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ORIGINAL COMMUNICATIONS.

TREATMENT OF COMPLICATED CAVITIES.

BY W. H. WAITE, D. D. S.

Complicated cavities, as distinguished from simple cavities, are those in which there is a breach in the walls of the pulp cavity; complication consisting in the fact that some treatment of the pulp is called for, in addition to the ordinary treatment of the cavity of decay. As a rule, we hear of more or less pain in connection with these cases, sometimes spontaneous, and sometimes the result of chemical or mechanical irritation of the exposed pulp. The amount of pain, the character of the pain, and the apparent exciting cause of the pain, must all be considered, in deciding upon the treatment to be pursued. In cases where the suffering has been great, and the paroxysms cannot be traced to external irritation, we generally find considerable inflammation of the pulp. The first thing to be done is to afford relief. This can be effectually and permanently given by the application of arsenical paste,* which

* The formula I have found most successful is that announced by my friend Dr. Flagg, of Philadelphia:—

Arsenious Acid, 1 part.
Acetate of Morphia, 2 parts.
Creosote, q. s.

To form a stiff paste.

I dip a bit of cotton in pure carbolic acid, then smear a portion of paste on it, and apply to the exposed surface. It seldom gives any pain.

destroys the vitality of the pulp in a short time. Whether relief, equally *effectual* and *permanent*, can be obtained in these cases, by any process of treatment intended to maintain the vitality of the pulp, is a question which still calls forth a great deal of discussion. Reliable information on such a subject can only be obtained through long and patient observation of the facts.

When exposure of the pulp has been very recent, (as in accidental exposure in excavating, &c.,) unattended with pain, except perhaps slight shocks produced by external influences, we have more favourable circumstances for preserving the vitality of the pulp. Dr. Atkinson, of New York, has published his mode of treatment, as follows: "He dries the cavity perfectly, applies creosote, and then a little oxychloride of zinc, of a creamy consistence, which is adapted as a cap over the pulp by gently tapping it while soft. In a moment this sets sufficiently to permit the addition of the balance of the oxychloride. This temporary filling may remain some weeks or months, the major portion then cut out, and the cavity filled permanently. Should the pulp be inflamed or painful on presentation, or during examination and removal of the softened dentine over it, he quiets it with creosote, chloroform, or other remedy, before inserting the cap and temporary filling. He does not remove the temporary filling because pain recommences in the tooth after its insertion."

This is, probably, the best treatment that can be adopted in the direction of preserving the vitality of the pulp; but even this is admitted by some practitioners of undoubted ability to be so unsatisfactory, in many cases, owing to the continuance or recurrence of pain after the operation, that they are glad to remove the oxychloride, and apply arsenical paste. From the diversity of opinion, it appears that, for the present, each individual practitioner must be guided by the circumstances of the case, as to which course of treatment he will pursue—carefully recording the facts, as a basis of future decision on the merits of each plan.

Devitalisation is followed by extirpation of the dead pulp—an operation requiring delicacy and patience. This, again, is succeeded by root-filling, either with gold, or cotton soaked in creosote and tannin, and then filling of the outer cavity.

Too much stress cannot be laid on the importance of extreme care and tenderness in exploring and manipulating these complicated cavities. It is sometimes difficult to ascertain immediately whether actual exposure of the pulp exists; we, therefore, have recourse to certain tests, of which there are three:—1st. That of *direct vision*, with or without the aid of a mirror. 2nd. That of *touching*, with a probe defended by a bit of cotton. 3rd. That of *thermal influence*, by letting a drop of cold water

fall into the cavity. In one of these ways, a response will be obtained, sufficient to guide the operator as to his subsequent course, and enable him to avoid inflicting unnecessary suffering on his patient.

10, Oxford Street, Liverpool, England.
September, 1868.

ULCERATED TEETH.

A CASE IN PRACTICE—BY A. C. COGSWELL, HALIFAX, N. S.

An officer in one of Her Royal Majesty's ships called to have the left second molar, upper maxillary, removed, having been the cause of considerable pain and uneasiness, beside the unpleasantness arising from a slight discharge, for several months. On examining, I found the tooth somewhat elongated, very black and discolored from a silver filling that had been placed there some months previous; tooth extremely sore to the touch, and the gum in the roof of the mouth directly opposite the apex of palatial root, very red and inflamed, quite soft, and spongy; so that a slight pressure with my finger not only produced severe pain, but caused a discharge of purulent matter; and on inserting a probe I found a free passage and actual sinus having been formed, and discharge having been kept up for several months past.

I must acknowledge I was very much inclined to remove it, but seeing a desire on the part of the patient to keep it a *little* longer, if it were possible to get rid of the *pain*, I remarked, "an empty house was better than a bad tenant," still, if he wished, I would try and see what could be done, feeling somewhat encouraged from the fact that the patient was a robust, healthy man, gums in good condition, and not *another diseased* tooth to be found among the entire number.

I at once removed the amalgam filling by drilling, which was rather painful, (but, thanks to a correspondent, I find his way of softening by using quicksilver, to act on the old filling the *best* and *easiest*), then taking a good sized barbed nerve extractor, succeeded in removing all the remaining portion of the dead nerve, about one-third of the whole, in the palatial fang, as well as a small portion in one of the facial roots—the third root cavity not sufficiently large to allow even the smallest barb to enter. I then used a solution of tannin and warm water, injecting it freely into the fangs, then with an untempered point (an old barb will answer if the barbs are filed smooth) carefully carried a thread of floss silk well saturated in creosote and iodine, far up to the apex of the roots, especially the palatial root, as that seemed to be the seat of disease,

allowing the end to reach the cavity in the crown of the tooth, so that it might be more easily removed—it being preferable to cotton, as there is not the danger of any fibres being left in. I then closed the crown cavity with cotton saturated in sandrach solution, and requested the patient to call in three days. At the expiration, I found the inflammation quite reduced in the roof of the mouth; discharge ceased; tooth not near as sore, and no pain since his first visit.

I at once removed the filling previously inserted; treated as before by syringing; placed the point of the syringe in the small opening in the roof opposite the palatial fang, and syringed well several times, forcing the solution as much as possible into the opening, and wiping the roots with creosote and iodine carried on a fine point far up; filled roots and crown again as before, requesting my patient to call in one week.

On examining this time, found all soreness had left the tooth entirely; gums and roof of the mouth healthy; could use the tooth same as the rest; opening in roof almost closed, scarcely perceived any trace of former opening. Desirous of testing it fully, I packed the root tight with cotton; also crown as usual, and allowed the patient to remain another week: came at time appointed; quite pleased at the success; tooth as useful as any other, and could use it quite as freely. I at once prepared and filled the roots the first day entirely with foil; and at a second sitting filled and built up the crown, using White's No. 2 crystal gold, requiring in the operation a little over half a box. The patient left quite satisfied that he had a good tooth and a small gold mine.

I had the pleasure of seeing the patient four months after, who called to tell me had had no trouble since the operation.

Why will not some other correspondent give us his experience, as this is *one of many*, I am happy to say I have been enabled to save. Hope our motto will be,

Save when possible. Never say die.

