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# DOMINION DENTAL JOURNAL.

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## Original Communications.

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### Oxyphosphate of Zinc as a Filling Material.—Its Abuse.\*

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By J. E. WILKINSON, D.D.S.

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Zinc oxyphosphate, commonly called cement, bone-filling, white filling or composition, has become an essential in operative dentistry. Among its more important uses may be mentioned, (1) that of a temporary stopping in young anterior teeth; (2) in deep-seated cavities where pulps are almost exposed (in time often permitting deposits of secondary dentine); (3) in the treatment of nerve-canals to retain the temporary dressing and fill the cavity until considered ready for the permanent filling; (4) as a trial filling over a capping in exposed pulps, and (5) in cases of recent pulpitis; (6) as an intermediate in deep cavities under gold or amalgam, both preventing thermal shocks and strengthening frail walls; (7) for inserting crowns and bridges.

Judiciously selected and properly manipulated, in the cases above mentioned, and other conditions and capacities, oxyphosphate has proved to be a great blessing to patients and satisfaction to dentists; but unfortunately, like many other beneficent materials, it has been very sadly misused and abused.

The most common abuse is in being employed as an ordinary filling material in ordinary cases. Its solubility in the fluids of the mouth, the especial tendency to this, in many cases, at the cervical margin and on palatine surfaces, and the consequent uncertainty of its efficient durability, will not allow it a place as a

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\* Read before the Dental Association of Nova Scotia.

permanent filling. Its use is perhaps most common with foreign dentists having foreign patients, and with itinerant practitioners, the selection appearing to be made owing to the readiness with which the cavity can be prepared and the filling inserted, at the same time commanding a very fair fee, also the unlikelihood of ever seeing the patient again. In some mouths cement will completely dissolve out in about six months, while in others it will continue in good preservation for as many years. Again, in some cases, while the lower part and body of the filling remain intact, the part just under the gum margin has completely dissolved out, forming a most favorable habitat for a colony of microbes which steadily advance in their operations until often the nerve-pulp chamber is penetrated, when an attack of acute pulpitis, or perhaps periostitis, sends the patient to the nearest dentist to find out why a tooth which was filled should ache. Henceforward his or her confidence in dentists is much weakened and accompanied with a constant suspicion. Last fall a lady, the wife of a sea-captain, just before starting on a voyage, had an upper molar extracted. A cavity on the posterior surface had been filled in Calcutta by an American dentist. Fee, four dollars. She wished a filling that would stand, and save the tooth. The material used was cement, which was completely dissolved away at the gingival margin. The nerve was exposed and partly dead, so that under the circumstances the loss of the tooth was necessary.

Many operators neglect to inform their patients that cement is but temporary, and may last only six months. On the other hand, patients who have been warned, very often wilfully neglect obtaining the required attention. How often have we all had patients come to us, especially from the country, with teeth of fairly good quality, but suffering from neglect, who, upon being advised to have them filled, state their intention of letting them go and getting plates some day, because fillings were not of any use, for they had several filled a year or so ago and they all came out, or So-and-So paid \$10 or \$20 a few years ago for fillings and is now wearing "false teeth." Upon inquiry, we have generally found these to have been the white fillings, and remark that they are only temporary and dissolve out, to which the reply often is, "Yes, that's the way they did, but the dentist didn't tell us that." In this manner good teeth are sacrificed, and the profession in general is injured.

A second abuse of oxyphosphate is in its manipulation, both in mixing and its insertion. By adding too much powder to the fluid at once its quality is lowered. If too stiff when applied to the cavity, it cannot be perfectly adapted, and the filling is granular, rough and defective. If too thin and soft when applied, it is not desirably tough, but crystalline and brittle. Applying to moist cavities, puncturing with small-pointed instruments when

nearly hard, and imperfect preparation of cavities, may be mentioned as injurious.

Oxyphosphate is irritating to a pulp partially or almost exposed and its employment as a direct capping is therefore an abuse.

The last abuse of cement to be considered now, is its non-use, referring chiefly to its capacity as an intermediate, in deep-seated cavities, either over a capping where the nerve pulp is partially exposed, or directly applied where the cavity is merely large and deep, for the purpose in either case of lessening thermal shocks, and, perhaps, of strengthening frail walls. How often have all dentists been applied to for relief, by patients suffering from acute periostitis, caused by dead pulps destroyed by irritation caused by large metal fillings, where the insertion of non-conducting intermediates might have prevented the trouble. Not only so, but have we not had even to remove metal fillings actually penetrating the nerve-canals?

In speaking of the non-use of cement, we may allude to neglect of young permanent teeth, badly decayed and of very poor quality. A girl of thirteen, whose every tooth, above and below, was decayed, said that she had been taken to a dentist two years before and was told by him that there was no use in filling her teeth. In such a case we know that, if at all possible, the teeth should be preserved until about the age of twenty-one years, when alveolar ridges will be harder and not subject to so marked absorption which is the cause of so great permanent injury, rendering the retention of artificial dentures more difficult, and permanent disfigurement of features. For anterior teeth and often the posterior as well, the material indicated is cement, which should be replaced as often as necessary.

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### Dental Dots.

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By Dr. BEACOCK, Brockville, Ont.

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Rubber dissolved in chloroform is one of the most useful articles in the laboratory for repairing cases.

Bacteria are the smallest of all known organisms, and though near the border-line between animal and vegetable life, are commonly classed among the plants. They increase and multiply, and are endowed with a peculiar quality called life, yet they have not the power to move from place to place, only as they are carried by the air or by instruments to the mouth, by dentists or physicians, or various other ways. They are propagated by spores, from one to several may be liberated from one cell. These spores are much more difficult to destroy than the parent cells.

Save all your broken burs. Grind them to wedge-shape, with square points. They make first-class drills for occasional use.

Dental caries is produced by three divisions of micro-organisms. The first changes unfermentable sugar and starches into fermentable sugar, the second transforms these into lactic acid, and the third produces a digestive process.

Copper amalgam is sometimes useful for repairing rubber plates, replacing a block or broken tooth without vulcanizing.

To make copper amalgam antiseptic, add a few drops of muriatic acid, diluted with water. This has considerable affinity for both copper and mercury. It will hasten the amalgamation, the chlorine uniting to form bichloride of mercury. Wash well with salt and water. NOTE: The diluted acid can be kept in a bottle, and be always ready for use; the salt and water in a separate bottle. Both should be labelled, and a niche cut in the side of each cork.

Jumping toothache, as it is called, is due to a dying pulp, confined without vent; expansion of gases in the closed chamber causes pressure on the living pulp.

Carbolic acid, one tablespoonful to a quart of hot water, makes a 3 per cent. solution suitable for disinfecting instruments.

In case of accident from carbolic acid poisoning, common soap, which is almost always handy, is very efficient as an effectual antidote.

Keep your gutta-percha under salt water and it will keep good for years.

Lacto-peptine will digest small portions of pulp-tissue that may be left in a root.

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Regarding the use of Dr. Schreier's compound, Natrium-Kalium, in pulp canals, Professor Noyes, of the Rose Polytechnic Institute, of Terre Haute, Ind., writes: "I do not see how anything could be gained by the use of metallic sodium and potassium in the manner you indicate, which would not be gained equally as well by the use of sodium hydroxide or potassium hydroxide, and with far less danger. The metals I should think likely to lead to ugly accidents in such a use. The hydroxides would, I think, have little effect on bony tissue, fats would be saponified, and other organic matter in general would be disintegrated by them.—*Dental Review.*"

## Abstracts.

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"Decay never occurs on any surface which may be and is kept clean. The fissures and pits which cannot always be kept clean by the patient, should be filled on the first indications of decay. Here is preventive dentistry in a nutshell."—GARRETT NEWKIRK in *Items of Interest*.

