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RELATIVE VALUES IN FILLING MATERIALS*

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Relative values are so largely governed by conditions that a material may have value in one environment and be detrimental in another.

Formerly values in filling materials were determined from the standpoint of indestructibility in the fluids of the mouth, the property of withstanding the forces of mastication or abrasion, adaptability to cavity walls, and freedom from bulk changes. These features were considered of first importance; while color, resistance to thermal changes, and convenience of manipulation were values of secondary importance. However, other incidentals should be given consideration.

The age of the patient, the physical and nervous resistance to withstand the operation must be considered. Many an individual of early or intermediate adolescence has received a shock from a prolonged operation that has caused persistent horror of dental care. An aged or convalescent person may be sent to bed from the same cause. A tooth with pathological involvements may have these conditions aggravated in such a manner that the tooth is eventually lost through unwise operating. Technics occupy an advanced position in the management of cavity preparation and the manipulation of filling materials, but an elaborate technic may prove hazardous to permanent benefits. There are many filling materials of value, and the wise operator will choose his material with care.

Instances such as these are prime factors governing the relative values of a material. The best of materials fail in their purpose unless a knowledge of the whole background is constantly reviewed, and the action governed by good judgment.

If there is one material of supreme value, that material is gold foil. When properly managed it will save more teeth than any other material. It is ideal when considered from the standpoint of permanence, adaptability to cavity walls, resistance to mouth fluids and the forces of usage. Not any material is 100 per cent in the possibilities of usage, but of all materials, gold foil most nearly approaches that point.

Gold in the form of inlays has saved many teeth. It will continue to do so, but many times tooth structure has been sacrificed need-

* Read before the Virginia State Dental Association, May 14, 1930.

lessly that the material may be used. So again we are presented with a factor governing the relative value of a material.

Amalgam, the scape-goat among filling materials, has been subjected to such misuse that its worthy qualities have been almost forgotten. In the opinion of many operators it has sunk to such a lowly status that it is good for nothing except laboratory technic. The material's valuable qualifications are too often lost because it lends itself so easily to careless manipulation. It shrinks, it expands, it is thoroughly undesirable from the standpoint of color; the adaptation to the cavity walls is uncertain, and yet it has saved more teeth under unfavorable conditions than any other material. Again we are presented with a factor which governs the relative value of a filling material.

Copper amalgam has bad color and slow setting time. Custom has limited it to the temporary teeth, but recent experiments will prove its value in the permanent teeth. The setting time is hastened, the strength improved, and the wearing away eliminated by removing the excess of mercury from the mass, leaving it rather dry. The germicidal qualities are of foremost rank.

The vast majority of silicate fillings indicate poor operating. Unfortunately silicates, too, lend themselves to mismanagement. Certain precautions must be observed. The material mixed on a slab of proper temperature; inserted under the protection of the rubber-dam; moulded to form by the use of a celluloid tooth-form; given sufficient time to set; a separator applied and the contact-point, as well as the other surfaces of the filling covered with varnish; then you may have a creditable filling, but in doing so you have consumed practically as much time as for a gold foil operation.

We have the material's qualifications, the judgment of the operator, and the environment all governing factors in the relative values of a filling materials. A contributing element to the successful use of any material is the rubber-dam. When a portion of a tooth is restored, it should be done with the field protected by the rubber-dam. You may make a creditable operation without the rubber-dam, but you can make a better one with it. That statement applies to all single tooth restorations, and to some types of bridges.

Pit and fissure cavities found on the occlusal surfaces of molars and bicusps, and the buccal surfaces of lower molars should be repaired as soon as it is possible to insert a fine exploring point within the cavity. It is unnecessary to extend the margin of such a cavity further than to a smooth surface required for finish. A small circular or slot outline is the result. It is seldom the pits are more

than twelve-tenths of a m.m. in diameter, or the grooves more than one m.m. in width. They usually do not exceed one and one-half m.m. in depth. The most valuable material to be used in this type of cavity is gold foil or amalgam. A narrow inlay cannot be made successfully, so the use of an inlay requires the needless sacrifice of tooth structure.

A narrow filling presents less surface area to attract thermal changes, and a minimum of depth affords a large mass of dentin between the filling and the pulp. Incidentally a filling of this type consumes a minimum of operating time and an easier chair experience for the patient. Differing from the upper molar, the occlusal surface of lower molars are apt to present areas seamed and creased by sulcate and fissured grooves, with many supplemental grooves radiating from them. A condition which invites much decalcification of the enamel and involves a larger cavity outline. Under these conditions a gold inlay or an amalgam is the material of choice. Gold foil may be used in older patients, especially if quantities of non-cohesive foil are used. When foil in this form is used, it may be introduced into the cavity in cylinders one-quarter or one-half sheet in size, and portions of the cavity are filled with less expenditure of energy by patient or operator. A great deal of the value of gold foil lies in the specific gravity of the filling. In a young patient the periodontal membrane and surrounding tissues have less resistance to the mallet blows than do those same tissues in an adult. The entire part gives with the force of the blow, consequently to gain the required density a heavier blow is required than in the same operation for an adult. The use of gold foil in mandibular teeth is further complicated by the fact that the lower jaw is movable. It seems quite unnecessary to state that any tooth having pathological involvements should not be subjected to the repeated and forceful blows which a well-made gold foil filling requires.

When teeth are subjected to excessive stress, either from unconscious grinding or from grinding gritty or fibrous foods and other substances, we find areas of denuded dentin often appearing as shallow depressions. The impulse is to use hard gold inlays. True such a material will withstand wear, but the result is traumatism, and a sore tooth. Many a mouth has been wrecked by these hard golds. Amalgam is not indicated, it does not have sufficient resistance to stress, the margins break down. A material having more the quality of toughness is desirable. Gold foil or a gold inlay made from a formula having little or no copper content is to be preferred. When the wear is evenly distributed, the resistance of such a material is nearly equal to the surrounding tooth structure. Under the

best of conditions the occlusion must be checked from time to time, to correct irregularities.

When we consider materials for restoring, proximo-occlusal surfaces of posterior teeth, we are again limited to gold foil, inlays, and amalgam; with esthetics, convenience, and conservation of tooth structure as chief considerations. It being understood that the health of the tooth environment and conditions relative to the patient are favorable.

Convenience in operating refers to shaping of the cavity in such a manner that the filling material may be adapted to the walls with the proper line of force, or that the wax pattern for an inlay may be withdrawn freely and without distortion. Convenience also refers to ease in operating, and is often the determiner in choosing between gold foil and other materials.

Convenience in operating and conservation of tooth structure are apt to be opposing considerations. Yet we cannot conserve to the extent of jeopardizing the success of the operation.

Esthetics demand attention, and in this class of cavities amalgam should be used only on surfaces hidden from view.

It is unwise to subject yourself and patient to a long and tedious gold foil operation in a large and complicated cavity of this class. With the present knowledge of wax and investment expansion, a M.O.D. cavity in a bicuspid or molar may be excellently filled by the inlay method, and with more assurance of correct tooth-form. A mesio-occlusal cavity involving the mesio-buccal cusp, or a disto-occlusal cavity including the disto-lingual cusp of an upper molar, represents more effort for the operator and more exhaustion for the patient when filled with foil, and there is reason to believe a gold inlay can be made to be equally as good, under more favorable conditions. We should embrace the privilege of our opportunities.

The smaller and less complicated cavities on the proximo-occlusal surfaces of bicuspids and molars should be filled with gold foil, using the non-cohesive form in the gingival portion of the cavity. This method is to be preferred over the use of all cohesive foil. It saves time and the gingival margin as well as the gingival angles are more accurately covered. It is near impossible to gain the correct line of force to adapt cohesive foil to the gingival margins in this class of cavities. The line of force used in adapting cohesive foil is approximately 12 degrees C.; hence in this class of cavity it is easily seen how difficult it would be. The approximating tooth interferes.

When non-cohesive gold is used, it is introduced in the form of cylinders containing one-half sheet of foil, occasionally larger. In this form one and one-half or two sheets of the material are easily introduced into the gingival portion of the cavity. A line of force parallel to the long axis of the tooth and directed slightly toward the axial wall (so there is a tendency to force the material into rather than out of the cavity) is used. Approximating teeth will not interfere when such a line of force is used. By this procedure the material is condensed and wedged within the cavity, making an extremely well adapted and condensed mass.

