take time to uncover your patients' fears and anxieties and relieve them of these mental discomforts. Develop a keenness of mind in order to arrive at a sound diagnosis and plan of treatment. Then perform the necessary procedures in accordance with your skill and judgment, always rendering that service that will be most beneficial to your patient. Conduct your practice on the highest possible level, incorporating in it the practice of charity, truth, prudence, morality and justice. A successful professional life is yours if you persevere in the practice of these commendable virtues.

Remember, also, that the pathway of your professional life will not be a straight or level road on which you can travel without exertion. On the contrary, it will be a winding path and it will be beset with difficulties that are the common lot of humanity; however, the road you should travel, no matter how steep or winding it may be, should always lead onward to a higher appreciation of what life is and what it is meant to be.

In conclusion, may I again express my thanks to the Academy for the opportunity given me to present my views on the practice of dentistry. We are faced with an ever-increasing demand for dental health care. It is my opinion that if services of higher quality were rendered initially, the need for replacement of old restorations would diminish. In other words, if we rendered more lasting services as of today, the future demands would be lessened to some degree. These

lasting restorative services can best be rendered by employing the four materials which have been proved clinically over the years—amalgam, cast gold, gold foil and porcelain. Of these materials, gold foil is capable of providing a service second to none in its marginal seal, integrity and permanency. It is by far the best material we have, and we should not delete its use from our clinical practice, but rather make it available to our patients as a part of our total oral health service. Furthermore, let us always preserve the natural dentition by means of those conservative procedures which will render the greatest permanency and service.

Let us practice dentistry with an unselfish desire to share our knowledge, to seek information, to perfect our skills, to improve our judgment and, above all, to serve mankind. Let us always render to our patients the best we have to offer. Let us be motivated by sincerity of effort and honesty of service.

A dental practice conducted with this philosophy of honesty and service will provide the practitioner with a peace of mind indicative of the fulfillment of the purpose for his existence as a member of the dental profession.

618 West Lombard Street

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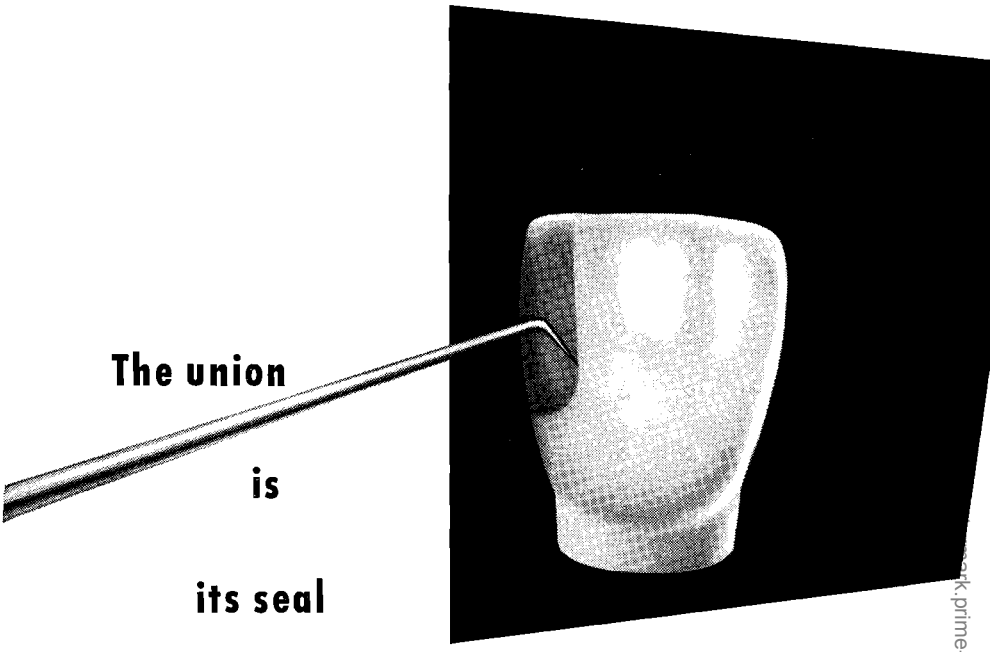
EXECUTIVE SECRETARY APPOINTMENT

In the fall of 1961, following the unexpected death of our beloved Secretary-Treasurer, Dr. Charles C. Latham, the Executive Council appointed Mrs. Vonne Wolf as Executive Secretary of the Academy.

Mrs. Wolf has been associated with Academy affairs for a number of years, having served in a secretarial capacity with our previous Secretary-Treasurer. She worked behind the scenes during that period of time and is deeply aware of the importance and responsibility of the office.

The Academy wishes to express to Mrs. Wolf its sincere thanks for her past efforts. The Academy also hopes that her future association with all its members will be a gratifying experience. We welcome Mrs. Vonne Wolf as a member of the official family of the Academy.



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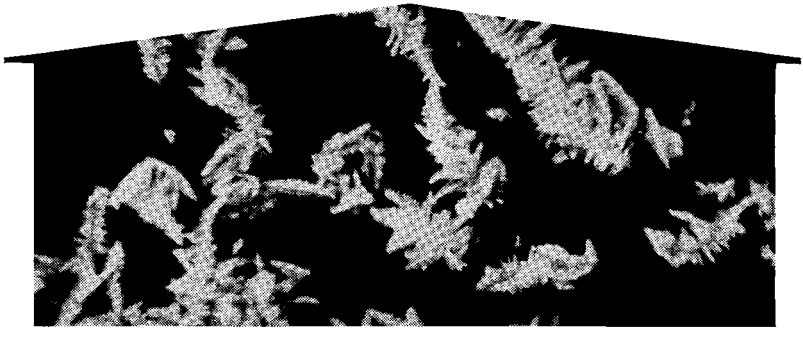

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