J. R. Bell advises the use of Phillip's milk of magnesia in cases of erosion or decalcification of enamel at cervical border from acid condition of secretions. A teaspoonful taken into the mouth at bedtime and rinsed around the teeth will form an antacid coating sufficient to protect them for several hours. It may be prescribed three times daily after meals in severe cases.—*Items of Interest*.

Dr. L. G. Noel advocates combinations of rubber and gold as useful for many cases in bridge-work. The gold shells investing the teeth used as abutments are connected by soldering in a strong bar of platinum and iridium. To this bar ordinary teeth are attached by means of rubber. No model of the gum is required, as the rubber should have no bearing upon the gum. This makes a stronger bridge than one made in the usual way, besides presenting fewer crevices for collecting fluids and food.—*Items of Interest*.

Prof. L. L. Skelton, at the opening of the Chicago College of Dental Surgery, dealt very forcibly with the question of "Practical Dental Education." In this age of rush and gold-getting, students are impatient of any studies not bearing directly on the actual practice of dentistry, forgetting that a practical education must consist of both theory and manual training. It is pathology that makes dentistry a profession and not a trade, and to understand the pathological we must know the normal or physiological. It will not be enough to understand the anatomy and physiology of the oral cavity alone, as we are frequently called on to cope with reflex manifestations of diseased conditions in organs distant from the seat of pain. Take, for example, the excruciating toothache due to certain concretions on the teeth and associated with a uric acid diathesis; no local treatment of the teeth will succeed in relieving this disordered condition. The dentist who can intelligently appreciate and remove distant causes of local pain is the man who will be looked on as eminently practical.—*Dental Review*.

Dr. Sidney S. Stowell in a thoughtful paper read before the First District Dental Society of the State of New York, and published in the January *Cosmos*, deals with the subject of "Local Exercise and Dietetic Influence upon the Teeth." Taking as his

seed-thought the fact that among savages and wild beasts we invariably find perfect teeth, the writer goes on to show that nature will make an effort to eliminate any organs which are rendered unnecessary by our habit. He instances the cases of a man's hair falling out on account of wearing a heavy head covering, while a woman's hair being covered by a lighter head-dress rarely falls out so profusely as to leave baldness. A cow fed for two years on brewery grains will lose her teeth, as they are no longer necessary for purposes of mastication. In the same way a tooth in the mouth of a human being not having an occluding tooth will become elongated and lame. The essayist mentions several cases from his own practice going to show that teeth fail principally because they are not exercised enough to maintain health, and closes with the opinion that if foods were used needing masticating, so that the teeth may have exercise, they "will develop health and strength and will require no further care or treatment, until in future generations all teeth shall be sound in the perfect man, and the dentists shall cease, because they are few."

Dr. Palmer, of Janesville, Wis., in a paper before the Wisconsin State Dental Society, has some very pertinent thoughts on the first permanent molar. Although this tooth, from its size, perfection of outline and position in the jaw, is the most important, yet it is the worst treated of any tooth in the mouth. Owing to the extraordinary strain on the system of the child during the growth of this tooth, it is generally inferior to the others in structure, and parents hold more wrong ideas of it than of all the other teeth combined. The extracting of this tooth is a fruitful source of arrested development of the alveolar ridge and subsequent irregularities. The tipping forward of the second molar which follows extraction of the first, causes a very serious alteration in the articulation, and the anterior teeth suffer as a consequence, being pushed out of position, changing the whole expression of the face. Again, the removal of these teeth will cause the eruption of the teeth anterior to them to be retarded, as the acclusion of the jaws should come on the first molars. Dentists should impress upon their patients at every opportunity the importance of attention to these teeth.—*Dental Review*.

"My usual method of treating teeth with putrescent pulps is to first apply the rubber dam, and, if there is no opening, I make one as before described, and carefully remove all *æbris* from the pulp chamber, and with shreds of cotton dry out thoroughly until there is no trace of putrescent matter. The canals are now washed with peroxide of hydrogen or pyrozone until all effervescence ceases. I sometimes follow this with alcohol, and then carefully and thoroughly dry out with hot air. I then make an application on cotton in the roots, of the following: Cassia, 1; eugenol, 2; gaultheria,

3 parts; and allow it to remain three or four days, as may suit my convenience, and then, if all is well and I find the roots sweet, it is ready for filling. If, however, any soreness remains, I treat again, and sometimes several treatments are necessary. Everything being ready, I moisten the canals with eucalyptol to assist the passage of the chloro-percha or gutta-percha and eucalyptol into the canals. This is worked thoroughly into the canals, followed by gutta-percha cones. Take a small piece of vulcanite rubber, make a roll of it nearly large enough to fill the cavity, and with a blunt instrument force the rubber carefully into the chloro-percha, and this forces it into all parts, and we may feel reasonably sure of having thoroughly filled the canals. Success depends largely on thoroughly filling the canals as well as the proper treating.—DR. L. W. SKIDMORE in *The Dental Review*.

LOOK AFTER THE SURROUNDINGS.—We have sometimes seen a form of distinguished personal beauty disfigured by a want of cleanliness, and by being clothed in slovenly attire. The exquisite symmetry could not be altogether concealed, but how much more attractive would it have appeared with other and more attractive accompaniment. So it is with professional character. How many brilliant men have their lights shaded by slovenly attire and ill-kept offices. Changing the illustration, I may observe that the brilliancy of the diamond may be dimmed for the want of polish, or the lustre of gold may be rendered invisible by incrustations. Every professional man should cultivate habits of refinement and taste, denying himself all the so-called luxurious habits that render the personal appearance in any way objectionable. Cultivate amiable habits. It may be difficult at first, but practice makes perfect. Keep the office and surroundings neat and cheerful. Never get so busy that you have no time to render the surroundings neat and tidy. Every hour spent in improving the appearance of one's office will bring greater returns eventually than the same amount of time could spent in any other way. Try this for the new year. Go down on the sidewalk and imagine yourself a critical patient looking for a dentist. Come slowly up the steps, looking from side to side and up and down, with a critical eye; observe the signs, the floor, the walls. Go inside and sit down in the reception-room; observe it carefully and critically for fifteen minutes, as a stranger would who had that long to wait. Do this, and I'll guarantee you that enough will be found out of shape to occupy several hours profitably. Always remember that it is the imperfections that people observe on entering a strange place: A sign out of place, a picture pushed aside in dusting, a cobweb in the corner, dust on the mantel or under the furniture, the smell of tobacco in the room, and a thousand things too numerous to mention, but all of sufficient importance to demand attention. Look after these little things; it pays and pays well.—*Editorial in Southern Dental Journal*.



## Selections.

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### Extracts from Essays on Chinese Dentistry.\*

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By A. M. H. (communicated through C. ROBBINS, L.D.S. Eng.)

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In China dentistry is not widely practised, as the dentists not only are unable to supply the lost teeth but also they are not able to arrest the decay of the teeth, therefore I have only concentrated two themes in my mind upon which I will write, viz., the extraction of the teeth and the pretence of catching the tooth worms. Once upon a time on my way to school, while passing the Ming bridge, I chanced to see a personage submitting to an operation of a native dentist, as he had undergone pain in one of his molars for some time. My attention being attracted I took my stand by them to watch narrowly what was going on. The dentist dipped some soft pink substance on his instrument, which was somewhat like a knitting pin, but instead of having pointed ends had blunted ones, and he applied it to the base of his patient's diseased molar. During the meanwhile he put an end to his talk by saying: "Ha! beware! keep your tongue still, lest it will touch the medicine and be injured." In another moment he extracted the diseased molar by means of his forceps, with perfect ease. His patient then gargled his mouth with water in order to prevent the gushing of the blood, and the operation was completed. After all was over, I took my departure and resumed my journey to school with great satisfaction. On inquiry, I found out that the drug which the dentist employed is generally and properly known by the name "Lu-sauk-dang" (arsenic), "the drug of severing bones." Some is white. According to my opinion the difference of its colors is due to the variety of the coloring matter stirred and mixed in the mixture.