More than one-half of the upper first bicuspid teeth have buccal and lingual roots. This bifurcation often results in a mesial concavity in the gingival region. Note this anatomical condition during the cavity preparation and remember that you can finish such a gingival better and more easily with an inlay than with gold foil. A rough gingival margin in a restoration is fatal to the welfare of the operation.

When the extent of the caries, or the anatomy of a molar or bicuspid is such that the cavity outline can be confined to small dimensions, gold foil is to be preferred. There is the advantage of completing the operation at one time, without subjecting the cavity to contamination by saliva. The time element is likewise of value, though a secondary consideration.

In fillings of this class amalgam has excellent values. The question of costs is a constant factor. Amalgam can be used at less cost to the patient, and save a questionable tooth for a period equal to other materials. Amalgam can be utilized with less distress to the patient. It is valuable material to use when a case presents where all the refinements of operating cannot be employed. Although it is common to avoid all mention of anything other than ideal practice, yet if we are honest it must be admitted that there are times when we take liberties with ideals. At such times we must give utmost credit to the copper content of amalgam. It has prolonged the usage of more teeth under questionable practice than all other materials. If you will not wilfully disregard what is known about this material; if you will employ a good technic with amalgam as you do with gold foil or the casting process, you will be well satisfied with results. Amalgam will conserve and preserve tooth structure.

There is but one material having value in the proximal surfaces of the six anterior teeth. This material is some form of gold. Where the angle of the tooth is not lost, gold foil is the only material of value. The use of an inlay is accompanied by the needless sacrifice

of tooth structure. The same objection applies to cavities involving the angle of the tooth. Exception can be made at times where abrasion is present, or the tooth pulpless. However an inlay should be made only after careful consideration.

Cavities in the labio-gingival region of anterior teeth, and the bucco-gingival region of bicuspids and molars may be managed with gold foil, or with inlays of gold or porcelain. Usually results with amalgam are inferior, and the material should be used only in the molar teeth, for esthetic reasons. The porcelain enthusiasts claim great color value as well as permanency. Unfortunately they do not always make good on color, which is the materials chief value. In most instances the cavities are shallow, however if the cavity is deep it may be managed with an inlay, either gold or porcelain. A deep cavity is usually accompanied by an extensive outline form. In amalgam technic an item of first consideration is compression in packing the material. If much stress can be used fair adaptation can be gained in the deeper cavities, but in the shallow cavity burnishing is often the only force attempted. This in connection with too wet a mix will result in a filling poorly adapted to the walls of the cavity, with ragged margins that are a constant source of irritation to the soft tissues.

There is but a small percentage of cavities in this class which cannot be quickly and permanently filled with a gold foil. The margins are, to a great extent, in the region of short enamel rods. In such a situation foil may be better adapted and more easily finished with less danger of enamel injury than where an inlay is used. The parts are isolated and kept dry with rubber-dam, during the entire operation. Less time is consumed than when an inlay is made, and all is finished in one appointment.

IRRIGATION IN THE TREATMENT OF VINCENT'S DISEASE*

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About the year 1911 a patient presented himself suffering intensely with a "sore mouth." Examination revealed a non-suppurative inflammation with the interdental space wholly exposed and the gingival margin covered with a grayish or grayish white membrane approximately three millimeters in width. A fetid odor, increased salivation and constant pain were decidedly manifest. Just what the lesion was I did not know, so I guessed acute pyorrhoeal

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infection. This was my first and only case of Vincent's Disease for several years.

During the World War there appeared in the concentration camps what was reported as a low grade infection of the mouth which later was to be recognized as Vincent's disease. Just why it should have appeared so suddenly, almost out of a clear sky, so to speak, no one seems to know.

Several names have been given to this disease. Trench-mouth, Vincent's Angina, ulceromembranous stomatitis, Vincent's Disease and others.

Since this infection has become so prevalent a great deal of work had been done on it in the laboratory to find its true nature and cause. Etiologically it is generally conceded to be an invasion of the fusiform bacillus and the spirochetes of Vincent; however (1) S. & P. Greenberg seem to think that such is not the case and that work on other organisms must be studied before a positive conclusion is reached. That these organisms are to be found in normal mouths is well understood—it is when they are present to almost an exclusion of other organisms that they are credited as the causative factors in the disease. It is generally accepted that it is a disease highly contagious, and it probably is, as witnessed by the almost epidemic proportions it assumed during the war, and yet we have presentations where it is impossible to trace them to any definite source. Cases are known ranging from an infant in arms to those in middle life that were mysterious in their inception.

In the early stages diagnosis must depend almost entirely on laboratory findings, due to the close resemblance to some other forms of stomatitis. Too much stress cannot be laid on early diagnosis. The earlier treatment is instituted, the better the results both for the comfort of the patient and the conservation of gingival tissue. Usually the patient is not seen until the primary stage has been passed.

The primary stage is usually a slight swelling and redness of the inter-septal gingiva with a general feeling of discomfort in the whole mouth. From this stage it passes to the second stage. Here we usually find severe pain, increased salivation, the formation of a pseudo-membrane, a rise in temperature, general malaise, breath odor resembling mercurial stomatitis, and the gingival space partially or well opened. (2) Cohn includes what he terms "an interesting symptom"—complaint by the patient of finding a bloody discharge on the pillow upon arising in the morning. He says this is due to increased saliva mixed with slight hemorrhage from the inflamed gums that dribbles from the mouth during sleep. No

visual examination should be accepted as conclusive diagnosis but should always be supplemented by laboratory findings. (3) Rosenthal gives a very interesting description of what he terms the tertiary stage. He says "there can be no definite symptomatology given for this stage of the infection since the picture naturally varies with the part involved. The most common point of attack is the lungs, resulting in pulmonary gangrene, usually a fatal complication." He says that Dr. Vincent himself has proved that the organisms have been inspired from the oral cavity. Our examination should not be limited to the oral cavity—the tonsils are frequently involved, and I have seen one case in which not only the gum tissue and tonsils were affected, but a lip sore almost as large as a quarter and several patches on the palate.

Control of this disease is not difficult so long as it is limited to the mouth and no surgical interference is made. Any scaling or extracting is contra-indicated until a negative smear has been obtained for at least four or five days. I saw one case in which a mandibular sixth year molar had been extracted that resulted fatally. The very fact that the disease is as a rule readily amenable to treatment should not make us oblivious to the subsequent fact that in every case there is a potential fatality.

After diagnosis has been made the next thought is treatment. Here we find such a multitude of medicaments, ranging all the way from the arsenicals used both topically and intravenously to those of a bland non-toxic nature. It is generally accepted, I think, that any preparation liberating nascent oxygen is efficacious in the mouth or throat where it can be applied. In this class sodium per borate and hydrogen dioxide are representative. In my own practice the hydrogen is taboo—the explosion is too forceful for me to feel justified in taking the chance of forcing the infection deeper into the tissues where there are pyorrhetic pockets or heavy masses of gum tissue such as are found adjacent to the third molars. Intravenous injections are indicated only where the attack is unusually virulent or the infection has spread to adjacent tissues to such an extent that local treatments cannot reach the infection. (4) S. R. Taylor, M.D., and Sam Ravenel, M.D., report success with sulphur arsphenamin in such cases—preferring the sulphur to the neo-arsphenamin. The sulphur arsphenamin differs from the neo-arsphenamin in that the sulphur preparation may be used subcutaneously or by deep muscular injections as it lacks the irritating qualities of the neo preparation.

In a large percentage of the articles that have appeared, there is inference to the possibility of a recurrence of the disease after

treatment and negative smears are obtained. While it is true that an attack of the disease does not immunize the patient from subsequent attacks, my own experience has led me to the conclusion that the previous infection had not really been stamped out—only the exposed surfaces had been controlled and the deeper parts—pyorrhoea pockets, overhanging filling, ill-fitting gold crowns and roughened root surfaces were still harboring the organisms which later became active. Such being the case, it is not a new infection, but a reinfection—not a susceptibility, but a carrying over. Acting on this theory, I adopted the plan of irrigating all interdental spaces, mucous folds; in fact, I have completely discarded any method of application save the use of a syringe with blunt curved needle. A Leuer syringe fitted with a curved lachrymal duct canula I find meets all the requirements. My clinical experience since adopting this method has been altogether satisfactory, not having had a reinfection so far as I know. For office treatment I have for some years confined my choice of medicaments to the National Analine Company's neutral acriflavine, a non-irritating yellow dye that seems almost a specific for this disease. For home treatment—frequent rinsing with a 50 per cent solution of Hexylresorcinol or a saturated solution of sodium per borate is sufficient. A negative smear should be obtained by the fourth day and pain should be under control within twenty-four hours. Tooth brushes should not be used until a cure is effected and then only new ones. After smears have been negative for a week or more a thorough prophylaxis should be done and the patient advised as to a most meticulous mouth hygiene. The emphasis in this treatment is laid on irrigation, not on the medicament except in so far as the medicament must be effective and non-irritating. Hydrogen dioxide, 7 per cent chromic acid and such drugs are contraindicated. We have plenty of inflammation to deal with in the disease itself without resorting to caustics of any type.

