

Rhein, (M. L.)

# REPORT

OF THE

## Committee on Dental Practice.

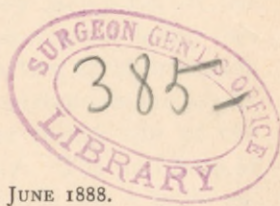
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BY M. L. RHEIN, M. D., D.D.S., NEW YORK CITY.

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Read before the Dental Society of the State of New York at its twentieth annual meeting, held in the city of Albany, on Wednesday, May 9th, 1888.

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## REPORT OF THE COMMITTEE ON DENTAL PRACTICE.

BY M. L. RHEIN, M.D., D.D.S., NEW YORK CITY.

The past year has been prolific in material for your committee's report. The meeting of the International Medical Congress furnishes a stimulus to which is due in a large measure the many advances made in our practice. When a patient turns over to our care the welfare of his dental organs, what is our first duty? Put them in a condition of cleanliness, for this is absolutely necessary before, in the majority of cases, a true conception can be formed of what work is demanded. For the removal of calcareous deposits the dental depots are flooded with instruments, but the profession is somewhat divided as to the merits of the two systems, viz: the push and pull movement. Now your committee believe in both of these methods; whenever the instrument does not come in contact with the gum, the push method is, generally to be preferred; but as soon as this style is used under the gum it produces unnecessary laceration of the parts, and there is danger of portions of the deposit being lost among the pericemental tissues, and later, starting up an irritation as foreign bodies. It is here that the pull instruments are so efficacious, for with them there is no excuse for losing any of the deposit or lacerating the tissues unnecessarily. The pull form of instrument should terminate with an acute angle but a trifle removed from a right angle, though unfortunately nearly all of them have perfect right angle terminations, sometimes even tending to obtuseness. The instrument should be of the best of temper, having a delicate termination, and the edge always in good condition,

so that when by carefully inserting it under the border of the deposit a moderate pull will always cause it to come away. The cutting end of the instrument whenever feasible should conform to the shape of the tooth. Notable instruments of the pull class are found in the Baylis and Abbott sets, and of the push style in the Cushing and Atkinson forms. Having removed all the calculary deposits the polishing with the pumice powder comes next. The wetting of this with hydrogen peroxide instead of water has been found of great value. Brown's metal strips with moistened pumice, stand unrivaled for polishing approximate surfaces, but should always be supplemented with dental floss.

We have heard very little during the past year of the Herbst method of filling teeth. The great danger of defects ultimately appearing around the enamel margins has caused the abandonment of the method by many of its former advocates. On the other hand, the beautiful adaptability of the Wolrab gold in lining cavity walls has been of inestimable benefit to us, insomuch as it has put all our gold manufacturers on their mettle; and to Mr. Williams, we award the palm of eclipsing the Wolrab gold in his late production, crystalloid gold. The mallet, however, still reigns supreme, either in the shape of the electric, engine, automatic, hand, or the very recent production of Dr. Bliven of the pneumatic, which is the very closest imitation in form of blow to the electric.

The past few years have finally settled the fact that in all approximal fillings complete contour restoration must be made so as to insure the best practical results; and all separations are to be avoided and condemned.

The proper use of alloy fillings has received a great stimulus of late. Your committee cannot condemn too severely the habit so many practitioners have of carelessly inserting an amalgam filling in a manner that says, plainer than speech, anything will do here, considering the price to be paid. The use of copper alloy has been largely advocated during the past year. Its great objection is its extreme blackness, which is always an unpleasant thing to see in any mouth. Equally good fillings can be made of the light colored alloys if they are properly inserted and finished. Having first adjusted the rubber dam, prepare the cavity as carefully as for gold. Then weigh the alloy and mercury and mix it

thoroughly in a mortar, being careful to have it soft enough if contour work is needed. Pack in small masses with the rotary method, and when sufficient amalgam is inserted take small pieces of gold foil, No. 1, and after annealing burnish them lightly over every exposed portion of the filling. The gold will be entirely taken up by the excess of mercury and disappear, leaving perfect edges, and a finish the color of bright steel, which will take as fine a polish as a gold filling.