The prescription of the medicine necessary in making it and the method of mixing it are hidden in the pith of the minds of the selfish dentists, each of whom has the lot, marked out by his birth, of being secretly communicated by their forefathers with them.

On this account everyone of the personages of whom I have diligently enquired as to how it is composed, and how it is made, alleges that he has not the least idea. Now, I want to state another case; I recollect when I was a stripling being a spectator of a ridiculous dental operation performed by a menial surgeon. His life was that of an itinerant. Generally he made his choice of the open space in front of some club elaborately sculptured, or in the

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\*Written by young Chinese students who are learning English at the Anglo-Chinese College, Foochow, China.

vicinity of some highway, to set out varieties of drugs and ointments, highly burnished knives and crockery, such as canisters, mugs, etc., together with lamps all mingled higgledy-piggledy, pretty much as I have enumerated them. No sooner he struck his gong to attract a crowd than people came flocking to him, and children, as a matter of course, would elbow their way through the throng towards him. After all he offered to extract a tooth free of charge for anyone who would submit to his first operation. A boy of a dozen years old, who was neither well bred nor well-to-do, took advantage of his offer, and stepped forward to have his shaken tooth extracted. Then the surgeon dipped a piece of paper in a mug of Lu-sauk-dang (arsenic) and brought it in contact with the tooth. At the same time he enjoined upon him to close his mouth as tightly as possible, and pasted half a dozen strips of paper at one end on his face, leaving the other ends downward. The boy, thus adorned, was such an apparition as is seldom to be met with in broad daylight. After everything was ready, the surgeon befooled the boy, saying, "You should jump as often as I beat my gong, so that your tooth will be fully influenced to cause to drop down by the drug without slight pain." We undoubtedly know that a boy of a dozen years is generally an odd mixture of ignorance to credulity. On account of this he readily followed his advice and jumped as speedily as he beat his gong. The wide throng of spectators of course burst into a laugh, and meanwhile the tooth fell off.

Now, let me advert to the pretence of arresting the tooth worms. One of my relatives was once attacked by a serious cold, and after the cold was broken up by restoring activity to his skin he had a neuralgia having its origin in one of his molars, which gave him such an intense suffering that he could neither eat nor repose, but moaned with a voice so audible and so plaintive that it sent a thrill to the heart of everyone in the house. At first he endeavored to alleviate his pain by holding the solution of wonghu in his mouth, but without avail. On the second day his suffering increased to a remarkable degree, indeed it is impossible even at this distant period to reflect without horror on the miseries of his toothache state. Then a surgeon stepped in and declared that as the molar was affected by the cold which attacked before it was not tractive and that if extracted there would be no end to the bleeding, so that he went his way.

Finally he submitted to an operation of a woman dentist whose agency was to arrest tooth worms. Her general operation is as follows: A chopstick and a silver pin are the only instruments she requires in her normal act. She is willing to exhibit them to any one who conceives an inclination of discerning her trickery. She brings the chopstick in contact with the diseased tooth, and cautiously pokes it through with the pin in search of the odious worms ;

after awhile scrapes out a lump of yellow minute worms on the chopstick and immerses it in a cup of water. Each lump consists of from ten to fifteen worms, and sometimes two or three hundred worms are scraped in an immense number of lumps, *if the patient makes an exact bargain at first that the fee should be defrayed according to number of worms scraped.* She declares that each lump of worms abide in the same domicile located in the diseased tooth.

The general fee is four hundred cash (about 1s. 2d.), and only the poor may take advantage of being in penury to pay two hundred cash. With reference to my relative, the treatment relieved pain for a couple of days. After the elapse of that time he was in an intolerable agony again. No relief could be secured save by a fresh resort to that lady's booth and another submission to her operation. His toothache was treated in this way time and again, but was not eradicated. Ultimately the neuralgia of the tissues of his diseased molar was broken by following the medical advice of one of his acquaintances, that diets which were cold in nature were the best remedies of the disease of the kind.

Why is it her treatment can relieve the toothache for sometimes, or even eradicate entirely? It is because, I suppose, that the pricks of the pin have the effect of bringing the poisonous blood out of the diseased tooth.

#### ANOTHER PAPER.

Very many are cured by these medicines, but forty or fifty per cent. are only cured in one or two years. There are two remedies required, one of holding the medicine in the mouth, and the other washing. The medicine which the dentists give the patients to hold in the mouth is this: They use pepper gingers juice, or the roots of keung (a tree whose flowers blossom and decay in a day) and decoct one of them into a decoction. They are of ferocious property, so that I do not know whether it can heal the sickness or not, but I know that when this medicine is held in the mouth, only a very little while, the mouth will swell up, and moreover patients feel more uneasy. The remedy of washing is the most wonderful of all. How do they wash the patients? They go to the hills to gather the buds of the mulberry plants, and put them in a mortar and pound them very fine, then they strain them through a cloth in order to take away the dregs. Now they put the juice in a basin and then begin to wash the patient's eyes with a piece of silk batting. When the juice is filtered they then change for the pure juice again, in the basin, to wash the patient's eyes, and do this twenty or more times. When I saw this I asked: "What do you do that for?" They answered that the germs of the teeth were drawn up to the eyes by the medicine and washed off. Accordingly I made an examination of the juice. Oh! I saw that there were germs moving in the juice which were large as

hairs and of a very white color. They washed till I could find no germs in it, then stopped. Then the toothache was caused by the germs. Accordingly if the germs were washed off there should not be any more toothache. Why are the patients only cured in one or two years? Because, no doubt, the germs which they produced are not true germs, I think, but only to cheat for money.

[After mentioning other treatment (and that of using arsenic—Lu-sauk-tang) he says:] The receipt of Lu-sauk-tang is as follows: Burn the bones of the dog or man into ashes, and then mix them with some other stinky medicines and pound them very fine like powder. I am very sorry to say I cannot remember this receipt all right, for I cannot find my receipt.

#### ANOTHER.

“Teeth are the most important objects in human life.” “If any animal has no teeth it will be very difficult to make him a living” “Teeth are very necessary to digestion, and are very important in another way; they aid to give a fine complexion to the personal appearance of anyone.”—*Jour. of Brit. Dent. Association.*

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### The Preparation of Roots for Crowning, and Gold Crowns.

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By Dr. CAMPBELL.

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GENTLEMEN,—I must explain why this subject has been brought forward, and also why I am introducing it. The Secretary, after making every effort to secure a paper for our first meeting, could meet with no response, and appealed to the President, my father, for help in his difficulty.

It occurred to him that a discussion on root-filling and gold crowns would prove of interest to all, and, although I have nothing new in connection with either of these, yet it seemed to me the subject was in itself so comparatively new that a discussion of the whole process, from the preparation of the root to the completion of the operation, could not fail to be interesting and profitable to us all.

I do not know to what extent the crowning molar and bicuspid teeth with gold is practised by members of the Society, but I would encourage those who have not done much of this kind of work to adopt it more readily, as I must say I consider this one of the greatest strides yet made in conservative dentistry.

In suitable cases, if the process is carefully gone about, success is almost certain, and many cases of roots, which not so very long ago would have been victims to the forceps, can now be made serviceable for years.