SOME FAILURES AND REMEDIES IN FIXED CROWN WORK*

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It cannot be said that fixed crown and bridge work has failed to keep pace with the rapid developments of the various branches of dentistry, as the title of my paper, at first glance, might lead one to think. Possibly no other branch of our noble profession has been so

* Read before the Virginia State Dental Association, May 13, 1930 by George W. Duncan, in the absence of Dr. King.

widely studied and so many improvements made, or at least attempts made toward improvements, as that of fixed crown and bridge work.

Is it not generally believed and accepted that, with our ultra-modern technique and our excellent knowledge of the qualities of various gold alloys, our ability to control the expansion of metals by proper manipulation of the wax patterns and the investing materials, also the addition of the highly specialized art of dental ceramics, we have about reached the zenith in the field of fixed bridge work?

In trying to teach young men in dental college the fundamental principles of bridge work I have begun to wonder, and have even concluded that in our rapid development and success in fixed bridge work, we have failed to develop uniformly or at least we have developed abnormally. It seems to me that we have become so engrossed, so fascinated in the rapid and excellent growth of bridge work during the past decade that we have forgotten or ignored many of the fundamental rules of good bridge work.

In our earnest and conscientious desire for the super-esthetic, and an erroneous belief that inlays conserve tooth structure and minimize the thermal shock to the pulps of vital teeth, we have materially shortened the life of our bridges and, what is worse, have caused the early death of vital pulps and too often the loss of the teeth themselves; teeth that, had they been properly prepared, would have given many, many more years of needed service.

Since the value and service of any and all bridges depend largely upon the type of anchor pieces used and the accuracy and thoroughness of the preparation of these teeth, the trend of my paper will be confined in a measure to a thesis or a discussion of the preparation of abutment teeth and types of abutments used.

Medical and dental science has very nearly eliminated a few of, what were once, our strongest bridge anchors: such as dowel crowns and large pin lays with the pin extending into the root canal. These losses have come to us through the universal condemnation of pulpless teeth by both the medical and dental professions. We older men know well the excellent value of a well made Richmond crown as an abutment for anterior teeth. We know from the standpoint of retention, strength and longevity that it is excelled only by a full crown.

Many dentists don't seem to realize that esthetics, sanitation and permanency all can be incorporated in our bridges and I think we fall short of our moral obligations to our patients when we fail to balance our bridges from these three standpoints. I, of course,

assume that it is the opinion of all that bridges must always be constructed so that no pathological conditions are apt to develop from irritation or even from the presence of the bridge in one's mouth.

For simplicity I shall divide all abutment pieces into two grand types or classifications, namely, Esthetic and Non-esthetic, or to go a step further, I would say Anterior and Posterior abutment pieces. They, in turn, may be subdivided into numerous other classes as three-quarter crowns, inlays, full crowns, etc. etc.

Since, as I mentioned before, pulpless teeth are (like model "T" Fords) growing fewer and fewer each day, we need not discuss dowel crowns as bridge abutments, except to say that, if we are certain that the apex is free from pathological conditions and that there is little or no danger of such developing, then dowel crowns of some design are often the best and most esthetic abutment piece we can find. These are especially desirable on anterior or at least single rooted teeth.

Possibly the type of abutment piece most generally used for anterior teeth today is the three-quarter crown, and I might wisely add, the most universally misused or abused. As I see it, the principle involved in laying the cavity walls, or the outline form of three-quarter crowns (as well as all other types of abutments) is the same laid down for the various classes of cavities and given to us by the illustrious Dr. G. V. Black,—that is, "The margins must be laid or cut to immuned or self-cleansing areas." So often many of us, in desperate hope to please the ultra-esthetic desires of our patients, disregard this golden rule that Dr. Black so laboriously formulated after many years of careful study and unlimited research, and frequently we see our bridges being undermined by decay or recurrence of decay. Being connected, as I am, with a dental school that has quite a large clinic, I see so much of just this failure that I feel I can not stress too strongly the importance of avoiding such failures.

There is no necessity of ruthlessly slabbing or cutting away of the labial plate of anterior teeth for three-quarter crown preparation, but it is quite necessary that we nearly parallel the mesial and distal walls so that the finished piece could be mistaken for proximal foil fillings. While even this slight display of gold is very objectionable to many patients, I feel it is our duty to explain thoroughly to such patients the value of so doing and that it means longer life and strength to the bridge.

Again, we must not forget the teachings of Dr. Black in regard to the gingival extent of our three-quarter crown preparation.

Many operators fail to extend the three-quarter crown preparations beneath the free margin of the gum. I am convinced that this very failure accounts for many of the early losses of bridges where the three-quarter crowns are used as anchors. Not only does this extension beneath the free margin of the gingiva lessen the danger of recurrence of decay, but it gives the much needed additional grip or retention.

For many years I have been very intimately associated with young dentists and undergraduates, and I find that most of them (of course, usually inexperienced) have a mania for using inlays, I mean the simplest inlays, as bridge anchors. They even use inlays that scarcely have enough retention to hold themselves in place, to say nothing of the enormous amount of additional stress that is sure to fall upon them.

Small simple inlays of the proximo-occlusal types have no place as anchors for my bridges. When I use inlays without pins they must be of a type that has the three or four finger grip on the tooth—I mean of the proximo-occluso-buccal and lingual type, *i. e.*, “M-O-D-B-L.” Such inlays make excellent abutment pieces so far as retention is concerned, but they have some serious faults. One is that they usually require the destruction of more tooth structure and increase the danger of thermal shock to the pulps than do other preparations as full crowns and three-quarters. Many good dentists conscientiously believe that, in using some of the large inlays for bridge abutments, they are conserving good tooth structure and thereby protecting a vital pulp in the best way, when, as a matter of fact, the exact reverse is true.

Another fault is that we always have a much greater amount of cavity margin, which means greater chance of subsequent decay, than for any other abutment piece.

Well constructed inlays make excellent bridge anchors and we could scarcely do without them, but when strength, stability and longevity are paramount, they are not the best bridge supports.

The prevalent use of inlays and even three-quarter crowns is not forced upon us in posterior teeth for bridge abutments as it is in anterior teeth. Esthetics is not of super-importance; it is scarcely worthy of consideration: what is of prime importance is retention and resistance to stress since the posterior teeth must receive the greater portion of the force of occlusion and the stress of mastication. Also the conservation and preservation of tooth structure are of vast importance. Therefore, it seems to me the frequent use of inlays on posterior teeth, teeth that are well hidden from view, is nothing short of poor judgment.

Just at this time it might be wise to say that I disagree in almost every detail of Dr. K. W. Knapp's article in the *Journal of the American Dental Association*, June, 1927, in which he reports tests he made as to the retention of various bridge abutments. I am sure every one within the sound of my voice is more or less familiar with his startling report, that proximo-occlusal inlays have greater retention than M. O. D. and three-quarter crowns, and nearly as much as a full crown; and further, that his slice lock cavity of the proximo-occlusal type has nearly twice the retention of a full crown. Well, there might be some value in his statements or findings and the day may dawn when I shall have sense enough to see it, but at present I feel as though it would be an insult to your intelligence for me to try to force you to accept those unreasonable figures. If you believe such, all I care to ask you is have you ever tried to remove a bridge that has two proximo-occlusal inlays as anchors? And again, have you removed one with two M. O. D. or full crowns as anchors? If you have, then enough is said.