P. S.—Might I ask what fee a dentist is *justly entitled* to for such an operation. Will some one speak out?

IS THERE A THIRD DENTITION?

BY A. C. STONE, M.D., L.D.S., LONDON.

In the September No. of the Journal, I notice a reported case of *third dentition*.

It is said, with much truth, that "a thing of beauty is a joy forever," and surely a third set of dental organs constructed in nature's laboratory

must be beautiful to behold, and a source of intense enjoyment to the fortunate possessor : and, as if her cup of joy was not yet filled to the brim, this happy recipient of the *ivorys*, set in coral, is, as we are informed, at the mature age of forty-five (when most females have given up all hope of adding to the number of our population,) in that interesting situation which

“ Ladies wish to be who love their lords.”

Nature, sometimes, works in a mysterious manner, and the Doctor has, no doubt, acted wisely in not interfering with her operations, but has come to the conclusion to *wait and hope*.

I have yet to learn of one well authenticated case of third dentition at that age. It is true, some of the old writers, such as Bacon, John Hunter, Good, &c., mention cases as having come under their observation, and I believe Dr. McCabe, of Virginia, to be the only American writer who has recorded a case of the kind, and these were reported as occurring to persons at the advanced age of from three score and ten to one hundred and twenty, when they were just verging into that state described by the melancholy Jacques, as the last scene of all, “*sans teeth, sans taste, sans everything.*”

In my practice of over twenty years, I have seen a great number of supposed cases of third dentition, but found on investigation that they were only cases of retarded second dentition, sometimes caused by the too early loss of the deciduous teeth, and the consequent contraction, or rather want of proper development of the dental arch, whereby the permanent teeth were so much crowded that sometimes the cuspids, in others the lateral incisors and second cuspids, were wanting, and after some of the incisors or molars were drawn, lo, the last sheep made their appearance and were named teeth of the third dentition. The cuspidati of the superior, and the bicuspidi of the inferior jaw are very often retarded for years by the retention of the deciduous teeth. I have at present among my patients ten or more persons from the age of 20 to 50 years who have some of their deciduous teeth remaining in their mouths, and no doubt if the milk teeth were removed, those of the second dentition that should have occupied their places would make their way to the surface of the gums.

The teeth are formed in the alveoli, which are rows of cells coincident in number with the teeth; the bone composing the alveolus is porous, with thin edges surrounding the fangs of the teeth. When a tooth of the second dentition is extracted, the corresponding alveolus is absorb-

ed in a few months, and the jaw bone proper becomes a hard bony mass; consequently there is no place for new teeth to be formed, unless nature should be so kind as to supply a new sett of alveoli cells, an operation she seldom if ever takes the trouble to perform.

FILLING FRAIL CAVITIES.

BY W. GEORGE BEERS, MONTREAL.

In the variety of cases which come under the observation of the operative dentist, there is none that afford more scope for patient ingenuity and artistic manipulation than filling frail cavities with gold. When in addition to the frequent difficulties of access, excessive flow of saliva, and hyper-sensitiveness, we have frailty and friability of walls in a conspicuous tooth, the steadiest nerve and most delicate manipulation is imperative at every point of progress if the frail walls are to be preserved in their existing integrity.

In this connection we particularly refer to the incisors, cuspids, and bicuspid, as the broadest human grin seldom has more latitude; and the sacrifice of tooth substance for firm borders, beyond the latter teeth, is not only of less consequence for appearance sake, but most often indispensable for the success of gold operations.

It is easier, and to some, more tempting because easier, to extract a frail incisor and replace with an artificial substitute, or to sacrifice tooth substance for firm borders, and perhaps "building out;" but we consider the preserved natural shell of a conspicuous tooth, well filled, infinitely preferable, and more attractive than the most superb specimen of building out ever performed. No one can justly ignore the real science and art of restoring broken angles and fractured crowns with gold, but we are aware of several instances where natural incisors shells, which were capable of preservation, were partially sacrificed to a mania for this operation. Such a tendency should be carefully avoided; for however fashionable the operation may become, nature is superior to art; and a good shell of a conspicuous natural tooth, if possible of preservation, is preferable to any artificial substitute, whether it be of gold or porcelain. Where science and patient taste preside over the manual execution, the results of filling these frail cavities with gold will be more often satisfactory. The danger of fracturing friable enamel when introducing the filling, and the belief that good work cannot be done beside thin borders, leads many to cut away more than is always necessary, but there is a simple way to strengthen the thin walls while filling, and past successes are proof that

where such a cavity has ordinary fair play, and where the act of mastication does not bear directly upon the frailty, the shell may nearly always be well filled and preserved, for a sufficient length of time at least, to merit the undertaking. In cases of approximal cavities in the eight teeth particularized, where the walls near the orifice are mere enamel, and the movement of the excavator can be seen through one of the walls, we deem the majority of such cases worth our best efforts to save intact. There are very few patients who prefer losing any angle or part of a natural tooth if it can be saved, even for an indefinite time; and while there are cases of frailty where parts of the enamel are so entirely cracked and jagged that they cannot possibly last out the easiest pressure, we prefer removing any such pieces, and filling out flush, rather than removing the entire wall to get a straight border. Any border, however diagonal, can always be made smooth.

The first principle in filling very frail cavities, after the tooth is prepared, is to adapt a temporary shell of plaster of Paris, or gutta percha; or in particularly thin cases an impression of the tooth and adjacent parts may be taken and a shield made of cheoplastic metal, as suggested by Prof. Taft, to the natural walls, as a support against pressure, allowing it to extend to the adjoining teeth so as to be immovable during the operation, and so as not to interfere with free access and light. By covering the gum above and behind the teeth, it helps to prevent exudation of saliva. If gutta percha is used, the kind sold for pattern plates for models will not answer as well as the grayish white or brown material used for bougies and catheters, and which while pliable in hot water, and easy of adaptation, is as hard as wood on cooling, and may be removed from around the frail walls by a heated plugger.

Smooth margins are as necessary for frail as for firm borders; indeed more so. Sharp edges should be bevelled off.

We recently saw a case in point which we successfully filled ten months ago, and which may afford some suggestions for particular cases, though not for all. The case was a superior right cuspid, decayed so extensively on the posterior approximal side as to leave a mere lamina of enamel entirely deprived of dentine on the labial and palatal walls. The patient was averse to extraction, or excision and pivoting, but preferred either to partial excision and building out with gold. A small cavity, the size of a pin's head, had almost worked its way through a natural indentation in the left side of the cusp, into the cavity proper. The nerve was healthy and comparatively well protected. The orifice was larger than the cavity within.