I will give you an idea to what extent we have carried on this practice for the last year, as showing our confidence in this method of practice. During 1893 we put in fifty-five gold crowns, and during the ten months of the present year we have put in seventy-three gold crowns. Of these we know of no failures.

When suggesting this subject to the Secretary, my father had nothing new to offer, but he believed that a conversation on this subject would be almost certain to elicit some valuable suggestions.

I will state first how we proceed with regard to treating devitalized pulps.

Let us take a typical case: A patient comes to us with a molar or bicuspid tooth, which has been filled with a large amalgam filling, and, owing to decay or from other causes, the filling has come out and the walls of the crown of the tooth have crumbled away, so that it would be impossible to insert another amalgam filling. Very likely the pulp has been inflamed, and is causing considerable pain. Of course, in such a case, the first thing to do is to apply arsenic, which I invariably use in the form supplied by the S. S. White Co., and described by them as the "devitalizing fibre." It contains arsenious acid, creosote, tannic acid, and morphia, incorporated in fibre, and we find it the most suitable form of using the drug. After drying the cavity a small shred is laid on the dentine nearest the pulp, and a sufficient quantity of thoroughly mixed oxyphosphate of zinc (about the consistency of cream) laid over the whole surface of the tooth. After forty-eight hours this filling can be removed, and if the pulp is sufficiently destroyed it can be removed at once and the root filled.

Generally, however, I find it better to remove the dentine over the pulp and apply a small dressing of mixture of tannin and glycerine in the pulp chamber, and again seal with oxyphosphate of zinc or gutta-percha.

A week afterwards the pulp can be extracted with less pain, and much more easily, as it generally comes away *en masse*.

In the case, however, of a pulp, which has been devitalized from natural causes (such as exposure, owing to carious dentine, etc.), and become septic, one must proceed in a very different manner.

We have tried several methods, but the one with which we have had best results is the process described by Dr. Emil Schreier, of Vienna, at the World's Columbian Dental Congress, held in Chicago last year, in his paper on the Kalium Natrium

process. This consists as, of course, you all know, in taking a small quantity of a prepared mixture of sodium-potassium properly on a barbed broach and applying it into the centre of the root canal or canals. The metals form soaps with the fatty products of the septic pulp. (*Cosmos*, page 864.)

Some fibres of cotton are then rolled round an ordinary fine broach and saturated with water; this is pushed up into the canals several times, until the whole of their contents are removed. An antiseptic dressing (we invariably use a mixture of "Oil of Cinnamon," 1 part; "Carbolic Acid," 2 parts; "Wintergreen," 3 parts); saturated in cotton wool and then placed in the canals and sealed over with gutta-percha. About a week later this dressing is removed, and if the patient has been free from pain the meanwhile, the roots are filled. With regard to the filling of the roots (of course after using rubberdam, etc., to exclude saliva), we dry the canals first with the hot air from an ordinary rubber syringe, then apply absolute alcohol, and lastly, insert the canal plugger heated to red heat. After the canal has been properly dried, we take some of the chloro-percha solution on an ordinary plugger and force it into the canal, using a pumping motion.

When we consider the chloro-percha has completely filled the canals, we insert into each a gutta percha cone, and heating the plugger slightly, press it home. We then ask the patient to let us know when he feels a sensation at the end of the root, and when this takes place we stop.

We then take a small piece of gutta percha, soften it, and, placing it in the pulp chamber, with a large burnisher press it home. This ensures the chloro-percha being forced through the apical foramen and effectually sealing the canals.

The root being successfully filled, the next step is to remove all decayed dentine and to shape the walls of the root itself, and whatever part of the crown there is left standing by grinding it down by carborundum wheels and discs, so that no overhanging edges remain, and the walls are as nearly as possible perpendicular. This is very important, as it allows the measuring wire to come off easily.

Assuming that the root is now ready for taking the measure, the next step is to take a piece of fine binding wire annealed and place it round the root just below the gum margin, leaving the free ends at the buccal part of the root and twist them with a pair of flat pliers, until the root is tightly embraced by the wire.

Instead of grasping the binding wire by the pliers, two other instruments are frequently used, but, I think, the pliers are the most handy, and always use them.

The wire is now removed, care being employed not to change the shape obtained. Should there be any pain experienced in applying the wire, a five per cent. solution of cocaine may be applied to the

gum round the root, and left there for a few minutes with advantage.

It is most necessary, of course, to see that the wire is adjusted all round the root, as there is generally a little bleeding; this is frequently difficult, and it is sometimes necessary to use a little cotton wool or lint to mop away the blood. Where the gum is exuberant, it is most conveniently removed by ethylate of sodium.

The wire is now taken to the workroom and given to the mechanical assistant who is to make the crown. We tell him the tooth to be crowned, and show him how the wire was removed from the mouth. The wire is now laid on a piece of soft wood and receives a smart blow with a hammer. The shape is left clearly marked on the wood.

The wire is now cut with scissors opposite the twisted end and straightened out. This gives the exact length of the circumference of the root.

A piece of twenty-two carat gold plate rolled out to No. 27 American gauge is now cut exactly the length of the wire—the two ends brought together and soldered. The parts of the band which correspond to the mesial and distal surfaces of the root are scalloped out, as the alveolar process rises higher there than on the buccal or palative (lingual) surface.

The whole of the lower margin is then bevelled so that it may adapt itself to any irregularities of the root. The band is then contoured with contouring pliers and shaped so that the margin next the gum corresponds to the imprint of the wire made previously on the wood. A little X is scratched to show the buccal surface.

This part of the process takes about half an hour. It is now taken to the operating room, where it is driven on the root by means of the crown-driver and a mallet, if these are necessary; generally it is easily placed on the root by means of hand pressure. If the band does not fit the root very tightly, we contour it a little and try it again, and so on until it has a firm hold of the root. I then ask the patient to occlude his teeth to see that the band is free from the opposing tooth or teeth, and take a piece of quite soft stent and place it into the hollow of the band and instruct the patient to close his teeth. I then mop it over with the edge of a napkin dipped in cold water to harden it quickly and remove the stent, and generally the band comes away embedded in it. If it does not, however, it can be afterwards removed and placed in position in the stent. A model and bite are now made, and when the band is in position in the model a piece of soft wax is placed in the centre, and when hard is carved into the shape of the grinding surface of a molar or bicuspid tooth, as the case may be, so that it articulates with the bite. It has, of course, to be the thickness (size) of the plate (twenty-seven gauge) that it will be when re-

placed by gold. It is now placed in a soft composition of modeling clay called moldine, and a metal of low fusibility poured into it. In this, again, when hardened, is poured the same kind of metal, but just on the point of setting, and we thus get a die and counterdie on which to strike up the cap. This is done by using a piece of brown paper first as a pattern and getting the approximate size of the cap, and replacing this by a piece of gold of the same carat and thickness already mentioned. After the cap is got, the hollows made by the cusps are filled up with solder, and a catch of ordinary eighteen carat plate gold soldered on the under surface of the cap. It is now attached in its proper position in relation to the band, and soldered with No. 00 or 1 solder. It is then filled up and stoned. We prefer not to put a fine polish on these all-gold crowns, as the glitter of the gold is much more apt to catch the eye when the crown is inserted in the mouth, than if left dulled.

The root being dried, and kept dry by means of the saliva ejector and cotton rolls, a sufficient quantity of oxyphosphate of zinc to fill the interior of the crown is mixed very thin (about the consistency of cream) and poured into the hollow of the crown, which is then placed in the root, care being taken to ensure its being driven quite home.