The immediate separation of teeth has been very much encouraged by the admirably constructed separators introduced by Drs. Perry, Parr and Morey. While of inestimable benefit at times, great harm has been done by their improper use.

The use of the matrix has been very much increased of late, so that to-day it is a necessary adjunct of every dental office. It is, however, a standing menace to the future of operative dentistry. The beautiful restorations of our Varneys and Webbs will soon pass away and be looked upon as a lost art if the matrix is not kept from the hands of dental students. It is one of the rocks lying in young men's paths which will surely wreck them if not avoided. Many of our experienced practitioners have discovered that the place for the matrix is limited, if a perfectly constructed filling be the object. To Drs. Jack, Brophy, Guilford, Woodward, Miller and Herbst we are indebted for our best patterns of matrices.

Fillings when completed, so as to thoroughly restore the natural contour, should be given an enamel finish.

For restoring cutting edges of teeth, gold and platinum combined is the best material.

Outside of amalgam, plastic fillings are to be deprecated, except for temporary work in tiding over certain periods in the mouths of young people, or for the capping of pulps. Since our present method of so successfully treating pulpless teeth has come into use, many practitioners have not attempted the task of saving exposed pulps in teeth of matured formation. The Morey drill has been of great service in this line. By the use of cocaine hydrochlorate there need be no pain of any consequence; the root or roots being thoroughly cleansed, are syringed with a solution of mercuric bichloride in hydrogen peroxide (one grain to the ounce), thoroughly dried with hot air, bibulous paper

cones, or the galvano-cautery. A few fibres of cotton wound around a delicate broach and covered with chloro-percha solution is passed through the entire length of the canal, giving the very dry sides of it an opportunity to suck in the solution. A solid cone of gutta-percha is then forced to the end of the root and packed home with chloroform, and over this a small amount of oxyphosphate is placed, and the tooth is ready for permanent filling, everything being performed in one sitting.

In materia medica, hydrogen peroxide and mercuric bichloride have thoroughly displaced carbolic acid and creosote, accomplishing the additional benefit of ridding us of their vile odors. Cocaine has found a permanent place in our cabinet, and antipyrine is looming up as a very serviceable remedy in controlling neuralgic spasms. We have not yet discovered a specific obtunding agent for sensitive dentine. In this direction Dr. Ottolengui has recently reported some very wonderful results, reporting no failures in about fifty cases. The method of procedure is to use an ether spray directly against the dentine, having first thoroughly dried the cavity with blasts of hot-air.

For using remedies we very frequently have to have recourse to the hypodermic syringe, a form of which lately introduced by Dr. Dunn, of Chicago, is a great improvement, where no great force is required. The atomizer and spray are also in general use.

The treatment of pyorrhoea alveolaris has made rapid strides during the past few years, and to-day the presence of this disease is no longer recognized as a legitimate pretext for the extraction of a tooth. In the treatment of this affection, seeing that the teeth are clean, which means a great deal, is the first step. Then follows the procedure of thoroughly washing out the pus pockets with a germ destroyer, for which purpose nothing surpasses the mercuric bichloride and hydrogen peroxide mixture. This is immediately followed by strong stimulating treatment as a paste made from crystal carbolic acid and caustic potash, to be followed with a soothing dressing of glycerine and tannic acid, which is in most cases all that is required. The most difficult types of this disease to treat successfully, are those where the roots have lost a large portion of their attachment, for in these cases excessive motion prevents all attempts of nature at reproduction of tissue.