A straight and smooth border was first obtained, and following the

rule never to cut into the enamel for retaining points, we excavated at the upper part of the dentine. The hole in the left side of the cusp was then drilled through and enlarged, so as to admit easily a stiff gold wire, four sided and jagged. One point of the wire was then touched with oil and rouge, put through the hole, and pressed upward until it touched the upper surface of the cavity, to the right of the nerve chamber. At the mark left by the rouge a pit was cut, large enough to admit the head of the wire, and deep enough to retain it in place. It was then cut the length required,—sufficiently short to allow of the insertion of a gold foil plug in the cusp cavity, to render the latter impermeable to fluids. The head of the wire was jagged a little, the better to assist in retaining it in place and was pushed into place. The outward protecting shell of gutta percha, was then moulded around the cuspid and adjoining teeth, covering the cusp cavity as well. When this shell was perfectly hard, the cavity was dried, and the packing commenced by fastening the wire above and below with small pellets of gold. The support of the wire afforded a bridge which compensated to some extent for the loss of dentine at the borders, and the consequent absence of any of the usual shaping. Adhesive foil No. 3 was used entirely in thin ribbons and strips, the better to carry the layers to the thin walls, and to obtain a greater degree of density. The cavity was thoroughly and tightly packed, without any fracture of the enamel. A very prominent cusp of the lower bicuspid was filed off sufficiently to prevent antagonism in closing: the gutta percha shell was removed and the hole in the cusp filled with a couple of pellets of foil.

The operation was tedious and prolonged, but it has proved a success so far, and with an ordinary amount of care and cleanliness will, we trust, subserve its object.

We may state *en passant*, that this cavity had been twice filled previous to this operation, and before the cusp hole appeared; the last operation costing \$50 in New York.

CORRESPONDENCE.

CANADA COLLEGE OF DENTISTRY.

Mr. Editor,—

I feel quite sure that it will be a matter of general congratulation among the young dental practitioners and dental students of our new Dominion, that they now have an opportunity presented to them for pur-

suings their studies in a systematic and legitimate way; in fact the only way to secure a thorough and proficient knowledge of dentistry.

We see on every hand among other professions of the day a certain course of instruction to be followed out, and a certain standard of knowledge to be acquired before the young aspirant is considered competent to enter upon his professional duties, and I therefore consider it incumbent upon us who have passed through the fiery ordeal, and have from long years of hard labour possessed ourselves of experience and opportunities, (now that the way is clear), to immediately establish an institution which will in every respect meet the wants of those who are really thirsting for knowledge, and who are not only willing but eager to drink from the fountain thereof.

Dentistry has long since become necessary towards ameliorating the sufferings of the human family; and considering the growing importance of it as an art, and the increasing demands for the services of the dentist from year to year, it is time, Sir, that the rising dentist should be educated in a manner commensurate with his calling.

We cannot expect, neither do we deserve, to be considered on a par with other professions, until we have instituted a curriculum of studies and appointed a staff of Professors equal in attainments and respectability to other educational institutions.

And I am happy to say that a majority of the Board of Examiners, and a large number of both the medical and dental professions, desire that a college be at once established for the education of young men who purpose to follow dentistry as a profession.

With this encouragement before us a further delay is unnecessary, except to give the student sufficient time to make such preparations as will enable him to be in attendance at the opening of the college. Students will have the privilege of attending both the Medical Colleges of Toronto in connection with the Dental College. Every facility will be given them to thoroughly perfect themselves, not only in dental anatomy but the whole human frame if they desire; and a prompt attendance through the whole session at the dissecting rooms will be expected by the Faculty. By the arrangements we have made, our facilities will equal many of the first class Dental Colleges in the United States, and I beg to say we are particularly fortunate in securing the distinguished services of Prof. Croft, Dr. Berryman and Dr. Rowell—sufficient to show, Mr. Editor, that the best interests of the student have been seriously considered, and I trust that our efforts will fully meet the highest anticipations of all who are interested in the *Canada College of Dentistry*.

GEORGE L. ELLIOT,

Dean of the Faculty.

PROCEEDINGS OF DENTAL SOCIETIES.

ONTARIO SOCIETY OF DENTISTS.

A meeting of Dentists was held at the Rossin House, Toronto, October 13, 1868, for the purpose of organizing a society for the discussion of scientific and practical professional subjects, and matters pertaining to the general interests of dentistry.

Mr. J. W. Elliot was appointed Chairman, and

Mr. R. G. Trotter, Secretary.

Mr. Chittenden said he considered it very desirable to proceed at once to organise a society for mutual improvement and the discussion of dental subjects.

A. C. Stone acquiesced in what was said by Mr. Chittenden.

Moved by W. C. Adams, seconded by J. C. McCausland :

That we proceed at once to organize a society.—Carried.

Moved by R. Trotter, Guelph, seconded by M. E. Snider :

That the Society be called "The Ontario Society of Dentists."—

Carried.

The following officers were then elected :—

A. C. Stone, M.D., London, President; J. W. Elliot, 1st Vice-President; C. S. Chittenden, 3rd Vice-President; R. Trotter, Guelph, Recording Secretary; D. Pentland, Corresponding Secretary; W. C. Adams, Treasurer; Messrs. Snider, McCausland, and R. G. Trotter, Executive Committee.

After which, on motion, the subject of extraction of temporary teeth was taken up for discussion.

Mr. Chittenden considered it a matter of great importance, and one in which most parents were interested. He said those teeth were often extracted as soon as they give pain; a practice which he considered very wrong. They may be filled so as to preserve them till the time for the eruption of the permanent ones. If the nerves are exposed he treats them and afterwards fills. Considers the premature removal of the temporary teeth shortens the jaws and causes the permanent teeth to be irregular.

J. W. Elliot thought it important that temporary teeth should be preserved till the proper time for their removal, but at the same time considered that they were often kept too long. Is influenced in removal of the temporary by the state of development of the permanent teeth.

J. C. McCausland admitted the correctness of the remarks of the last speaker, but is strongly in favor of filling temporary teeth—has frequently filled teeth for children three years of age.

W. C. Adams fully agreed with the remarks already made, but thought that we ought to go further than filling. We ought to instruct parents as to the proper food for children. If sufficient attention was given to this, he was satisfied that there would not be so much necessity for filling. He considered prevention better than cure. Such food as will make good bony structure is what is required. Fine flour is against making healthy bone. The best material for making bone is thrown away in bran and shorts.

Mr. Chittenden said that washing the mouth with a solution of the carbonate of soda would have a tendency to prevent teeth decaying, by neutralizing the acid that comes in contact with them.

R. Trotter considers the premature decay of the teeth was owing to a negative more than a positive cause, as an usual thing; the teeth on this continent are defective in constitution and are not capable of resisting the action of the agents to which all teeth are exposed.

M. E. Snider was in favor of filling temporary teeth.

R. G. Trotter gave several cases of regulating children's teeth

D. Pentland uses every effort to preserve and retain temporary teeth until the permanent ones are ready for eruption.

The meeting then formed itself into a committee of the whole on a draft of Constitution and By-laws, which were adopted and signed by members present.

Letters of apology and sympathy with the organization were read from F. G. Callender of Cobourg, J. Bowes, Hamilton, H. Nelles, London, J. B. Wilmot and others, for non-attendance. After which the meeting adjourned, to meet again on the call of the President.

R. TROTTER,
Recording Secretary.

PROCEEDINGS OF THE DENTAL ASSOCIATION OF QUEBEC.

The meeting of the above organization for the adoption of a Constitution and By-laws, and Act of Incorporation, was held by invitation at the residence of the President, A. Bernard, Montreal, on the evening of the 28th inst.