The saliva must be excluded for about a quarter of an hour, and then the superfluous oxyphosphate of zinc, which has oozed out between the edge of the band at the root under the gum, must be removed by means of a probe or other suitable instrument. If the bite does not come exact, a little can easily be cut from the opposing tooth. This completes the operation, which takes altogether from the beginning four or five hours—three-quarters of an hour operator's time, and three to four hours of the mechanic's. In first bicuspid, when an all-gold crown might be an objection, as in the case of ladies, we frequently finish the crown in the manner above-described, and cut a square opening on the buccal wall, into which is fitted an ordinary porcelain tooth. The pins of these are soldered to the crown and the porcelain cut flush with the surface of the crown. This we find an exceedingly useful method, not materially interfering with its strength, while certainly improving its appearance.—*Transactions of the Odonto-Chirurgical Society of Scotland.*

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### Failures!

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It often strikes us that there is something sheepish in the manner of those who come before a society to tell of a failure, or of an accident, that has befallen them. Uriah Heap in all his "umbleness" could scarcely be more deferential than are these. We are bound to say we cannot quite understand this shamefacedness, and still



less the mock heroic attitude in which the speaker often concludes his communication by claiming credit for his boldness in making such an admission. It seems to us that the speaker usually proceeds on one of two absolutely false postulates, either that failures are quite rare, or, if of more frequent occurrence, that they are never openly spoken of, still less communicated at one of our society meetings. All have heard of "cooked accounts"; these are, unfortunately, not absolutely peculiar to bogus companies but are apt to even find their way into reports of learned societies, and more especially into papers dealing with some new line of treatment. But who is deluded save the author of the paper? Failures we all have, why then be ashamed of them? Why try to make out we have none? We have heard of a man who, boasting that he had never broken a tooth in attempting its extraction, was met by the obvious and appropriate retort, that "his experience must have been extremely limited." But we do not admit that the better class of practitioners are so backward in owning up to their misfortunes; on the contrary, with a fair acquaintance with the transaction of many dental societies, we call to mind many such admissions. We know the worth of a man, not by his uniform success, which some call luck, but by the way he meets his misfortunes, when they come, and by the way he guards against them. Failure is, perhaps, a better schoolmaster than success, only to fully profit by it the cause must be thoroughly elucidated, and for this no method is so successful as discussion with our friends at a society meeting. For, although we are prepared to affirm that failure is no reason for undue regret, it may be quite otherwise with the causes that have led to it. These may be divided into the preventable, of which ignorance or carelessness is the chief, and those which, in the present state of our knowledge, we are obliged to admit are unpreventable. The former are the torment of the early student days, and are the giants which we are then expected to struggle with and slay, for carelessness in the actions of a professional man is likely to bring him perilously near to being a criminal, and ignorance is likely to stamp him for a fool. Human wit is prone to err, and doubtless failures, due even to carelessness, may happen to good men, and for these they should take themselves to task. But the second group of causes are wholly blameless, and furnish the foundations of a more complete knowledge and of a better method of practice, and he who contributes most to these will *certainly* not be met with derision, nor *probably* welcomed as a hero, but may *possibly* earn the thanks of his compeers as a useful worker in the common cause.—*Dental Record, London, England.*

**Proceedings of Dental Societies.**

**Dental Association of Nova Scotia.**

Y.M.C.A. HALL, HALIFAX, N.S.,

*September 26th, 1894.*

The first session of the fourth annual meeting of the Dental Association of the Province of Nova Scotia was opened at 9.45 a.m.

The President occupied the chair.

The minutes of the last meeting were read and approved.

The election of officers was the first order of business. The ballot resulted as follows :

President, Dr. J. E. Wilkinson, Parrsboro ; 1st Vice-President, Dr. E. N. Payzant, Wolfville ; 2nd Vice-President, Dr. H. B. Ford, Liverpool ; Treasurer, People's Bank of Halifax.

Representative to the Dental Board—Dr. J. A. Johnson, Springhill. This appointment was rendered necessary by the death of Dr. W. C. Delaney.

Executive Committee—Drs. A. C. Cogswell, F. W. Stevens, H. Woodbury, S. D. Macdonald, H. Clay.

Auditors—Drs. A. W. Cogswell and F. W. Stevens.

The report of the Dental Board was then read as follows, and adopted :

HALIFAX, N.S., Sept. 25th, 1894.

*To the Dental Association of Nova Scotia :*

GENTLEMEN,—The Provincial Dental Board beg to submit the following report for the year ending September 25th, 1894 :

**DENTAL REGISTER.**

The Register was published this year in the *Royal Gazette* as per requirement of the Dental Act of 1891 ; also, in "Belcher's Almanac" as per resolution of the Board. The Transactions of the last Annual Meeting, the Code of Ethics and the Register were published together in pamphlet form, and distributed throughout the Province.

Number of Dentists registered at this date.....	72
"        "        "        "        this year.....	2
"        "        names removed.....	1

H. H. Bigelow, D.D.S., registered under the provisions of Sections 14 and 16 of the Act of 1891.

Ray B. Mulloney registered under the provisions of Sections 15 (1st clause) of the Act of 1891. His application was filed previous to the passage of the amendments of 1892.

One (1) student has matriculated, Howard W. Burchell, of North Sydney.

A large number have applied for copies of the Dental Law, or for information during the year. Doubtless, the public have been saved from a great influx of unqualified men, who have been prevented from practising in various States of the Union.

The Dental Board passes as recognized the list of colleges accepted by the National Board of Dental Examiners, including the Degree of D.D.S., from the Toronto University; providing that the applicant for registration has passed the number of months in attendance at one or more of them, as required by Section 14th, Act of 1891.

#### RECOGNIZED DENTAL COLLEGES.

1. Baltimore College of Dental Surgery, Baltimore, Md
2. Boston Dental College, Boston, Mass.
3. Chicago College of Dental Surgery, Chicago, Ill.
4. College of Dentistry, Department of Medicine, University of Minnesota, Minneapolis, Minn.
5. Dental Department, Columbian University, Washington, D.C.
6. Dental Department, National University, Washington, D.C.
7. Northwestern University Dental School, formerly Dental Department of Northwestern University (University Dental College), Chicago, Ill.
8. Dental Department of Southern Medical College, Atlanta, Ga.
9. Dental Department of University of Tennessee, Nashville, Tenn.
10. Harvard University, Dental Department, Cambridge, Mass.
11. Indiana Dental College, Indianapolis, Ind.
12. Kansas City Dental College, Kansas City, Mo.
13. Louisville College of Dentistry, Louisville, Ky.
14. Missouri Dental College, St. Louis, Mo.
15. New York College of Dentistry, New York City.
16. Northwestern College of Dental Surgery, Chicago, Ill.
17. Ohio College of Dental Surgery, Cincinnati, Ohio.
18. Pennsylvania College of Dental Surgery, Philadelphia, Pa.
19. Philadelphia Dental College, Philadelphia, Pa.
20. School of Dentistry of Meharry Medical Department of Central Tennessee College, Nashville, Tenn.
21. University of California, Dental Department, San Francisco, Cal.
22. University of Iowa, Dental Department, Iowa City, Ia.

23. University of Maryland, Dental Department, Baltimore, Md.
24. University of Michigan, Dental Department, Ann Arbor, Mich.
25. University of Pennsylvania, Dental Department, Philadelphia, Pa.
26. Vanderbilt University, Dental Department, Nashville, Tenn.
27. Western Dental College, Kansas City, Mo.
28. American College of Dental Surgery, Chicago, Ill.
29. University of Toronto, Ont. Degree of D.D.S.

#### EXTENSION OF PERIOD OF STUDENTSHIP, ETC.

The Dental Board received instructions at the annual meeting of the Association to secure legislation to extend the period of studentship and make some changes in the course of study.