How many of us have marvelled at an old clumsy bridge, having two crude, poorly made "Mother Hubbard" shell crowns as anchors; that has served an individual twenty, thirty and sometimes forty long years, standing the severest of tests? Then, on the other hand, what one of us has ever seen an inlay bridge last twenty or thirty years without the least bit of trouble or repair? Is it not true that even ten years is a long time for an inlay bridge to last? Then should it not be a wonderful lesson to us when we compare the life of our very fine modern inlay bridges with these poorly made, crude and unsanitary bridges, many of them made by men who have been dead for years and years?

Now please don't misunderstand me and don't get the idea that I want those old bridges to come back, or that I consider them a work of real dental art. Indeed, I don't. The point I wish to make is, didn't those old fellows have the right principle? They must have had, and even though so many of those old bridges were as crude as an old thumb pressure amalgam filling, they lasted and served. Why can't we discard the crude and worthless portions and take the good points of that type of bridge for our better and more modern methods?

A properly constructed shell crown is truly the monarch of bridge anchors. The term "properly constructed" keeps most shell crowns from being ideal. I think it is a most difficult task to make a shell crown correctly. In fact, I think the difficulty of proper construction is the greatest criticism of the shell crown.

We have a wonderful substitute for the shell crown. From many points it is a great improvement over the shell. I speak of the full cast crown.

In making a full cast crown, contrary to that of a shell, it is imperative that we make a better preparation of the tooth. I mean it is quite easy to make a band crown for a tooth improperly prepared. That is evident when we think of the number of stock crowns that are used. In other words, the greatest diameter need not be at the gingival. But try to obtain an impression of a tooth so prepared with modeling compound and see how far you will get. So I repeat that cast crowns force one to make better preparation of the teeth.

It requires less skill to contour a wax pattern for a cast crown than it does to contour and festoon a band for a shell and to stamp and reinforce a cusp.

The popular methods used in making cast crowns give us a crown much heavier than that of a two-piece shell crown, and another disadvantage is that the metal of a cast crown comes more nearly in contact with the tooth structure over the entire crown, or we have less cement insulating the live tooth from the metal than we have in a shell. All of which means far more injury to the pulp from thermal changes when the average cast crown is used. It has been estimated that the average molar shell crown weighs from 28 to 35 grains, while the same cast crown weighs from 45 to 55 grains. We know that rolled gold is stronger and tougher than cast gold per volume. So with the same amount of tooth structure removed from a given tooth it is but logical to conclude that, from the standpoint of thermal shock to the pulp and the weight of the crowns, the gold shell is a great favorite over the full cast.

Now it does seem that at the turn the two types of crown are all square, but there are other points that can be credited to the full cast crown.

It is but natural that ease of manipulation will govern to a great degree the usage or popularity, and even the success of a given system or technique.

So the contest between the shell crown and cast crown seems to narrow down to one deciding factor; that is, which type of crown can be made most perfect with the least effort and skill, or which crown will serve best when constructed by the average dentist?

In support of full cast crowns over shell crowns I want to give you a specific technique in making what I think an ideal cast crown. So far as I know, this technique is an original idea of Dr. T. B. Sharp, a member of the faculty of the Atlanta-Southern Dental College, and I think it is as simple as it is unique. The tooth is

prepared not unlike an ideal preparation for a shell crown; that is, unless you want to make a cast shoulder crown, which I don't particularly like.

After the tooth is ideally prepared, an impression of modeling compound is taken of the tooth by the use of a seamless copper band. Into this impression we pack amalgam. This gives us an excellent die which is mounted upon the articulator by means of a wax bite. After this excellent amalgam die is properly mounted on an articulator, it is an easy matter for one to carve a most perfectly formed and articulated wax crown. Here is where the Sharp technique begins. The wax crown is removed from the die and with an eye dropper xylol is placed in the wax crown until it is four-fifths to seven-eighths filled; then with the aid of a small cotton pellet held with pliers or wrapped around a barbed broach, one can use a little friction or rubbing with the cotton pellet on the interior of the wax crown, which will hasten the dissolving of the wax by xylol, and it is possible, with the cotton pellet, to choose the spots and the amount of wax you care to remove. A little practice will enable any one to become quite experienced or perfect in obtaining a wax pattern to suit his own desired thickness. By not filling the crown full, that portion of the crown that should fit closest and most perfect is left untouched.

It seems to me that a cast crown made after this technique is the most ideal anchor for our bridges when esthetics is not involved and when the teeth are not too bell-shaped so that proper preparation will not endanger the pulp.

I have some very interesting models to exhibit at my table clinic, showing the relative amount of tooth structure destroyed in various types of preparation; also the weight of various abutment pieces. They are made and shown with a hope and belief that they will demonstrate in a most practical way the retentive power, the thermal effect, and the protection various bridge anchors have when properly made.

I have some fear that I may have overstressed the use and value of full crowns. They are not indicated everywhere, at all times, nor under all conditions. Like any abutment piece, they have their indications and limitations and often, even when esthetics is not involved, they are absolutely contraindicated.

In closing, I wish to say this paper was written not to condemn the inlay, the pinlay or the three-quarter crown as bridge anchors, but to stress the proper preparation for them and to insist that when possible and where esthetics is not a deciding factor, there is none better than a properly made full crown, be it cast or contoured, as an anchor for fixed bridges.

THE DUTY OF THE DENTIST TO THE CHILD AND THE BEST METHOD OF INTERESTING THE PROFESSION IN THEIR OBLIGATION TO THEIR CHILD PATIENTS*

W. A. COON, D.D.S.,
Norfolk, Va.

We are aware, of course, that the dentist is not morally bound to accept the child patient—he may choose to serve him or he may not, but his acceptance does obligate the dentist to render such service as is, to his judgment, to the child's best interests.

In these days we are hearing a great deal about Preventive Dentistry. We know that this term is not a catch-phrase; nor is it descriptive of something that is merely visionary, but, on the contrary, we do believe that it offers the only present hope of controlling the ravages of dental disease. To be most effective for greatest good Preventive Dentistry must begin with the child; hence, that field of practical prevention of most concern to us is that of children's dentistry. Let us analyze this type of service.

We all are familiar with the basic factors of heredity and the dietary principles that the expectant and nursing mother must follow if the new-born infant is to have the proper foundation for dental health. However, we would stress the fact that these do not unduly determine the future dentition of the child; rather, is it largely determined during early childhood, and for this reason, we feel that the young patient does present a duty to the dentist that is challenging acceptance.

When the child presents, and as we survey his mouth conditions, we should see, not just the deciduous dentition, but instead, we should look beyond his years and visualize the gradual development and change to the more or less harmonious masticatory organ of the adult, and render our service with this conception in mind.

In our handling of the child we should seek to instill in him a confidence and trust in us and in the undertaking at hand. We should not forget that in these childish minds there do dwell goblins and monstrous ogres, and that not the least terrifying of them is the giant "dread of the dental chair." Accordingly, a kind and sympathetic manner together with more than gentle methods must be our way of approach if we are going to succeed in allaying his fears. With this premise we can begin our work.

* Submitted in the 1929-30 Essay Contest.

The operative needs of the deciduous teeth are familiar to you all. Existent pain must first be relieved that the little patient may be made dentally comfortable. Then must follow the thorough eradication of all diseased conditions that we may find. As yet the child's immunity to disease has not been so highly developed as in the adult, and during the period of growth, and especially during adolescence, an added strain is placed upon the tissues and vital organs beyond that of mere replacement of wear and tear; hence, we want no handicaps to be overcome, or high hurdles to be jumped such as mouth filth and disease impose.

In the matter of abscessed deciduous teeth, their retention wherever possible until the time of natural loss is to be preferred and greatly desired; but, there must be no compromise with disease simply for the sake of maintaining space. Deplorable as is a disturbed permanent dentition from early loss of deciduous teeth—and even this need not result if space retainers are judiciously employed—yet it is as nothing compared to a disordered body resulting from mouth disease.

Many a needful extraction is deferred by the dentist because he dreads a fuss. We are all too prone at times to avoid, if possible, a distasteful task, but certainly, our personal inclinations must at all times be subservient to the patient's best interests.

Turning our attention to the more constructive side of this service, what of Prophylactic Odontotomy that is being so much discussed. In my opinion, this is not a fad, but is a "modus operandi" that should be sanely and sensibly practiced wherever indicated. Attacking dental caries in its incipency in the pits and fissures is, indeed, practical Preventive Dentistry.