The following members were present: Messrs. Bernard, Belle, Brewster, Bazin, Leblanc, Davis, Alloway, Matthieu, Chase and Beers, of

Montreal; McKee, Quebec; Lefavre, St. John's; Brodeur, St. Hyacinthe. Apologies for absence were received from Dr. Trestler, Montreal, and Dowlin, Sherbrooke. A. Bernard in the chair. The meeting was favoured with the presence of the Ed. Carter, Esq., M.P.P., Montreal; A. W. Ogilvie, Esq., M.P.P., Montreal; and Alex. A. Stevenson, Esq.

The minutes of former meeting were read and confirmed.

A draft of a Constitution and By-laws was submitted, discussed clause by clause, and finally adopted with several amendments.

THE PRESIDENT'S ENTERTAINMENT.

After the business of the Association was over, A. Bernard invited the company present to partake of the hospitality of his house, in honour of the organization of the society. A *recherche* and tempting dinner surprised the members. A. Bernard presided, assisted by H. Davis. Mr. Carter, M.P.P., on his right; Mr. Ogilvie, M.P.P., on his left.

After full justice had been done to the good things so bountifully provided, the following toasts were drunk:

The Queen—God bless her! We all, said the Chairman, take pleasure in honouring our Queen, not only as our sovereign, but as the amiable, virtuous, and Christian woman.

Drank with cheers.

God Save the Queen—by Mr. Stevenson.

The Governor-General and the Dominion of Canada—The chairman referred to the excellencies of the Governor-General, and to the prospects of the Dominion.

Drank with cheers.

The Lieut.-Governor of Quebec.—The chairman said, he was proud and glad that the old Province of Lower Canada, inhabited chiefly by French Canadians, had in this age of freedom, of thought, and of civil and religious liberty, been permitted to select a governor of their own country.

Song—A la claire fontaine—by Dr. Lefavre.

The Legislature of Province of Quebec—coupled with the names of Messrs. Carter and Ogilvie. The Chairman was gratified by the presence of Messrs. Carter and Ogilvie. Not alone for any particular advantage they could render the Dental profession in the objects in view, but because they are honoured for their private worth and ability. The invitation to them was verbal, and quite impromptu, and he was sure the meeting would appreciate their kindness in attending.

Mr. Carter responded, expressing his pleasure at being present and the interest he took in the object of the Association. He was not aware until

then that the Dental profession had assumed such importance. He felt legislative action on their behalf to be a subject of urgent necessity, and one deeply interesting to the public.

Mr. Ogilvie was gratified to meet the representatives of the Dental profession, and to see it represented by so many intelligent gentlemen, and led by one who had made his mark as a practitioner and a citizen. He was pleased to see the French Canadians present, and referred to the good treatment received by the English minority in Quebec, at the hands of the French.

Our Host and Hostess.—C. Brewster, in proposing this toast, referred to the efforts for legislation made by the President, when the Parliament House was burned in 1844. He was always a leading man in the profession, and by appointing him their President, the Association felt they had the right man in the right place. He referred to the progress made by the profession in Canada; to the comparative newness of Dentistry in this country, and its future hopes and aspirations.

The Chairman, in responding, thanked the company for the handsome manner in which the toast had been drunk. In reference to his position as a Dentist, he knew he was the oldest practitioner in Canada, and he thought on the continent, having practised for 35 successive years. He attributed his success in practice to his having been always guided by the principles of respect for himself and respect for society. He had always endeavoured to do his best, and though he had sometimes failed for want of knowledge, of advantages, and of time, he was always guided by honest intentions.

It afforded him much pleasure to have the first regular meeting of the Association for the adoption of the Constitution, in his own house. He was willing to bestow all the knowledge he possessed for the benefit of those who cared to receive it. He advised the members to sustain the Association, to read and study the current Dental periodicals and works of the day. He thanked then on behalf of Mrs. Bernard. She was always gratified when such honour was conferred upon her husband and her house.

We regret that we cannot give Mr. B's. eloquent speech in full.

Alex. A. Stevenson, Esq.—The chairman begged leave to propose this toast. Mr. S. was a citizen whose public services and private worth were known to all.

Mr. Stevenson thanked the members for drinking his health, and after a few remarks, humorously related his first experience of Dentistry, and the vain efforts made by a druggist in Wellington St. to extract a molar for him. Three successive twists and tugs were given, but no tooth came.

It was started, however, and the pain ceased, but always afterwards this molar was in the way of closing the jaws, as it was raised a quarter of an inch above the others. It remained so five years, and finally got its final pull in forty slivers. His last experience of Dentistry was so pleasant that one would almost wish to have the toothache to get a seat in the easy chair of the Dentist of to-day.

Song—by H. Davis.

Mr. Carter proposed *Success to the Dental Association of Quebec*. He felt that this movement would place Dentistry in this Province on an equality with the other professions, and that incorporation would be welcomed by the public.

Mr. Bernard responded and related the circumstance referred to in connection with the early efforts to legislate for Dentistry. There was a medical bill before Parliament, and he sought to get a clause into it to regulate the practice of dentistry. He, with some others, went before a committee appointed by the House, and secured all they wanted. The bill was to be brought before Parliament the next day, but the next day the House, with the bill in it, was burned down. More recently, vigorous efforts were made by Mr. Brewster and others, to get a bill for the whole of Canada, but the profession did not support it. The present condition of affairs was brought about at a happy time. Mr. B. referred to the success of the movement in Ontario, and to the interest with which the profession of Quebec regarded it. He regretted that Dr Trestler was absent—a gentleman who had done much for the elevation of Dentistry. He referred to the *Canada Journal of Dental Science*, and the good it was doing, and called upon Mr. Beers to respond.

W. G. Beers briefly referred to the impetus given to Dental progress in Ontario and Quebec. He had assumed no small labour and responsibility, and hoped he would be supported.

C. Brewster, on being called upon, referred to the modesty of the members in refusing offices and honours. He congratulated the Association on the absence of quarrelling and jealousy, and hoped the members would put their shoulder to the wheel and do their utmost to advance the objects of the Association.

Mr. Ogilvie addressed a few words in French to the French Canadian members present.

Mr. Carter followed in French.

Dr. Lefaiivre thanked the members on behalf of the French Canadians, for the kind expressions. French Canadians have a position to fill towards the Association, and will endeavour to do it. Our literature, though English, will receive encouragement, and in any other

department needing encouragement, we hope to merit the good will of our English friends.

Mr. Leblanc sung: "*Malbrourg, s'en va en guerre.*"

The Chairman proposed the health of Mr. McKee, of Quebec, an old practitioner whom he highly respected, and who had taken an active interest in the organization of the Association.

Mr. McKee was glad to see the advancements made, and the determination to progress still further.

Mr. Brodeur, St. Hyacinthe, on being called upon, said he hoped to profit very much by his connection with the Association.

J. A. Bazin, in response to a toast, alluded to the principles which should guide Dental practitioners. He alluded very happily to his old connection with the President as assistant, and attributed his success so far to his invariable determination to do the best he knew how. He endeavoured to work well in secret and openly, and to do the best without consulting the pocket.