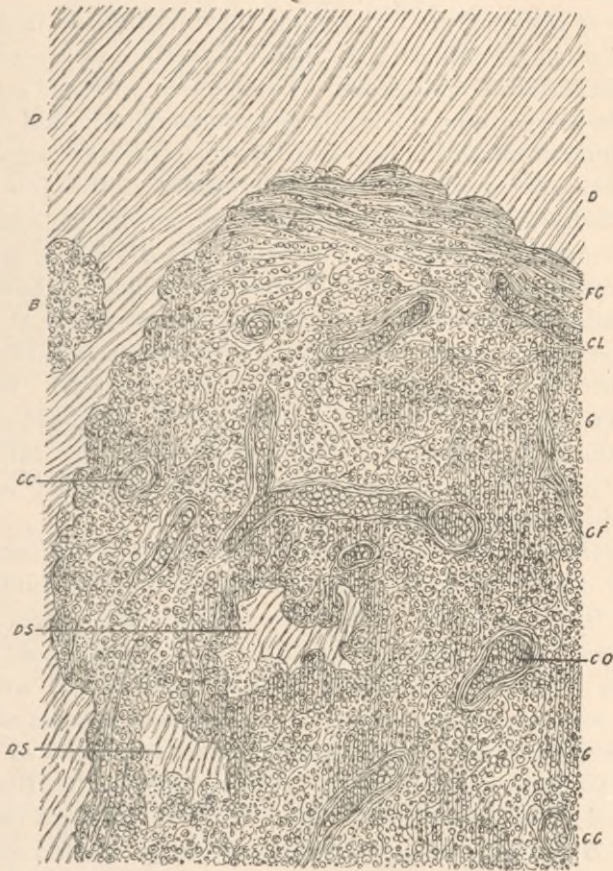


FIG. 1.

IMPLANTED TOOTH, ANDREWS'. EXTRACTED AFTER  $1\frac{1}{2}$  YEARS  $\times 150$ .

*DD*—Dentine of root.

*B*—Beginning formation of bay-like excavations.

*DS*—Shred of dentine, detached and corroded.

*C*—Calcareous deposits in granulation tissue.

*GG*—Granulation tissue myxomatous structure.

*FG*—Fibrous connective tissue filling the flat bays of the dentine.

*CL*—Capillary blood-vessel in longitudinal section.

*CC*—Capillary blood vessel in transverse section.

*CF*—Capillary blood-vessel in formation.

The chairman of your committee has successfully demonstrated the fact, that in these apparently incurable cases, all that is required is to assist nature by holding the teeth in an immovable position, when reproduction of tissue is as certain to proceed as in the milder forms of the disease. The binding wire and all forms of ligation are not only uncleanly and too temporary, but permit a certain amount of motion which in these aggravated cases is just sufficient to prevent the permanent adhesion of the new protoplasmic formations. To insure success, unite a sufficient number of the teeth together permanently and the desired object is attained. The case presented before the First District Society in January has since steadily improved, and we trust to show the same at one of the clinics next winter. Since then we have performed the operation on two other cases with equally gratifying results. We have also received communications from various men who have adopted this treatment successfully, so that we can at this day safely recommend it as the proper method of treatment of the severest types of pyorrhoea alveolaris.

Implantation of natural teeth has received a great amount of attention during the past year, and many are to-day extensively engaged in the practice. The present outlook is however very gloomy as to its becoming an operation of any permanent value. We have heard its wonderful success heralded all over the country, but in truth there can be no permanent success recorded in so short a time; even in the wonderful result portrayed in this month's *Cosmos* by Dr. Curtis of your committee, Dr. Black has shown that the ultimate dissolution of the root substance had commenced. Already the numerous failures of many reported complete successes demonstrate that the end of the illusion is approaching, and the operation will soon be a thing of the past. The microscopical examination of the tooth removed from Dr. Younger's mouth, also reported in this month's *Cosmos*, clearly demonstrates that in this case absorption had taken place similar to that which we find in the shedding of a deciduous tooth.