But, complementary to this type of service for the child is that of the periodic examination and prophylaxis, and until we institute such control practice we are not discharging our full duty to our young patients. It is not to be supposed, of course, that they, or rather their parents, will, at the outset demand this type of service. The fact is that very few of them know about it, or realize to any extent its possibilities. So, it becomes our plain duty to teach them the value of such a program and to persistently preach the gospel of dental health.

Now, what shall be said as to how to interest the profession in its obligations to these young patients. It is a moot question, indeed; for, although a small but zealous band from out of our ranks is championing such a movement, yet, so far, there has been no great enlistment in this cause.

It seems to me that in this era of economic readjustment, when big business has caught the vision of service to the many at low costs, rather than to the few at increasing costs—that dentistry might well emulate the world of commerce in this respect. But, this is not to say that we should be actuated in this by like motives, on the contrary, a true professional service must, at all times, be elevated to a higher plane than that of mere commercialism.

Such a vision of dental service and dental health within reach of all is an alluring one, and a positive movement, under wise and aggressive leadership, towards this goal could not fail to evoke an enthusiastic response from the profession at large.

I have no doubt, but, that through a far-reaching mouth hygiene and preventive dentistry program, the public must eventually become “dental health-minded”; and, as the practical working out of such a program must necessarily be, not through the present haphazard methods of seeing patients, but through the control practice—in which the child patient is the very foundation stone—therefore, the adoption of this plan by the profession would change its present attitude of indifference towards the child patient to one of marked concern.

THE PRESENT STATUS OF PERIODONTOCLASIA*

RALPH B. SNAPP, D.D.S.,
Winchester, Va.

It is an acknowledged fact that modern methods for the treatment of periodontal disease (so-called pyorrhea) has proved to be successful. The splendid results now attained can be traced in large part to the progress made in the linking up of etiology and treatment. The recent work of Box, Stillman, McCall and others in the profession, has not only aided in solving various problems in periodontoclasia, but has also enlightened the path toward the science of the prevention of dental disease.

Dental problems that have baffled many in the profession in the past are under control, in a fair way, today. Especially is this true of the science of periodontoclasia when its diagnosis, etiology and treatment are fully understood. Not only has the research work accomplished by our scientists, enabled us to recognize predispositions to and incipient lesions of periodontal disease, but their contributions have taught us how to link up etiology and treatment.

* Read before annual meeting of the Shenandoah Valley Dental Association at Harrisonburg, Va., on November 6-7, 1930.

What greater satisfaction can be derived, than the realization that we can prevent an initial lesion in preference to caring for a more advanced case?

Beyond a doubt, there is a vital necessity in periodontic practice for both general practitioner and specialists. The general practitioner must make himself more of an expert in periodontia, because it is the most fundamental thing in dental practice, such diseases are easily prevented and are not difficult to treat if taken in their incipency and also because a handful of specialists cannot hope to meet the requirements of the public. Periodontic practice is no different in principle, as compared to general practice, from the other branches, with the tremendous exception that the preventive side fits in more closely. Periodontia should be the first and foremost at all times in general practice.

The dentists must recognize the case that should be referred to the specialist, the case which the specialist is better qualified to diagnose and treat, because it is unusual or difficult, or because, for any reason, the dentist does not choose to handle it. The public should be taught that each case must be started with a general practitioner, who will select, in his patients' interest, the specialist most competent to do the particular kind of work required. But the chosen specialist must keep in contact with the general practitioner. No specialist should be tolerated who has not had at least five years of general experience following his preliminary education. Since dentistry in itself, being practiced within four walls, is none too broadening as a vantage from which to view life in general, a subdividing is prone to make it excessively narrowing.

It is my opinion that the dentist in general practice should not only treat incipient cases of periodontoclasia, but should be equipped in every way to practice this greater prevention in dental medicine today. The supporting structures of the teeth are the real foundation of all dentistry, why should they be so sadly neglected or be eliminated from the general practice of dentistry?

Nearly all cases of periodontoclasia or pyorrhea could be avoided if the signs pointing in that direction were recognized by the general practitioner and treatment and preventive measures instituted in time. The smallest deviation from the normal in a mouth is important enough to call for a remedy. Not infrequently, patients come in my office and say, "I told my dentist that my gums bled when I brushed them, but he looked in my mouth and said they were all right and many people's gum did bleed when they brushed them." Bleeding of the gums always indicates something wrong and is the most frequent signal preceding periodontoclasia. Normal (gingival)

tissue is of a light even pink color, and firm and continuous about the teeth.

In order to discover an incipient periodontoclasia, or an incipient gingivitis, which is the preceding stage, it is necessary to examine minutely the area surrounding each tooth. The color of the tissue must be noted carefully and then a probe passed carefully about the gingival margin to see whether there is any break in the attachment to the cementum. The finger of the operator may be used in palpating the tissue to see whether there is any unusual swelling or any oozing of blood or pus from the tissue under pressure. The dentists must know first what normal tissue feels like. A casual examination with a mouth mirror will not reveal these symptoms. Time and again, the periodontist sees cases in which the superficial calculus has been removed and the subgingival remains. The presence of subgingival calculus causes an inflammation of the area over it, which may be very slight, but nevertheless is evidenced in swelling and redness. It also frequently shows as a dark line along the margin of the gingiva. Every bit of calculus must be removed if the patient is not to develop periodontoclasia.

The dentist must be familiar with the appearance of the gingiva in certain systemic conditions. Bismuth and Mercury cause a dark line about the margins of the gingiva which looks very similar to the shadow of subgingival calculus. A probe will tell the difference. Now that bismuth is so frequently used in the treatment of syphilis, we see the line more often.

It will be seen, therefore, that the responsibility for the prevention of periodontoclasia rests almost entirely on the general practitioner, as it is he who sees the mouth first. He must be thoroughly familiar with the appearance of normal gingival tissue so that he may recognize pathologic conditions when they occur, and he must be able to differentiate local from general systemic causes. On him there also devolves the responsibility for so constructing his reparative work that periodontoclasia cannot possibly result therefrom.

So much emphasis has been placed on the use of the X-Ray in diagnosing pathologic conditions of the mouth that the dentist is liable to place too much dependence on it. A Roentgenogram is of little use in diagnosing incipient gingival lesions, and so the dentist must rely on his eye and his sense of touch.

Practically all the local causes of periodontoclasia are under the control of the dentist, and those causes which are not directly under his control, he must be familiar with, and so a tremendous responsibility rests on the shoulders of the general practitioner in the prevention of this disease.

Several theories have been proposed in the past to account for the incidence of periodontoclasia (so-called pyorrhea). Of these the theories of infection and local irritants have received the most attention and have proved to be the most fruitful. It has been known for a long time that periodontoclasia is an infection. Studies have been made for many years in an effort to isolate a specific bacterium as the cause. These efforts have always resulted in failures. It is now recognized that the bacteria that cause the infection are non-specific in character, and are common inhabitants of the mouth.

The part played by deposits of tartar, and other accumulations on the surface of the teeth has been so prominent and so well recognized that many have claimed that periodontoclasia was simply and solely a filth disease. They have also claimed that it could not occur if the teeth were kept free from all deposits and debris. This theory was back of the idea of cleanliness as the foundation of mouth health, a theory which has been so impressed on the dental profession as to be regarded almost as a religious tenet.

Tartar and other deposits, as well as overhanging and bad margins of fillings, ill-fitting crowns, improper contacts, injuries, etc., are an important factor in causing so-called pyorrhea, because they favor infection of the gingival tissue. They do this by the mechanical irritation which they produce in contact with these tissues, and this irritation, when prolonged lowers the resistance of the marginal gingiva against infection. Thorough removal of these deposits is important, but this removal alone does not build up resistance in the tissues. And it is now known that bacteria can infect the gingiva even when no deposits are present.