After correspondence and consultation on the matter, it was decided that as the Secretary was in correspondence with the other Dental Associations in the Dominion, which might lead to necessary changes in the period of studentship and the curriculum in the near future, it would not be wise to approach the Legislature for amendments which it might be necessary to modify in order to secure uniformity. Therefore the Dental law remains as it was one year ago.

The Board ask that their action be sanctioned by the Association, and that the whole question be reconsidered and discussed in this meeting.

Resolutions of Instruction to the Secretary-Registrar passed by the Board :

*Resolved*,—That the Secretary-Registrar is hereby instructed not to accept any qualifications for matriculation in lieu of the curriculum of study laid down in Section 36, Schedule "B" of the Dental Law, except those authorized in Section 18 of the By-laws ; providing, that a Government High School or Academy Certificate from some other Province or country may be accepted, which upon examination is proven to the satisfaction of the Board to be equal to the Grade B Certificate (including the Latin option or qualification) of the Council of Public Instruction of Nova Scotia.

*Resolved*,—That each member of the Association must pay their dues while their names appear on the Register, whether they have removed from the Province or not, according to the requirements of Section 3 of the Amendments to the Dental Act of 1892. If a name is erased from the Register and the person at any subsequent time desires it restored, he will be subject to the law then in force regulating registration.

Respectfully submitted,

FRANK WOODBURY, *Sec'y-Registrar*.

## FINANCIAL STATEMENT.

*Dental Association of Nova Scotia in acct. with F. Woodbury.*

To balance on hand Sept. 26th, 1893.....		\$196 10	
To amount received for registration and dues.....		93 00	
			<u>\$289 10</u>
1893.	<i>Cr.</i>		
Oct. 9.	By Cash Y. M. C. A. for Annual Meeting.....	\$6 00	
	" Prof. Murray, Mat. Exam.....	10 00	
	" F. Woodbury, Secretary's fee.....	100 00	
1894.			
Jan. 10.	" Wm. Macnab, Printing Transactions....	18 00	
	" Prof. Murray, Mat. Exam.....	5 00	
April 5.	" R. S. Patillo, Reg. Fee returned.....	6 00	
	" Discount on Cheque.....	0 25	
Aug. 18.	" J. A. Johnson, Expenses Ex. Com.....	6 30	
			<u>151 55</u>
	Cash on hand.....		<u>\$137 55</u>
	Amount due from 10 members 3 years in arrears....	\$60 00	
	" " 8 " 2 " " ....	32 00	
	" " 19 " 1 year " ....	38 00	
			<u>\$130 00</u>

*Resolved*,—That the annual dues for the ensuing year be fixed at \$2.00. Passed.

*Resolved*,—That the Secretary-Registrar is hereby instructed to draw on all members who are three and two years in arrears, through one of the banks. Passed.

*Resolved*,—That a committee of five (5) be appointed, to which shall be referred the question of necessary new legislation. This committee to report at the Thursday morning session. Passed.

The Committee as above are: Drs. A. C. Cogswell, F. H. Parker, H. Woodbury, J. E. Wilkinson, W. A. Morgan.

The Secretary reported upon the correspondence held with the various Dental Associations in the Dominion on the question of Uniform Standard of Matriculation and Registration, as follows:

"In compliance with the resolution of this Association, the officers (either President or Secretary) of the various Dental Associations were sent copies of the Transactions of the last meeting, containing the Action of the Association *re* 'Uniform Standard,' also letters explaining the matter."

Replies have been received from the Secretary of the Dental Association of Quebec and the Secretary of the Royal College of Dental Surgeons of Ontario, stating that the documents would be placed before the Associations they represent at their next meeting.

There is no Dental Association in Prince Edward Island, but a Registration law. No correspondence has been received from the

other Provinces except the New Brunswick Dental Association. Their Secretary, Dr. W. H. Steeves, presented the matter at the annual meeting in August last. They took action upon the suggestions of our Association, and appointed Dr. F. A. Godsoe, of St. John, as their representative to correspond with the representatives from the other Dental Associations which may be appointed.

This is a matter which will doubtless take a long time to accomplish, but it is a step toward unity and good feeling to have a Commission appointed to devise ways and means for securing a basis of Uniform Standard of qualifications.

It is to be hoped the other Provinces will fall in line and make similar appointments.

In the meantime, each Province will doubtless proceed to legislate for itself until some agreement is reached. We may be encouraged by the fact that nearly all the dental legislation secured year by year in the Dominion tends towards a higher and more "uniform standard."

After some discussion, the report was adopted and the following resolution passed :

*Resolved*,—That the Secretary-Registrar be appointed as representative to confer with men appointed from other Associations *re* "Uniform Standard."

The following resolutions were then read :

*Resolved*,—That the Secretary-Registrar be instructed to secure fifty Certificates of Registration, to be the same design as those now in use. Passed.

*Resolved*,—That this Association, by a rising vote, hereby express their regard and high esteem for the late Dr. W. C. Delaney, and desire to unite with the Dental Board in expressions of condolence and sympathy with the bereaved family. Passed.

Adjourned.

FRANK WOODBURY, *Secretary*.

Y.M.C.A. HALL, HALIFAX, *Sept. 27th, 1894.*

The second session of the annual meeting opened at 10 a.m., with the newly-elected President, Dr. J. E. Wilkinson, in the chair.

Minutes of last meeting read and approved.

*Resolved*,—That the Transactions and Register be published in the same form as last year. Passed.

*Resolved*,—That the resolutions *re* increase of the period of studentship which were passed at the annual meeting of 1893, and reconsidered for discussion at this session, be laid upon the table for one year. Passed.

The Committee on Legislation, which was appointed at last

session, reported, recommending changes in the Dental Law as follows:

1. That the qualification for matriculation be the standard required for a Class B (Grade XI) Certificate of the Nova Scotia academic course, including the Latin option or qualification, and that Schedule B., Sec 36, Act of 1891, be repealed.

2. That a clause be inserted in the Act that any dental practitioner whose annual dues are in arrears for one year, shall have his name erased from the Register, providing that the name of such practitioner shall be replaced when all arrears shall be paid. Passed.

It is recommended that notice of motion be given to change the By-laws, as follows:

1. That a Treasurer be elected, instead of the moneys of the Association passing only from the Secretary-Registrar to the bank.

2. That the Secretary of the Association be elected by that body at its first session in the same manner as the other officers.

(Sgd.) J. E. WILKINSON, *Secretary*.

The report was unanimously passed, and Dr. F. H. Parker gave notice of motion for the changes in the By-laws recommended in the report.

#### RESOLUTIONS.

*Resolved*,—That the Secretary-Registrar receive the same amount for services as last year. Passed.

*Resolved*,—That this Association has received the report of the action of the Dental Association of New Brunswick on the question of "Uniform Standard" with gratification, and trust that these efforts may finally result in the accomplishment of so desirable an era. Passed.

The report of the annual meeting of the Dental Board was read:

HALIFAX, *Sept. 27th*, 1894.

*To the Dental Association of Nova Scotia:*

GENTLEMEN,—The annual meeting of the Dental Board was held on Wednesday, September 26th, at 2.30 p.m. The officers elected for the ensuing year are: President, Dr. A. C. Cogswell; Secretary-Registrar, Dr. F. Woodbury; Matriculation Examiner, Prof. H. Murray, of Dalhousie College; Final Examiners, Members of the Dental Board.

Resolutions of instruction to the Secretary-Registrar:

*Resolved*,—That all applicants for Matriculation or Registration must hereafter pay the required fee of ten dollars (\$10.00) besides

the registration fee of twenty dollars (\$20.00), whether they possess certificates recognized by the Board or not.