H. D. Vis, on being called upon, made a few remarks concerning the kindness and generosity shown him by Mr. Bernard.

Several other toasts were proposed,—the "Dental Association of Ontario," &c., and the company enjoyed themselves up to an early hour in the morning, when "Auld Lang Syne," "*Vive la Canadienne*," and "God Save the Queen," were severally sung, and the meeting broke up, much pleased with the generous entertainment of their host and President.

NOTES FROM THE PROCEEDINGS OF DENTAL SOCIETIES.—*Odontographic Society of Pennsylvania*.—A meeting of this Society was held on Sept. 1. Prof. McQuillen introduced the subject of nitrous oxide gas, and expressed his surprise that Dr. Richardson (the discoverer of local anæsthesia by means of spray) should speak of this gas as "the most dangerous of all the substances that had been applied for the production of general anæsthesia. That it caused death in the human subject, and on animals it was so fatal that with the utmost delicacy in its use, it was a critical task thoroughly to narcotize an animal with the gas without actually destroying life." The speaker then went on to say, that in this country nitrous oxide gas has been administered to more than 27,000 persons, and that but two fatal cases had occurred, in the first of which an autopsy had revealed the fact that the lungs of the patient were perfectly riddled with tubercles; in the second case death was caused by swallowing a cork placed between the teeth to keep the jaws open. This speaks volumes in favour of the fact that of all anæsthetics this is evidently the last dangerous that can be used. With respect to its employment in connection with animals, having had no

opportunities of observing its administration under such circumstances, I am unable to say anything, and propose this evening to try the experiment whether animals can be "thoroughly narcotized without destroying life." I have provided for this purpose two rabbits, a cat, and two frogs. If their lives are not destroyed by inhaling the gas, it will prove Dr. Richardson's assertions to be incorrect.

With the assistance of Drs. Ellis and White, Prof. McQuillen now proceeded to administer the gas to a rabbit, which in one minute and a quarter was completely under the influence of the anæsthetic, with the exception of a slight breathing, showing no sign of life when lifted up and thrown upon the table. After remaining in this condition about two minutes it began to show signs of returning consciousness, and in a short time was hopping around as lively as ever. The second rabbit and the cat were tried with about the same result. The Prof. then filled a glass jar with water, inverted it in a basin of water, inserted a tube from the gas bag under the jar, and forced in the gas until it displaced the water. A frog was then introduced into the jar, and allowed to remain about half of an hour without any perceptible effect being produced. The other frog was enclosed in a bladder which was secure to the mouth of the bag and filled with gas. This experiment was more successful than the previous one, but although partially narcotized, it recovered almost immediately upon being removed from the bladder.

Dr. Ellis made a few remarks upon the dark appearance of the lips of patients when inhaling nitrous oxide. He did think it was caused by carbonic acid, as he was satisfied from some of the experiments that had been made, that the amount was so small, that the effect was not perceptible, but suggested that in some instances it might be caused by the presence of the fingers upon the lips, to keep them in contact with the mouth-piece.

EDITORIAL.

TO OUR SUBSCRIBERS.

In view of an important change in the Journal, and the better to remedy some existing impediments to its regularity, we purpose deferring the appearance of the next number until January; when, with fresh vigour and general improvement, we trust it will compensate our subscribers for the temporary cessation.

In the meantime we ask our friends not to relax, but rather to increase their exertions in our behalf. The larger our subscription, the sooner will the Journal be enlarged and improved.

CASH vs. CONGRATULATIONS.

The complacency and condescension with which some Dentists speak and write of the *Canada Journal of Dental Science*, is certainly at times amusing as well as aggravating. They commend its objects; approve of its general design; utter fine sentiments about its mission, and finally, "hope it will succeed;" but the trouble is that they fail to see the applicability of these remarks to themselves; and while generous to a fault with compliments, they are deaf as a beetle when asked to subscribe. We have a word or two to say to such well-wishers.

Panegyrizing, however sincere and sympathetic, never yet paid the printer; and we would infinitely prefer \$3 in bills or silver (we were going to say or *copper*) than whole files of congratulatory letters, or unlimited verbal expressions of approval. One may suspect the sincerity of the latter; but the former is too substantial to be mistaken. We would like to form the acquaintance of a printer who would take congratulations as pay. We should cherish a lively friendship for him, and give him most liberal patronage.

But with seriousness, we beg to reiterate, that cash and not congratulations is what is necessary to sustain this or any other periodical. The responsibility and labour we have personally assumed in publishing this journal is neither a sinecure nor a recreation. The time devoted month after month to bringing out the successive issues, is by no means trifling. This responsibility and labour we gladly shoulder, however, "for the good of the cause;" and all we ask,—it is surely not much! is that the members of the profession in Canada, respectively contribute but twenty-five cents per month, in one yearly or two half-yearly instalments in advance, as their subscription towards sustaining and encouraging this, the only Dental Journal in the Dominion. There is not one practitioner or student in the country, but can easily afford this trifling amount, and we trust that this may be the last appeal required before our coffers overflow, and publisher and printer go on their way rejoicing.

We have the name and address of every Dentist in Canada; to every one of whom we have regularly mailed the five numbers of the journal. This cannot be done for nothing; and we trust that our friends will stir themselves in this matter, and remit without further delay. Some have refused to subscribe because they believed the journal to be the organ of the Board of Examiners of the Province of Ontario; others because they would like to wait, "to see how it succeeds;" others for divers reasons. We trust these fears have been now removed.

Let every intending subscriber remember the motto: *Bis dat qui cito dat*;—He gives twice who gives promptly; and let there be more liberality and more spirit.

A DIFFICULTY REMOVED.

An impression having gone abroad that this *Journal* is the organ of the Board of Examiners of the Province of Ontario, and two dentists of Ontario having written the publisher that such an impression would serve to render the journal unpopular among dentists dissatisfied with the actions of the Board, the undersigned, being a member of the Board, deemed it his duty to retire at once from any connection whatever with the *Journal*.

In taking this step the writer wishes it distinctly understood, that the most friendly relations exist between himself and the publisher, and that the *Journal* will still receive his hearty support.

J. S. SCOTT.

"A YOUNG PRACTITIONER" must excuse us from inserting his communication. Besides being anonymous, some parts of it are too personal; and the want which prompted his letter has been supplied since he wrote.

An old gentleman, a little "daft," for whom we were lately repairing a rubber plate, gravely suggested the brilliant idea of economizing cast-off rubber shoes, by using them for dental purposes in connection with mechanical work! We commend this to the attention of those Dentists who make full upper sets for \$12.

We have to acknowledge the receipt of several valuable Medical Journals in exchange.

"The Canada Medical Journal," edited by Drs. Fenwick & Campbell, Montreal (monthly, \$3 a year); Provincial Medical Journal, published at Halifax, N. S., (quarterly, \$1 50 a year); the Medical and Surgical Reporter, published at Philadelphia (weekly, \$5 a year); Boston Medical and Surgical Journal (weekly, \$4 a year); Pacific Medical and Surgical Journal, published at San Francisco (monthly, \$5 50 a year); Lancet and Observer, published at Cincinnati (monthly, \$3 a year.)