At a special clinic of the First District Society held on October 15th, 1886, Dr. W. J. Younger implanted an inferior central incisor in the mouth of Dr. C. L. Andrews. This tooth has since been under continued observation by the chairman of your committee. It became very firm soon after being inserted, and changed



its color to conform to the other teeth, as they all do. It was a typical case of success, and we have seen many experts deceived in picking out the implanted tooth. Dr. Andrews, a dentist himself, felt quite proud of the result, and everything pointed to a long continued usefulness of the new member of his inferior maxilla. But about September, 1887, he first noticed that the tooth was getting a little loose. This he attributed to an injury received in eating corn, and ligated it and gave it every other attention; but it grew from bad to worse until, on February 21, your chairman extracted the tooth and immediately placed it in a weak solution of chromic acid. It was at once taken to the laboratory of Prof. Carl Heitzman, and left with him for microscopical examination for the benefit of the report of this committee. Prof. Heitzman gave the specimen his careful attention, and returned to us four of the best sections, and india ink drawings of two of them ready for publication. His report of the specimens is as follows:

"NEW YORK, April 8th, 1888.

The root of the implanted tooth which you brought for examination a few weeks ago appeared to the naked eye reduced to about one third of its original size. The reduction was caused by deep erosions and irregular cavities that have replaced the original tooth tissues, viz: the cementum and the dentine.

"After the tooth had been softened in a chromic acid solution, the root was cut into thin slabs, and the appearances, under the microscope, were as follows: The dentine is corroded almost around the whole periphery of the root. Only in one place can a trace of cementum be seen. The bordering line of the dentine, toward the excavations, is fluted and made up of crescentic lines, corresponding to bay-like excavations, which follow in varying sizes in large numbers. The dentinal canaliculi, in which the dentinal fibres are still recognizable, terminate abruptly along the concave borders of the bays (see B, Fig. 11). Here and there apparently closed spaces of varying sizes are seen at the eroded borders of the dentine. Both the small and large bays and the spaces are filled with a myxomatous granulation tissue (see G G), in which numerous partly wide capillary blood-vessels run, mostly filled with blood corpuscles (see C L). In places where the bays are shallow a delicate layer of fibrous connective

tissue is seen attached to the dentine (see F C). The myxomatous tissue holds in many places globular masses of lime-deposits (see C); and in some places are seen debris of dentinal tissues (see D S), with irregular, eroded contours, still holding dentinal canaliculi, and obviously having escaped dissolution. Along one surface the bays appeared to be filled with coagulated serum of blood, in which blood-corpuscles and isolated medullary corpuscles were suspended; here evidently hemorrhage had taken place, immediately before the removal of the tooth, that led to the destruction of the granulation tissue. The pulp chamber is lined mostly by primary dentine; a small portion, however, shows the formation of secondary dentine of the ordinary variety, with scanty and irregular canaliculi. Both the primary and secondary dentine border the pulp chamber with globular masses, pierced by dentinal canaliculi, but showing nowhere excavations like those at the periphery of the root. Toward the apex of the root, where the corrosion of the dentine is most conspicuous, the pulp chamber has disappeared, and the dentine is eaten away to such an extent that only thin ledges of it are seen. The process that has led to such an advanced destruction of the root is the same as that which brings about the absorption and destruction of the roots of temporary teeth before shedding.

(Signed) DR. C. HEITZMAN."

Other forms of oral surgery, such as treatment of antral abscesses, alveolar abscesses, removal of carious and necrosed bone, for the relief of facial neuralgia, are all receiving more attention in dental practice than formerly. Special surgical instruments fitted to the dental engine for the purpose are now to be found in the majority of dental offices.

Prosthetic Dentistry is not backward in the grand progress made by our profession. One fact has, however, deeply impressed itself on the minds of your committee. The very best sentiment of the profession has been loud and definite in its decision, except in extraordinary cases, that non-conducting materials should not be used as a base for upper dentures. While the upper celluloid and rubber plate has been so severely condemned, its manufacture seems to remain just as extensive, and the consequent detriment and injury to the public just as great.