Another local irritant, which has received much attention in late years, and whose importance is very generally accepted, is known as traumatic occlusion. This is an excessive stress which is brought to bear on individual teeth through irregularity of placement in the jaw, or from fillings and bridges whose occlusal surface may be out of harmony with the occlusal surfaces of the natural teeth. That traumatic occlusion plays a most important part in the production of periodontal diseases is now unquestioned. This etiological factor has been found dominant in over 75 per cent of the cases treated in various pyorrhea clinics over the country and in view of this fact, it has become necessary to teach its correction in considerable detail. There has been much misunderstanding as to just why and how traumatic occlusion produces periodontal disease. As a matter of actual fact, traumatic occlusion does not cause this disease directly. What it does is to cause irritation to the supporting tissues of the

teeth, which results primarily in a derangement of the blood supply to these tissues. The blood supply of the gingival tissue is derived from the pericementum, from the periosteal blood vessels and from the alveolar gingivae. The fact of the blood supply being partly derived from the pericementum explains why there is so much congestion in traumatic occlusion. As this progresses a congestion results which lowers the resistance of these tissues to the infecting bacteria which are always present in the mouth. This is manifested first in the marginal gingiva, and for a considerable time the infection is confined to this tissue. And in the early stages, the inflammation of the marginal gingiva may appear to be slight and relatively unimportant. It is very important, however, to detect this early sign of infection and to begin at once to build up the resistance of these tissues. For if this early infection is allowed to go on unchecked, it will certainly invade the pericementum and bone, whose resistance has also been lowered by the traumatic occlusion.

The progressive tissue changes in the formation of pus or a pyorrhea pocket are as follows:

1. A reduced resistance of the epithelium of the gingivae (1st) local irritation and (2nd) by constitutional conditions.
2. The infection of the gingivae.
3. The carrying of the infection by lymphatics into the peridental membrane.
4. A break in the peridental membrane, leaving short fibres attached to the cementum and short fibres attached to the bone.
5. The destruction of the short fibres attached to the cementum also the cementoblasts.
6. Cementum becomes pus soaked.
7. Disappearance of the short fibres attached to the bones, also of the corresponding area of bone.
8. Pocket lined with inflammatory connective tissues, partly covered by low quality epithelium.

Under the first heading, of reduced tissues resistance by local irritation, in 1,000 areas examined, salivary calculus made up 325 areas or 31 per cent of all areas; serumal calculus made up 135 areas or 13 per cent of all areas and injuries made up 575 areas or 55 per cent of all areas. The injuries consisted of the following:

Bad margins of fillings and crowns, due to lack of contact of fillings and crowns; improper contact of fillings and crowns; malposition and malforms of teeth; separation following extractions; dental caries; worn contact.

The treatment of periodontoclasia or pyorrhea is divided into four stages (1) The correction of the traumatic occlusion. (2) The removal of all factors which produce mechanical irritations of the gingivae such as tartar and other deposits, overhanging fillings, ill-fitting crowns, etc. (3) The treatment of the pocket. (4) The building up of tissue resistance. Regarding the first stage or the correction of the traumatic occlusion. Experience has shown that when readjustment of the occlusal relations has been completed prior to scaling and curettement, with a period of rest intervening, the tissues tend to bleed less freely during these operations. Further, it is common knowledge among periodontists that when scaling and curettement are carried out after occlusal readjustment, the attending pain or discomfort is, as a rule greatly diminished. For these reasons the correction of the occlusion is done first.

We establish our balance in correcting traumatic occlusion by first, procuring protrusive balance; second, securing relief in centric occlusion; third, bringing about lateral movement without buccolingual stress. This is done by means of mounted carborundum stones—I use a No. 5 Chayes stone almost exclusively for this purpose. The high offending and tripping cusps are located by means of articulating paper, also by placing the index finger lightly on the crowns of the suspected teeth, to detect any movement of the tooth or teeth in their socket during the various excursions of the jaw and by observing the mobility of various teeth during the different movements of the jaw as stated.

Regarding the second stage or the removal of all factors which produce mechanical irritation, this of course must be done thoroughly and accurately for results. All overhanging fillings should be carefully removed and ill-fitting crowns corrected. If a small piece of tartar the size of a pin head is left remaining on the root of a tooth under the gingiva, it will be sufficient to keep up irritation at that point and we cannot hope for a reattachment of the tissue or the elimination of the pocket. Consequently the folly of the superficial removal of these factors, for permanent results, is evident.

Regarding the third stage, the treatment of the pocket. When pockets are deep, care must be taken to thoroughly curette all debris, necrotic and infected tissue lining the pockets. When this is completed, a sodium sulphide solution should be packed into the pockets and left for 10 minutes. This is for the purpose of destroying the epithelia tissue lining the pocket and promoting the attachment of the connective tissue to the root surface. This is the only drug that I use in the whole treatment of periodontoclasia. Antiseptics and germicides have always been disappointing in this

field, except as an aid in the treatment of acute gingivitis, such as Vincents' infection. For the chronic cases, which make up over 90 per cent of the total number of cases of periodontal diseases, antiseptics will never be more than palliatives.

Regarding the fourth stage of treatment, namely the building up of tissue resistance may be accomplished by the proper application of the tooth brush and massage of the gums. There has been a general misconception that when the tooth brush is used on the gums they will recede. As incorrect brushing can injure the teeth, so also can it injure the gums, but more harm has resulted from lack of brushing than from incorrect brushing. A tooth brush may be used successfully to clean the teeth and tongue and to massage the gums. However, special instructions to the patient, are necessary for the correct use of the toothbrush for these purposes. Our gums get far less exercise today than is required to keep them in a healthy condition, consequently we are forced to supply this lack of exercise by the artificial means of brushing or massaging the gums to keep them normal and build up the tissue resistance to the point of health. There are several good methods of mouth brushing as advocated by Charter, Hartzell, Stillman and McCall. Any of these methods will produce satisfactory results if done properly. Regardless which method you recommend to your patient, be sure, first, that you are thoroughly familiar with the method you recommend and then take sufficient time to explain and show the method to your patients in such a way that they understand it. Do not dismiss this important phase of preventive dentistry by just saying to your patient, "Brush your gums as much as you do your teeth." That doesn't tell them how and they don't know how, unless you show them.

The mouth brushing should be supplemented by the general building up of tissue resistance in patients where systemic involvement and health indicate such treatment.

In closing, I wish to emphasize the importance of making as thorough an examination of the gums and supporting tissues of the teeth, as you do of the teeth themselves, when a patient presents for an examination. This part of the mouth examination has been woefully neglected by the dentists in the past—it has seemed that their whole attention has been focused on the teeth themselves and scarcely any attention paid to the condition of the gum tissues and supporting structures of the teeth. No matter how good the teeth or how good the restorations, if the supporting structures become diseased the teeth will be lost.

There is no other part of the profession in which real preventive dentistry can be practiced to better advantage or to greater extent than the prevention of periodontal diseases.

Pyorrhea is the most common of all diseases today and there is absolutely no excuse for it, for it is an entirely preventable disease if the factors that bring about the condition are eliminated and the disease itself recognized in the incipient stage and proper treatment instituted to bring the tissues back to a healthy condition.

Gentlemen, don't wait for your patients to come in to you and inform you that their teeth are getting loose. As a general thing, if periodontoclasia has advanced to the stage where the patient is conscious of losing teeth, it requires most exacting and thorough treatment to arrest the disease and this can be done only in favorable cases at this stage, for generally speaking one-half or more of the process has been destroyed when the teeth have loosened sufficiently to become noticeable to the patient. If this happens today, in view of the generally known fact that pyorrhea can be arrested, and you have failed to recognize the disease in the incipient stage when its arrest is comparatively easy then, the responsibility is yours.

As this Bulletin goes to press we learn of the sudden death of Dr. H. Wood Campbell, of Suffolk. A full obituary notice will appear in the next issue.

A point worth remembering is that you do not get the Journal of the American Dental Association unless your dues are paid in advance.

The Membership Committee for 1931 needs your help.

THE BULLETIN

OF THE

Virginia State Dental Association

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THE MEETING AT OLD POINT

Old Point Comfort, the second point of landing of the first colonists from England, seems to also be a favorite stopping place for the dentists of America. The American Dental Association has held three of its annual meetings there and the Virginia State Dental Association, with its total of sixty-one annual meetings, has gone to Old Point for fifteen of them. This year we return for the sixteenth time to hold our annual meeting at this historic fortress of old Virginia.

History was made at those fifteen meetings even though the membership and activities of the Association were then comparatively small to what they are today. With our present membership this year's meeting should be the best ever held at Old Point. History will also be made this year, for matters of vital interest are to come before the Association. Your Program Committee has secured some of the ablest minds in the profession to appear before you in the scientific sessions. Golfing, trap shooting, fishing, and other sports have been arranged for your amusement.