The American Journal of Dental Science suggests the organization of a Southern Dental Association; one confined to the late slave holding

States, and which would meet in one of those States. "The impression has become general among Southern Dentists that a *sectional feeling* governs the action of the majority of the members of the American Dental Association; and on account of such a feeling as this being manifested at every meeting, they decline attending."

We regret to hear of any such *political feeling* arising to sever the connection between American Dentists in the American Dental Association. The eminently practical character of its conventions, and the respectability of its officers have made it an institution of great value and we have always believed "the majority of its members" to be guided by a liberality which was never yet openly disputed, and a *loyalty*, which, if we commend in our country, and in our own associations, we must consistently commend in the neighbouring country and the American Dental Association.

ADVERTISING.

Dentists having spare operating chairs, instruments, &c., to sell, or in want of assistants, or partners, will find the Journal the cheapest and best medium for advertising.

REVIEWS.

Taft's Operative Dentistry, second edition, 423 pages, with 86 illustrations. Published by Lindsay & Blakiston, Philadelphia, 1868. (\$4.50).

This admirable text book is now in its second edition; and as the latest and most special contribution to operative dentistry, is of incalculable benefit to the student or established practitioner. The many changes which have taken place in a short space of time, in the principles and practice of operative dentistry, have necessitated in this special department some more modern guide than Harris; and we have not yet met with anything which better filled the void than the above work by Prof. Taft.

Forty-seven pages, and six new illustrations have been added to this edition, and the labour of author and publisher made more creditable to both.

Chapter I. contains short, well arranged articles on calcareous deposits,

irregularity, atrophy, exostosis, denuding, chemical abrasion and necrosis of the teeth. The article on irregularity, however, by no means does justice to the subject.

Chapter II. contains articles on the predisposing and exciting causes of caries, comparative liability to decay, consequences of decay and treatment of caries.

Chapter III. contains general remarks on filling, materials used, &c. The author gives the following as the inventor's formula of "Hill's stopping:" "With pure gutta percha in a plastic state, are mixed quicklime, two parts, and quartz and feldspar, one part each, which latter are reduced to an impalpable powder, and kneaded into the mass as long as it will receive them without becoming brittle."

Chapter IV. relates to instruments used in filling; from chisels, drills, and excavators, to pluggers and files.

Chapter V. discusses separation of the teeth, and recommends immediate separation with wooden wedges, in preference to the gradual process with rubber.

Chapter VI. is an excellent series of articles on examination, opening, removal of decay, forming cavities, drying cavities, introducing the filling, cylinder or block filling, the mallet, crystal or sponge gold, and finishing fillings.

Chapter VII. enters into practical detail on filling by classes and modifications.

Chapter VIII. relates to Pathological conditions.

Chapter IX. describes the treatment and destruction of exposed pulps, filling pulp cavities and canals, filling roots, dental periostitis, alveolar abscess.

Chapter X. relates to pivot teeth, fitting the crown, attachment of the crown, metallic pivots.

Chapter XI. on general remarks on extracting teeth, describes the indications for this operation; the different instruments used, and conditions to be observed in extraction.

Chapter XII. on accidents in extracting teeth.

Chapter XIII is devoted to anaesthetics.

From this cursory review it will be seen that Prof. Taft has laboured to present a standard work. In our humble opinion he has succeeded, and deserves not only mere thanks, but what pleases an author most of all, a great many attentive readers. As a preparation for practice, this work is invaluable for students, and as a companion to practice for the experienced, there is much in its pages to instruct those who are not above learning in their old age.

Robertson on Extracting Teeth, second edition, 188 pages, illustrated. Published by Lindsay & Blakiston, Philadelphia, 1868. (\$1.50.)

There can be no better way of developing and perfecting any science and art than by competent men devoting themselves to its study and exposition in separated specialities. While not ignoring the general connection and the relation of one part to the other, the whole is sooner made perfect, and each branch better understood, when studied in parts by concentrated minds. Such manuals as this of Dr. Robertson's, devoted exclusively to one special branch, are just the need of dentistry, and we hail it with pleasure. The list of contents comprises: introductory remarks, anatomy of the jaws and teeth, Pathology of toothache, instruments used for extracting and proper method of using them, lancing the gums, accidents and their remedies, and anaesthetics. Every subject is clearly and concisely reviewed, and excepting, perhaps, an exaggerated condemnation of lancing the gums as a rule, the general principles of the work are such as must commend it to the attention of the profession. We think, however there is much room for enlargement, as the subject is one of importance, and the operation is more practised than perfected, both as regards the form of instruments used, and the conditions of toothache which demand the *dernier resort*.

I. *Why Not?* A book for every woman. II. *Is it I?* A book for every man. III. *On Nurses and Nursing.* By Dr. Horatio R. Storer, Boston.

No better proof of Dr. Storer's abilities can be required, than that experienced graduates of medical colleges, long after they have obtained their sheep-skin, are eager to sit at his feet and pay a high fee for a short course of lectures on the Surgical Diseases of Women. His reputation as a gentleman of high moral principle and rare practical experience gives a tone to whatever he writes, and for this reason we highly commend the above productions of his pen, which he has favoured us with.

The first volume is designed for popular reading, and lays the scalpel of criticism and exposure to a sin unfortunately too prevalent in the neighbouring country—criminal abortion. So destructive has this crime been to the native American population—already by no means of average stamina—that the number of foreign births is greatly in excess of the native ones; and the possibility is, that unless it is counteracted, the pure "Yankee" will one day be a nonentity in his own country.

The second work is a comparison of the former, and relates principally

to marriage and other matters of vital interest to every man. It will tend to remove some wrong impressions of the relations of the sexes, and contribute much to the happiness of homes and the best interests of society.

The title of the third work denotes its purport.

SELECTED ARTICLES.

ARTISTIC OR EXPRESSIONAL DENTISTRY.

BY J. T. CODMAN, BOSTON, MASS.

Read before the Massachusetts Dental Society.

The term "expressional," applied to dentistry, is new; yet I have found no name which better serves my idea of what is intended to be conveyed by it, viz., the preservation of the expression of the features after the loss of teeth, or the restoration of the normal expression or a better one on the insertion of artificial teeth.

That the *general* mode of inserting substitutes for the natural teeth does not restore or preserve the best expression of the faces of our patients, scarcely admits of an argument. That there are dentists who make an exception to this rule is happily true, and that great general progress has been made in the past ten years toward that desirable end is also true; but that better results are attainable is certain. Doubtless, if dentists understood more of the philosophy of expression, they could attain pleasant results where they have made many failures.

That the extracted teeth are, to a considerable extent, safe guides for the form, colour, size, and shape of the new set is true; yet many cases present themselves where the arch has been overcrowded, and where the insertion of a full artificial set would be impossible without distending the lips and making a bad expression. In such cases it were better to omit some of the teeth, lessening the number, and insert teeth of nearly the natural size.

Among the prominent failures in the expression of the sets of the present day is that of,—1st. Colour—by which they are often detected at once. 2nd. Length—being often too long, and sometimes too short. 3rd. Size of the teeth—often too large, and often, of late, too small. 4th. Deficiency of form of each individual tooth, or what is called "want of character," from lack of curved lines. 5th. Want of prominence and

length of the eye teeth. 6th. Too great length of the back teeth, especially in upper sets. 7th. Too much evenness or similarity. 8th. The size of the arch—often too large or too broad, sometimes very much so. 9th. The horizontal line, or line of occlusion, is too straight, often looking as though both sets were made together on one piece and cut apart with a knife.