*Resolved*,—That the number of months in attendance at college required by Sec. 14 of Act of 1891 be complied with in every case.

Report was unanimously adopted.

The following resolution was adopted, after vigorous denunciations had been made by several members against certain *fakirs* who have been through the Province extracting teeth, etc.:

*Resolved*,—That the Legislature be asked to insert a clause in the Dental Law to prevent any persons from extracting teeth and performing other dental operations on the public streets or parks, whether for fee or not, or as a means of advertisement for other wares.

The President, Dr. J. E. Wilkinson, then read the following paper, entitled "Oxyphosphate of Zinc as a Filling Material.—Its Abuse." (See this number.)

A vote was passed, thanking Dr. Wilkinson for his interesting paper. The time having expired no opportunity was offered for the discussion of the question.

On motion the Executive was granted travelling expenses for one meeting.

Resolution passed that the next meeting be held in Halifax.

The fourth annual meeting of the N. S. Dental Association was adjourned.

FRANK WOODBURY, *Secretary*.

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### Manitoba Dental Association.

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The Board met on January 8th, 1895. Present: J. L. Benson, D.D.S., L.D.S., President, Winnipeg; S. W. McInnis, D.D.S., L.D.S., Secretary, Brandon; M. C. Clarke, L.D.S., Registrar, Winnipeg; G. J. Clint, L.D.S., Treasurer, Winnipeg; R. H. Robertson, L.D.S., D.D.S., Portage la Prairie. Three presented themselves for matriculation examination, but failed to pass. Two came up for final examination and passed, and were granted diplomas; they were J. M. Rogers, L.D.S., and J. E. Ross, L.D.S. Standard for matriculation was raised to the entrance to the Manitoba Medical College.

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Vermont State Dental Society.—Annual Meeting, at Brandon, Vermont, 20th March.

American Dental Association.—First Tuesday in August, at Ashbury Park, N.J.

Southern Dental Association.—In October, at Atlanta, Ga.



## Correspondence.

### Meeting of the Ontario Dental Society.

*To the Editor of the DOMINION DENTAL JOURNAL :*

SIR,—As Secretary of the Ontario Dental Society, I take pleasure in inviting every member of the profession to our meetings to be held in Toronto some time during July of this year. We hope to have an excellent programme, which will be announced at the earliest possible date. Nearly every dentist takes holidays in the warm season of the year; kindly reserve a few days at the beginning or end of your holidays for our meetings. Discussion of interesting and important subjects is a great factor in our intellectual and professional improvement, and as we expect to have something good to present to the meetings at Toronto, we hope for a large attendance.

W. A. BROWNLEE,

*Secretary Ontario Dental Society.*

## Reviews.

*Dental Medicine.* A Manual of Dental Materia Medica and Therapeutics. By F. J. S. GORGAS, A.M., M.D., D.D.S. Fifth edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1895. Order from any Ontario bookseller, or from E. M. Renouf, St. Catherine Street, Montreal, Que. Price \$4.00. 580 pages.

Evidently this is one of the most favorite, if not *the* most favorite, of the many professional labors of love in which the industrious author has engaged. Whatever Dr. Gorgas has undertaken, he has done thoroughly well; but we feel that in this work especially he has elaborated one of the best textbooks in use. In addition to many new recipes, and new remedies, such as Pental, Tropacocaine, Phenosalyl, Dermatol, Eugenol-acetamid, etc., the author has made many material improvements in the general text, and, in brief, has brought the work up to the present status of dental medicine. To the dental student it is an absolute necessity. To the intelligent practitioner it is a new inspiration. To your "purely practical man," who prescribes remedies he does not understand, in pathological conditions of which he knows as little, it will even assist, and no doubt encourage, his empiricism. No doubt a

great deal of the materia medica of the present day is empirical, and were every practitioner to be examined as to his knowledge of the composition, physical peculiarities, physiological effects, incomputabilities of the various drugs in daily use in dental practice, the average student could "refer back" the average dentist. It is not uncommon in these days of the free use of local anæsthetics, of whose composition the dentist knows nothing, to find the most profound ignorance as to the active absorbing power of the lymphatics and capillaries of the subcutaneous cellular tissue, upon which hypodermic medication depends. It is not uncommon to find your eminently successful "practical man" as foggy on the effect of dental medicines on the circulation, how they enter, how they act when they are there, and how they are excreted, as how the milk gets into the cocoanut or the seed into the apple. A work like that before us should shame such ignorance, and make the most self-assertative, "practical man" realize that he has not learned the first principles of his profession. Of course it is the bounden duty of an author to omit no important drug which has been brought before the profession. Yet, we venture to believe that the best results in practice are obtained, not by continual experimenting with the commercial fads of the pharmacist, but by confining the practice, as much as possible, to a few, and those the agents which experience has proved to be most successful. We can only commend Dr. Gorgas' work as full of information and suggestion.

*Operative Technics.* By Prof. T. E. WEEKS, Dental Department, Minnesota University. H. D. Justi & Co., Chicago. \$2.00. Cloth.

This instructive little work is an outcome of the suggestions and labors of our eminent confrere, Dr. G. V. Black, whose valuable book on the Anatomy of the Human Teeth is now in its third edition. Prof. Weeks, assisted by Dr. Cuttell, has produced a volume that will be of great service to students and teachers, in a branch that cannot possibly be omitted from a thorough dental curriculum.

*The Dental Digest.* The official organ of the Dental Protective Association of the United States. Monthly. Vol. I., No. 1. Price \$2 per annum in advance. The Dental Protective Supply Co., Chicago, Ill.

The latest addition to our list of dental journals. Its reason for existence is plainly stated. It is the organ of the Protective Association, which has formed a stock company for the manufacture and sale of dental goods, and is well edited, and sure to make itself heard and felt.

## Editorial.

### The Discovery of Anæsthesia.

*The Dental and Surgical Microcosm* reappeared last month after a temporary suspension. The journal is devoted chiefly to the art and science of anæsthesia, which its editor, who is also the proprietor of a dental depot, claims to have revolutionized by new apparatus and a new process of application. The editor does not hesitate to assert, that when he writes upon the subject of anæsthetics he does so *ex cathedra*, and unquestionably, from time to time, he has shown the scientific spirit of inquiry, and the correct application of terms. However, it is not our object at present to discuss the question as to whether or not nitrous oxide is an anæsthetic or an asphyxiant, a question that *must* be discussed and decided. In the November number of the *Dominion Journal*, we gave extracts to prove that Dr. Horace Wells did not "discover" the anæsthetic properties of nitrous oxide, though as the resolution of the American Dental Association, in 1864, correctly declared, to him belongs "the honor of the *introduction* of anæsthesia in the United States." We quoted Harris, Garretson, Flagg, the "History of American Dentistry," and the *Cosmos*, as sufficient *American* authority that Sir Humphrey Davy was the discoverer of the anæsthetic effects of nitrous oxide.

The editor of the *Microcosm* has rather a severe criticism on the work done by the committee appointed to celebrate the fiftieth "anniversary of the discovery of anæsthesia by Horace Wells." With some of his remarks we cannot agree; but he takes an impartial view of the historical facts, and entirely frees himself from any of that silly national predilection, which is more at home in a lunatic asylum than in dental controversy. It needs but a tyro in logic to expose the *reductio ad absurdum* of those who make the claim for Wells. While admitting that anæsthesia was discovered centuries ago, and while stating that Sir Humphrey Davy first suggested in 1800 the use of nitrous oxide in surgery, and actually submitted to the cutting of the gums over an erupting wisdom tooth, *for the express purpose of testing the properties of the gas*, and in which he declared there was no pain, the essayists and the editors persist in claiming as the "discoverer," a very worthy gentleman, who, at the period of Davy's discovery, was either unborn or a mere child. Dr. Horace Wells did not "discover anæsthesia by nitrous oxide." Dr. Wells was not even the first to apply it in surgery, as the facts above prove. But Dr.