Attendance is essential to the success of the meeting, and to the progress of dentistry in Virginia. From all indications, past history will have nothing that can compare to the fellowship and enjoyment to be had this year at Old Point.

To the recent graduate, "The first step in professional progress—join the Virginia State Dental Association."

FROM THE PRESIDENT

After an active year for the officers and committeemen of the State Association, we can now look forward to the annual meeting in May with a sense of anticipation of the result of a year of labor and preparation.

During the past few years there has been a decidedly noticeable lack of attendance at the opening sessions of our meetings, perhaps more so last year than usual. There were about thirty-five members at this session and seventy-five or a hundred on the golf course.

May I ask that the members take note of this prevailing condition, and do their part to make a real showing this year on Monday morning.

One of the outstanding members of the profession will be present that morning, and I am sure he has a message that is of vital interest to each and every one of us. Can you not help the officers to make this a session that will be a credit to the Association?

When the program reaches you I am sure you will see that sufficient time has been allotted for sports, so let's give a good portion of time to the scientific sessions.

R. F. SIMMONS.

THE BULLETIN

With the publication of the scientific papers read before the annual meetings of the Association and other valuable and interesting contributions from over the State, the Bulletin should prove a most valuable addition to the dental library of all the members.

Realizing that many members would wish to file or bind their copies and owing to the fact that copies go to libraries in this and other States, the system of numbering the pages has been changed and an index will be published for each volume. This system will prove convenient for those who save their copies and it is hoped that it will stimulate others to do the same. By saving copies you will have ready reference to a dental directory of the state of Virginia.

CORRECTION

The Bulletin wishes to correct the following error which appeared on page 47 of the last issue. In the "Historical Sketch of the Richmond Dental Society," by Dr. Harry Bear, and in the list of those dentists present at the first meeting of the Richmond Society,

an asterisk was placed before the name of Doctor F. R. Steel, indicating that he was one of the deceased members. This was an error in the reading of the proofs. Doctor F. R. Steele is alive and well and actively engaged in the practice of dentistry at 215 E. Franklin Street, Richmond, Va.

DOCTOR LATCHAM IN BALTIMORE

Dr. H. E. Latcham, formerly of Sioux City, Iowa, and whose paper, "Relative Values In Filling Materials," appears in this issue of The Bulletin, is now teaching operative dentistry at the Baltimore College of Dental Surgery, at the University of Maryland. Dr. Latcham is a past-president of the Iowa State Dental Society. He is also the founder of the Iowa Dental Bulletin and was for many years its editor.

Mrs. Margaret Parrish Maynard, wife of Dr. L. H. Maynard, Richmond, Va., died February 20, 1931. The Bulletin wishes to express its sympathy to Doctor Maynard and family.

JAMES CITY COUNTY MEDICAL SOCIETY REVIVED

At the suggestion of Dr. A. M. Snead, of Toano, Va., a meeting was held in his office January 29, 1931, for the purpose of reviving the James City County Medical Society.

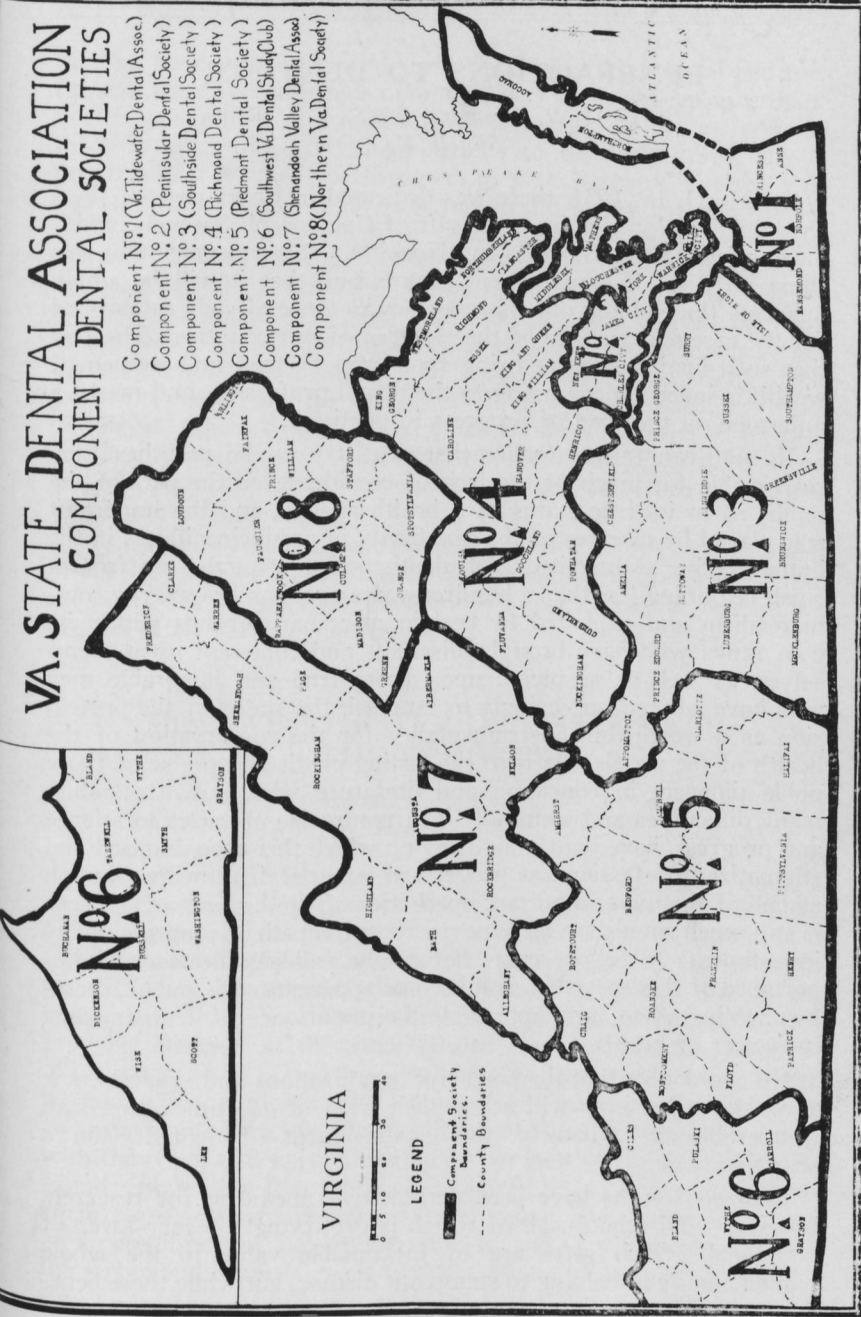
The following officers were elected: Dr. A. M. Snead, President; Dr. J. R. Parker, of Providence Forge, Vice-President; Dr. J. R. Tucker, of Williamsburg, Secretary-Treasurer. Among those present were Doctors J. M. Henderson, E. B. Kelly, W. L. L. Smoot, and D. J. King.

Matters under discussion were; the changing of the name of the society to James City-New Kent Medical Society, to include the dentists of these two counties, and standard fees for the administering of vaccines. The Society is to meet the first Thursday every third month. The next meeting will be held at Providence Forge, April 2, 1931.

Have you a name to present for membership at the Old Point meeting?

VA. STATE DENTAL ASSOCIATION
COMPONENT DENTAL SOCIETIES

Component N01 (Va Tidewater Dental Assoc)
Component N02 (Peninsular Dental Society)
Component N03 (Southside Dental Society)
Component N04 (Richmond Dental Society)
Component N05 (Piedmont Dental Society)
Component N06 (Southwest Va Dental Study Club)
Component N07 (Shenandoah Valley Dental Assoc)
Component N08 (Northern Va Dental Society)



BENEFACTIONS TO DENTISTRY

By H. W. CAMPBELL, D.D.S., F.A.C.D.
Suffolk, Va.

On March 18, 1931, there was dedicated in Providence, R. I., a Dental Clinic for Children, the gift of Col. Joseph Samuels, under the auspices of the Rhode Island Hospital. It is presumed that this clinic is to be of a permanent nature, and that it will be amply financed, thus adding one more agency to those already established for the care and welfare of the children of our country. The fact that such institutions are being sponsored by men and women of wealth is indeed encouraging to the dental profession, and marks a milestone on the road of progress in dentistry.