Turning from this dismal page of failures, let us give a momentary glance at the expression of character as shown in the teeth and physiognomy of animals in connection with man; for being all revelations of one power and parts of one system, they must all bear some analogy to each other.

How often we have all enjoyed the pictures of animals dressed as human beings, exclaiming "Capital!" at these burlesques on humanity. But it is not the picture that burlesques—the animals themselves do.

That the physiognomy of the lower animals and that of man bears the same imprint may be brought to mind by the fox with his sharp-pointed teeth, his narrow dental arch, neatly covered with his trim, delicate lips. Observe how meek and quiet he looks, with his twinkling eyes half shut and his nose over his paws. Now arouse him with a rod, and how his whole expression changes; his second nature—his savage side—is uppermost, and his teeth have a most offensive look.

Then look at one of the rodents, as the rat, with his narrow, displayed incisors, with their mean, contemptible look. He is the fellow that sneaks around at night, makes holes in your cupboards and gnaws your lead-pipes, and occupies your drains. There is expression in his teeth, but to me it is of an ungenerous sort.

In contrast to these, look at the incisors of the horses, and one can hardly look at the skeleton in the Natural History Society rooms without feeling that he is grinning at you. Observe the teeth of this animal, for they are worthy of a great deal of study. It almost seems that this was the pattern that dentists took for making teeth. Observe the centrals, how broad and flat they are; how unobstrusive the eye teeth, or canines, if you like the term better. Observe the horizontal line of occlusion, and the broad, regular arch. Do we see malice in this expression? Do we not see a broad, generous nature, perhaps a little coarse, but highly amiable? Who has not heard of a *horse-laugh*, that condition of laughter when the head is thrown back, and from central to molar all the teeth are shown in the plenitude of their ivory lustre!

But my limits forbid following this train of thought further.

You will say, What has all this to do with the expression of artificial teeth? Have a moment's patience and you may see.

Observe all these animals, and let me ask you if any one of them looked as though it had in a set of artificial teeth; and you will say that the harmony of their colour and the complexion and the perfect adaptation will answer that question.

Our artificial teeth should have this same harmony, and I announce that no artificial teeth *can be perfect* without harmony of colour between them and the complexion.

In short, if the colour is too light, they make the complexion appear ghastly; if too dark, they apparently darken the complexion.

All the faults I have named have much to do with the expression. If the teeth are too long, the mouth is opened too wide and the lips are drawn down to cover them, thus thinning the lips, giving a close-mouthed look, except when the person laughs or talks, and then there is too much display of dentistry. If the teeth are too short, the lips are drawn up and thickened, giving a shrewish expression, and making it appear at times as though the person had no teeth. If the arch is too large, it takes up the lips and cheek, giving also an undue prominence to the lips, making a sensual or babbling expression, varying according to the size of the arch. Want of prominence of the eye teeth allows the corners of the upper lip to fall down, making a mournful expression. If the eye teeth are too long, and prominent or sharp, we have a savage expression. But leaving many of the criticised points, I desire to speak of size and style in giving characteristic effect.

A fine, brave, generous boy said to me a few days since: "Are not my teeth larger than usual?" "They are!" said I. I could have told him so with my eyes shut, for he had a winning, open, frank, generous manner that was not consistent with small teeth. Since then I have worked for a lad some years older, with remarkably pointed eye teeth and bicuspids, but I have no insight into his character, although he was the son of an old friend; his secretive disposition made him reserved in expression.

Show me, if you can, a person with irregular teeth, and not show me one who is undeveloped at some grand point of character; irregularity being, I contend, mostly want of development.

Take from your specimens any central tooth, and you may judge, to a certain degree, the character of the former owner. The delicate formed slender teeth you will not call the teeth of a giant but of a delicate woman. Those sound, plump-looking teeth are a man's. These short, yellow, small teeth are usually set in a prominent alveolar ridge and large arch; I will testify that the owner came from a long-lived family and is a great worker.

From these and similar indications the dentist must build up his science of expression. As I have said, the natural teeth are a prominent and the best guide a dentist can have; but if these are lost beyond recovery, judgment and the eye of an artist is necessary to give or restore the normal expression.

What, then, shall the dentist do when the patient comes to him without teeth, desiring artificial-ones? First, look at the patient. If the skin is light, the teeth must be in harmony. If the features are large, the teeth must be large also. If thin and narrow and delicate, the teeth must be so also. If nervous and long-limbed, indicated by long, thin hands and feet, the teeth should be long in proportion to the width; and if, with plenty of money in his pocket he quibbles by the hour for the lowest price, put in a set of narrow teeth, and he will be perfectly satisfied, as it will suit his character perfectly.

If your generous hearted, full-souled friend desires teeth, and you place some small narrow teeth in his mouth, it would be like putting teeth like those of a rat in the mouth of a horse or cow; and if in the mouth of your sharp, versatile friend you place a set of teeth whose horizontal line shall be straight, and whose eye teeth shall be deficient in prominence, it would be like placing the teeth of a horse in the mouth of a fox or dog. And if in the mouth of your mean, snivelling person you place a generous and wide set of centrals and laterals, you give him a character better than he deserves.

I have thus sketched the outline of a very important subject of observation and study. I hope others may be able to fill up the sketch, as I have no doubt they are able to do to a certain extent, and yet there will be room for more study and more observation. If you say that some of these ideas are new I shall be pleased, for we are associated together for the purpose of bringing forth the new and the untried, that we may try them in the light of reason and experience. You have your thoughts on this subject, and other subjects that interest us: please speak them, please write them. I have believed what could be said could be written. The dread of the pen vanishes with familiarity. Volunteer an essay as one of the means of improvement — that assists in concentrating the mind, which is the secret of power.

In a word, give *expression* to your mind. As the features of the face improve by dwelling on pleasant thoughts, so will the features of the mind; and when the Great Artist shall chisel away the rough human marble that surrounds the soul, I hope to see, in "the new dwelling-place," old friends with ennobled expression, won from the triumphs over material sorrows and wrung from the truest successes in this life.

—*Cosmos.*

ALVEOLAR ABSCESS.

BY DR. W. H. SHADOAN.

ALVEOLI.—Semi-circular canals or grooves into which the teeth are set. Their size and shape are determined by the teeth that occupy them.