Bridgework, where justified, has come into very considerable

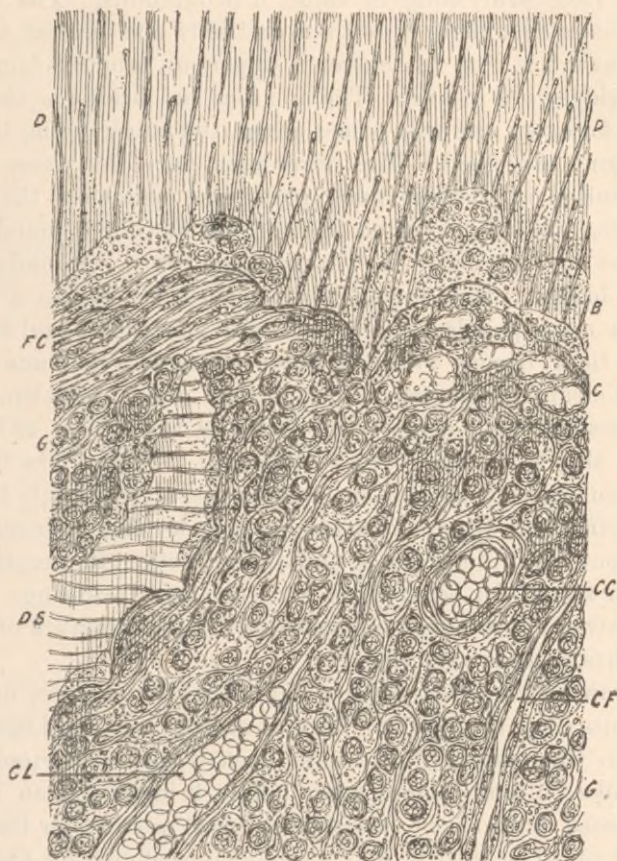


FIG. 2.

IMPLANTED TOOTH, ANDREWS'. EXTRACTED AFTER  $11\frac{1}{2}$  YEARS  $\times$  500.

DD—Dentine of root.

B—Bay-like excavation in dentine, near corroded border.

DS—Shreds of dentine, detached and corroded.

FC—Fibrous connective tissue, filling the flat bays of the dentine.

GG—Granulation tissue of myxomatous structure.

CL—Capillary blood-vessel in longitudinal section.

CO—Capillary blood-vessel in oblique section.

CC—Capillary blood-vessel in cross section.

CF—Capillary blood-vessel in formation.

favor. It is, however, a subject of great dispute in the profession to-day. Like everything of value, it is overdone. The dentist who believes that there is but one and only one perfect method of bridgework is like his extreme opponent, who condemns the use of bridgework in toto. The one sees his bridge as the only panacea for every one who comes along, the result being he does more harm than good. The other sees only the cases which have resulted in disaster, consequently he condemns the entire procedure. Of all operations in dentistry not one demands such perfection and accuracy in workmanship as a properly constructed bridge. How few of them possess it; and as a result we see so many people going about with mouths so foul in odor that all their friends prefer to keep them at a distance. The so-called cleansing spaces of bridgework are a delusion. The teeth must set firmly against the gum, and the palatal or lingual contour should be perfectly developed. Where practicable, nothing surpasses the porcelain bridgework of E. Parmlly Brown. Properly inserted, your committee has seen an expert deceived in picking out the bridge from the adjoining teeth. Its permanency has been tested for some years and not found wanting. With our improved continuous gum furnaces the manufacture of these bridges has become very easy.

In crownwork, every passing day brings its changes and improvements from the simpler forms of crowns like the Logan and Brown to the more difficult ones backed and contoured with gold. Like its more complicated fellow, bridgework, an imperfectly placed crown soon has much trouble in store for the poor patient doomed to wear it, and we may be pardoned for changing an old saying into, "heavy the root that wears such a crown." The pus-laden pockets, blind and fistulous abscesses by the thousand, cry out against such a debasement of a noble work.

Labor-saving devices in the shape of electric, water, gas and condensed air motors are in very extensive use, but for many who can not make use of these means, a great boon has been received in the rubber wheels, rims and foot-pads for the dental engine devised by Dr. C. S. Wardwell.

The report of your committee is necessarily but a mere synopsis, but it is hoped that the points touched upon will lead to a discussion which will only be beneficial to our society.