No one can fail to realize that dentistry in the past has been responsible for much of the lack of confidence on the part of the public as to its true status as a health agency, and the important role played by diseases of the oral cavity in producing illness in the human body. Admit it or not, dentistry has struggled up from a small beginning less than a hundred years ago, handicapped by commercialism and exploited by certain mercenary groups within its own ranks who have brought discredit and contempt upon themselves, as well as suspicion upon those true and honorable men who have labored unceasingly to establish the status of the profession as a worthwhile instrumentality for the conservation of the health of the people. It is to the lasting credit and praise of those noble pioneers in education and literature who, notwithstanding many difficulties and seemingly insurmountable obstacles to science and progress, have built a highway on which this once despised and stigmatized profession has progressed, assured of ultimate triumph as one of the most important specialties of the healing art. There is still much rubbish to be removed from the path of progress, many impediments to be overcome before the full significance and importance of this specialty shall become apparent to the public, thereby enabling all to fully appreciate the importance of dentistry as a conserver of health.

No one doubts that the powerful organizations and agencies now at work in dentistry will accomplish what at one time seemed an insuperable task, namely, the establishment of dentistry on a scientific basis.

Enormous sums have been dedicated to medicine for research, hospitals, and schools, all of which is gratifying to every lover of humanity. Such gifts are of inestimable value to the whole human family in helping to stamp out disease, but while these bene-

factions have added greatly to general medical knowledge and usefulness, the direct influence upon dentistry has not been in proportion to their munificence and wide distribution. It is apparent that there is need for direct benefactions to dentistry, especially if progress is to be made with respect to pathology and kindred subjects which have been ignored or minimized by the medical profession. The first of these great contributions was made by John Hamilton and Thomas Alexander Forsythe, of Boston, Mass., as a memorial to their brothers, James Bennett and George Henry Forsythe—a magnificent memorial, indeed, and an inestimable prize to the needy, as well as a nucleus of dental research and a center for the permanent acquisition of information hitherto not available to the profession and the public. With this great institution firmly established others have followed until the sums represented in them run into the millions of dollars. Dentistry is worthy of all of them and will prove that the confidence of the generous donors was not misplaced.

We congratulate our friends in Rhode Island on the establishment of the Joseph Samuels Dental Clinic for Children, and bespeak for the youngest of our great benefactions a usefulness far beyond the dreams of the generous giver.

HOW WINCHESTER DENTISTS HELP THE SCHOOLS

By DR. N. T. BALLOU
Richmond, Va.

In the fall of 1929 the dentists of the City of Winchester made a careful examination of the mouths of all the pupils in the Handley School System of Winchester. As a result of this examination a large number of children whose teeth were found defective were treated by the local dentists, and at the request of the Winchester dentists and the School Board one of the clinicians from the Mouth Hygiene Division of the State Health Department was loaned to Winchester for a period of approximately three months. At the beginning of the present school term, the Winchester dentists made an inspection of the mouths of children in the Winchester schools with the result that approximately 30 per cent of the children were found with no defective teeth, as compared to 11 per cent in 1929—an increase of approximately 200 per cent. This shows what can be accomplished by the co-operation of the dental profession and the school authorities.

The Winchester dentists not only gave their time for examining the mouths of children in their own city, but at the beginning of the present term extended their activities to Frederick County with the result that every child in the county and city, both white and colored, had their teeth inspected by a dentist. The result of the inspection in Frederick County is as follows:

Number of schools inspected.....	45
Number of pupils inspected.....	2,360
Number pupils with dental defects.....	2,024
Number pupils with no dental defects.....	336
Percentage with no dental defects.....	15%

The Director of Mouth Hygiene will be glad to co-operate with the dentists of any county or city wishing to follow the example of the Winchester dentists in making a dental inspection of the children in their county or city.

"GOLFERS"

Who is the best golfer in the State Association? None of us know, but soon all will be informed. This year the State Association president has donated a prize to be known as the "President's Trophy," and is to go to the dentist turning in the best medal score.

For one year he will rate No. 1, longer if he can hold his place. Look out Richmond, Roanoke and Norfolk, or some "dark horse" Bobby Jones will come in and cop the honors. From reports, whoever wins will have to shoot some good golf.

By the way, there are eleven water hazards on the Hampton Roads course.

We have another major prize to work for, a beautiful leather bag. The thirty handicap player will have an equal chance with the scratch player in winning this, as it goes to the low net score. There are other division prizes, valuable and useful, such as Ralston clubs. Then comes blind drawing, which will help the lucky. Only one prize to a man, though.

TRAP SHOOTERS

There will be plenty of trap shooting at Old Point this year. Contests will be held in both singles and doubles. Several worthwhile prizes have been donated and from the preliminary reports it looks like there will be a record crowd shooting. The exact date and time for the event will be announced later in the program.

H. E. BONNEY, *Chairman.*

PRELIMINARY PROGRAM



Sixty-Second Annual Meeting *Virginia State Dental Association*



Old Point Comfort, May 11, 12, 13, 1931



Practice Management

ARTHUR D. BLACK, D.D.S. M.D., F.A.C.D., *Dean and Professor of Operative Dentistry and Dental Pathology*, Northwestern University Dental School, Chicago, Illinois.

Full Denture Prosthesis

M. M. DEVAN, D.D.S.
Philadelphia, Pennsylvania.

Exodontia and Oral Surgery

E. C. HUME, D.D.S., F.A.C.D., *Past President of the American Society of Oral Surgeons and Exodontists*, Louisville, Kentucky.

Fixed Bridge Work

A. L. KING, D.D.S., *Professor of Crown and Bridge Work*, Atlanta-Southern Dental College, Atlanta, Georgia.

Periodontia

HARRY LYONS, D.D.S., *Associate Professor of Oral Pathology and Therapeutics*, Medical College of Virginia, Richmond, Virginia.

Gold Inlay Technic

WALTER M. MORGAN, D.D.S.
Nashville, Tenn.

Partial Denture Prosthesis

E. HOWELL SMITH, D.D.S.
Philadelphia, Pa.

Pedodontia

EDWARD F. SULLIVAN, D.D.S., *President of the American society for the Promotion of Children's Dentistry*, Boston, Mass.

THE CLINICS

The Clinic Committee is hard at work and receiving co-operation from many members in different sections of the State.

We are sure of quite a number of most interesting clinics on a variety of subjects. Clinics have already been arranged on the following subjects: X-ray, Bacteriology, Crown and Bridge Work, Removable Bridges, and Periodontia. A complete list of subjects and clinicians will be published in the program.

J. C. OVERBY, *Chairman.*

GOLF TOURNAMENT

Place—HAMPTON ROADS GOLF AND COUNTRY CLUB

Starting Time—12:30 to 2 P. M., MONDAY, MAY 11th

By foursomes from 1st and 10th tees—Green fee, \$2.00

Division A Handicaps.....	0 to 11
Division B Handicaps.....	11 to 21
Division C Handicaps.....	21 to 31

“President’s Trophy” to best medal score, low gross.

Leather bag to low net score (handicap).

Beckley-Ralston clubs to best medal score in B and C divisions, low gross.

Other prizes announced on day of play.

The above schedule may be revised, sufficient notice will be given all players.

The Executive Committee this year are allotting the Golfers only one-half day, officially.

The tournament will be held Monday afternoon.

U. S. G. A. rules will apply, particularly in one instance, “Playing the course on the morning of tournament makes the player ineligible to enter the afternoon tournament.”

You can play the course before the day of the tournament, Sunday or Saturday, or any other time. Please remember this! The Golf Committee is bound by this edict.

HOTEL RATES

The New Chamberlin

Single Room, per day.....	\$9.00
Double Room, per person per day.....	8.00

ALL ROOMS WITH BATHS

AMERICAN PLAN (WITH MEALS)

Make Your Reservations at Once



Hotel Langley

Hampton, Va.

Double room with bath.....	\$4.00 and \$4.50
Single with bath.....	2.50 and 3.00
Double without bath.....	2.50 and 3.00
Single without bath.....	1.50 and 2.00



Hotel Warwick

Newport News, Va.

Rooms without bath—

Single.....	\$1.50, \$2.00 and \$2.50 per day
Double.....	\$2.50, \$3.00 and \$3.50 per day

Rooms with bath—

Single.....	\$2.50, \$3, \$3.50, \$4, \$5 and \$6 per day
Double.....	\$4.50, \$5, \$5.50, \$6, \$7 and \$8 per day