Wells was the first *in America* to *introduce* it. Nothing more nor less can be said.

We suppose we will again be accused of the puerile charge of insulting "American" dentistry because we ask to have no hair-splitting over a simple English word. When dictionaries do not differ as to the meaning of the word "discoverer," why should dentists? Had Davy merely suggested the idea that nitrous oxide was capable of destroying pain, and gone no further, he would not have deserved credit as the discoverer. But it is on record that while Superintendent of the medical school at Bristol, in 1799, he experimented with it, inhaled it himself, had an operation performed in his own mouth painlessly, and then announced its anæsthetic properties, and suggested its use in surgery. To pretend that such scientific investigation is not a true discovery is to play with the vocabulary. Had Davy been a dentist, no doubt he would at once have used his discovery. The greatest discoverers frequently leave practical results for those who follow them. No one pretends that Wells was ignorant of Davy's discovery. No one pretends that he was the first to know or perceive the effects of nitrous oxide. Even had he been so ignorant, the revelation which he made to himself would not entitle him to be proclaimed as "*the discoverer.*"

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### Reciprocity between the Dental Boards.

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It is no doubt somewhat premature to act, but it is not too soon to discuss a question which was editorially referred to in the first number of our first volume, and which was much more practically suggested in a paper read before the Dental Association of Nova Scotia, in September, 1893, by Dr. Frank Woodbury, of Halifax. Many years ago, Dr. Cogswell broached the subject when he was planning the incorporation of the profession in the Maritime Provinces; but there has been nothing more responsive than a few echoes from Ontario. By reference to the article of Dr. Woodbury, the obstacles in the way will be found clearly explained. Obstacles now-a-days are only incentives to action. They stir us as the waves animate the swimmer. As a race, it has been our destiny and our duty to smash obstacles.

There is no reason why a dental confederation with reciprocity should not be established in the Maritime Provinces to begin with. A meeting might be held in Halifax, and the seed of unity planted; and there is no reason why our friends down by the sea should not ask our Newfoundland brethren to join. The Maritime Provinces rule the waves. Let them lay the keel of union and reciprocity.

**Dr. Ievers' New Compound.**

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Since the article appeared by Dr. Ievers in the last issue, a large number of testimonies from outside and impartial sources, have been sent to us as to the value of the Quickcure. The doctor has not concealed the formula from the profession or the public, but it is one of those preparations so difficult to compound that his personal attention is absolutely required. Dr. I. H. Henchey, M.R.C.S., Eng., Port Physician at Quebec, gives it great praise in a case of suppurating wound over the wrist joint, resulting from the bite of a cat: "The discharge of matter ceased and the wound healed in a surprisingly short time." Drs. Sewill, Parke, and other eminent physicians of Quebec city, express the same opinion from practical experience in its use in boils and wounds. We have had practical proof of its value in a burn, and repeated experience in its efficacy in exposed pulps, and various pathological conditions of the gums and the mouth.

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**Dr. C. N. Johnson.**

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Our readers will regret to learn that Dr. C. N. Johnson has felt it due to himself to resign his position as editor of *The Dental Review*. One of the hardest workers in the profession, not alone for himself, but for the profession, he has found there is a limit to the labor one man can do in justice to his own health. Dr. Johnson impressed his personality in journalism very strongly, and yet it was a purely unselfish and loyal enthusiasm, which will not be forgotten.

Drs. Gilmer, Dennis and Weeks succeed him as the editorial staff. We wish them united enjoyment and success in their work.

"None but an author knows an author's cares,  
Or Fancy's fondness for the child she rears."

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**French Translations.**

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With the next number Dr. I. H. Bourdon will assume the duty of translating for the French journals.

## Post-Card 'Dots.

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9. G. denies that it was Adam who "cut the first set of teeth," and insists that it was Cain, as Adam was made perfect.

10. Who introduced arsenic as a pulp devitalizer?

Dr. J. R. Spooner, of Montreal. It was first announced to the profession by his brother, Dr. S. Spooner, in his "Guide to Sound Teeth," published in New York, 1836.

11. Can you give me the words of approbation used by Washington Irving about dentists?

"God bless those surgeons and dentists! May their good deeds be returned upon them a thousandfold. May they have the felicity in the next world to have successful operations performed upon them to all eternity!"

12. What did Solomon call the teeth?

"Millstones."

13. Was John Hunter, who wrote the work on the teeth (1771), a practical dentist?

No.

14. Who first used gold-foil for filling teeth?

The Egyptians (?). Dr. Fuchard, of France (1785), first referred to it in writing.

15. Who invented porcelain teeth?

A chemist in Paris, France, named Duchateau.

16. Who was the first dentist in the United States?

Mr. John Woofendale, from England. He practised in New York and Philadelphia in 1766.

17. Who first manufactured porcelain teeth in the United States?

Drs. Peate and Planton, of Philadelphia.

18. When was the first patent obtained for making vulcanite plates?

In 1855.

19. When was the first dental journal established, and where can it be seen?

*The American Journal of Dental Science*, Baltimore, in 1839. Can see the complete volumes, to date, at the office of the editor of the DOMINION DENTAL JOURNAL. We believe it is the only complete edition in Canada.

20. Can you furnish back numbers of the *Canada Journal of Dental Science*?

Very few of Vol. 1. Send date of what you require, and will give you details.

## Annotations.

We urge the profession to make its political influence felt a little more. Votes are great persuaders, and the civility the average candidate pays to combined votes and influences ought not to be overlooked by our profession. There is no reason why some of our members should not sacrifice themselves, as fully as other people do, in the interests of the public. We have many really brilliant politicians in Ontario, and a few in Quebec, who could extract the fangs of boodlism if they got into parliament, relieve the pangs of public complaint, and serve the country and the profession with honor. We regret that we cannot suggest nominations, for the seven provinces, but it might be made quite an interesting attraction to do so, at the various annual meetings. In old Quebec, we have Dr. J. A. Bazin, of Montreal, whom we think eminently fitted for such service; and a hereditary young politician in Quebec city, Dr. H. Scott Ives, a nephew of the Hon. Mr. Ives. When Scott gets into the Local Legislature, he will pull the pillars of parliament about the heads of the legislators, if they continue the periodical attacks on the established rights of the profession.

We are always very loath in any way to extol the merits of new remedies before they have had long and successful test. It is especially embarrassing sometimes to do this, even where the tests have been made, as there was a foolish superstition in the profession that it was altogether unethical for a physician or dentist to make his own preparations, and yet, the trick of substitution in pharmacy has repeatedly proved that pharmacists are not always reliable. Other facts, too, justify men in doing in this direction what they believe cannot be as well done by others. It is true, Koch and Pasteur, after manufacturing their preparations handed them over to the medical profession, but it is not always wise. Dr. Ievers, of Quebec city, has for over eleven years had such invariable success with his preparation, referred to on another page, that he had little trouble to persuade many of his colleagues to experiment in the same direction, and the general consensus of professional opinion has been decidedly in its favor. It is not only a duty we owe ourselves to use any safe and sure method of quickly alleviating pain, but to place within the reach of our patients knowledge of the best dentifrices, mouth-washes, tooth brushes and simple remedies for those emergencies which arise in the best-regulated families. From personal experience, and the unanimous experience of Dr. Ievers' confreres in Quebec city and Montreal, we have no hesitation in recommending the preparation, not only as an invaluable addition to dental therapy, but as a family friend in emergencies where one cannot at once reach the dentist.