ABSCESS.—From *Absecedo*, I depart or separate from, loss of substance, a gathering or rising, a collection of pus in a cavity, the result of a morbid process or action in the parts. The French have various distinctive terms for abscess, as *Ab'ces chaudaigu scaldain*, is one which follows violent inflammation; *Ab'ces froid chronique scrofulux*, cold, chronic or scrofulous abscess, one which is the result of chronic or scrofulous inflammation; *Ab'ces par congestione*, diastheseque, symptomatic abscess, one which occurs in a part, at a distance from the inflammation by which it is occasioned. "Some writers are of opinion that pus is formed by the arterial system, and is deposited by way of excretion in the inflamed parts; others, that it is formed by the destruction of the solid parts." It seems to be a degeneration of the liquor sanguinis and exudation corpuseles. "In Alveolar Abscess we have the whole range of structure involved, from unpronounced amorphous, mucus mass, or chaotic materials in the juices of the flesh, from which arise and by which are nourished the neural and muscular fibrillæ, the vascular and osseous, no less than the glandular and dermal tissue. If then all these must be involved in destruction just in the ratio of the size of the sac, in every case of matured alveolar abscess, is it not of some moment to us to be able to detect the order of its inception and progress from its first beginning to its most unmistakable presence? Where then is the point of departure from normal activity? Is it in the juices of the flesh? Or is it in the granular living contents of the cells? Or may it not have its inception, in a refusal on the part of the formed material of the cell wall, to afford free transit into and out of the parenchyma of the cell to the pubulum or juices upon which it subsists? Although it may be clear to him who has investigated this subject, that all departures from healthy action take their origin in the neural sea, or juices of the flesh; yet it is difficult to prove this to the uninitiated mind short of labourious and tedious detail of untrient activities. The oneness of this sea throughout the whole range of the body within the outer pellicle or skin, whether that body be large or small, composed of one organ or many divisions, their sustenance from this elemental mass, renders the whole body or any part of it, subject to change in accordance with the extent of the application and the force of the disturbing agent."*

* Prof. Atkinson on Alveolar Abscess.

There is a very little difference between alveolar abscess and abscesses in general; the former has its origin within the alveolar border, while the latter may have their origin on the outer surface of the osseous system and in the soft parts.

Abscess is the most common affection to which the alveolus is subject. "Its effects are always exceedingly pernicious,"* not only to the sockets of the teeth thus affected, but to the gums, and very often the health is largely affected thereby. When severe inflammation of the lining membrane of the tooth or the alveolus is produced, causing the death of one or more cells which separate and form a pocket, there is an effusion of coagulable lymph, which will harden and form a sac, which attaches itself to the tooth or alveolus at the point of inflammation. This may be averted even after the sac is partially formed, by interrupting or cutting off the poisonous food or supply which feeds the disease. The cells forming the walls of the nucleated abscess having the least power of resistance, give way first and determine the direction of the abscess. Cold abscess may readily be detected by its appearance, which is recognized by the parts being enlarged, of a soft or spongy appearance, with very little tenderness and slight constitutional disturbance. It progresses slowly, and is found in persons of low vitality and of a scrofulous temperament. The warm variety is almost the exact opposite of the cold, the parts swell, are red, and very tender to the touch. There is a great variety ranging from cold to warm; some will be intermediate, while others will approximate the one or the other extreme.

In evacuations of the cold or chronic variety the pus will be found thick and poorly defined, with very little traces of blood lying close to the surface, showing a slow development and little variety. It is not so with the warm, the pus is more fluid, with traces of blood, and on evacuation will be found coming from the middle, while red blood will be discharged from the surface cut or walls of the tumour. The last occur in persons of sound constitution, are rapid, and of easy cure, if not complicated with other diseases, while the cold is, as before stated, slow and stubborn, requiring skillful treatment, or in other words very tedious of cure, often requiring the best skill, and in some cases resisting curative effort altogether.

DIAGNOSIS.

The correctness of the diagnosis will depend somewhat upon three things (*viz* :) Acuteness of perception, the stage of the affection and the characteristics of the patient. In its earlier stages, in some peculiar con-

* Harris' Principles and Practice of Dental Science.

stitutions, diagnosis is very difficult. But to the close observer and the thoroughly conversant it is not so, especially with the acute variety. The presence of abscess may, by some, be detected while yet in its primitive or cell state, and, in such a case, cure is almost certain. The following may be considered some of the unmistakable signs of abscess: In the earlier stages redness of the gums, extreme tenderness of the tooth to the touch, swelling of the gums, &c. At a later period the symptoms become more prominent. Elongation and loosening of the tooth, and increased size of the gum over the point affected, a great rush (apparently) of blood to the part on taking a recumbent position; increase of pain in the parts, a fistulous opening through the gums, cheek, jaw, or at any other point where the pus may be conveyed by the aid of a suture or other channel, susceptible of being traversed by pus. These are most prominent signs of alveolar abscess, and may be regarded as reliable. The cause and duration of the disease will depend upon the constitutional health of the patient, of the susceptibility to abscess, the stage of the disease when the treatment is commenced, and the kind of treatment adopted.

The warm variety is the most rapid in its course, and the cold is the slowest; the intermediate, in temperature, will vary between the two classes above named in duration. The general health always strongly influencing either variety or class of abscess.

CAUSES.

The causes of alveolar abscess are very numerous. A lack of power, on the part of the system, to take up and appropriate the nutritious food contained in the juices. The presence of irritating matter, dead nerve membrane, dead roots of teeth, mechanical violence, sudden and repeated transitions of temperature, and any other cause that produces acute inflammation. Irritating matter may be secreted at the point of the root of a tooth in which the nerve is dead, and as long as the canal of the root or roots is kept open there may be more injurious effects, but as soon as the avenues of escape are closed, by any means whatever, the escape of the matter is checked, and as the secretion is still kept up it will soon form, in such quantities, as to produce pressure on the lining membrane of the socket, and a high state of inflammation and congestion is set up. It is not always the case that a dead tooth has a decaying nerve; in some cases the nerve is entirely gone, yet a secretion may exist at the apical foramin, which, if not allowed to escape, will produce the same effect that a dead pulp will. It is one of the most difficult points in pathology to ascertain just how much inflammation will be tolerated. If the recuperative powers

be equal to the inflammatory conditions, one will poise the other, and as one predominates so will be the result.

In some cases there will be evil resulting from the slightest disease, while at other times it will take almost death itself in the parts to produce any change whatever. This is often manifested in other things; sometimes men die from slight scratches, and at other times they may be torn almost to pieces and yet live. I remember, during the late rebellion, having seen a man who had received thirteen wounds, either of which seemed sufficient to have killed him; yet he wholly recovered. I allude to this only to show how much the system is capable of resisting at some times as compared with other times. We are all aware that the system cannot endure as much at one time as it can at another. This depends somewhat upon the condition of the mind. An abscess is often produced by the simple operation of filling a tooth at an improper time; for instance when the system is in a reduced condition, or when there is inflammation in the parts or any other unhealthy condition, that contributes to the formation of alveolar abscess. To attempt a clear and concise description of all the circumstances that tend to produce or contribute to the formation of abscess would be a tedious as well as unprofitable undertaking: the above refers mainly to roots of teeth and teeth in which there is no nerve membrane. The next class of causes that claim our attention are those in which the nerve membrane is yet remaining. A tooth may be slightly decayed, enough so to expose the pulp, and the irritation thereof from contact with the air, from chemical action or otherwise, may be sufficient to produce inflammation in the membrane, and this, if not relieved by topical applications, usually results in the death of the pulp. The power of recuperation in the pulp of a tooth is very low at best, and when inflamed from contact with the air and fluids of the mouth, death is almost sure to follow. The engorgement may be relieved by stimulants or by drawing the blood from this point to some other, thus permitting the part to recover. This may be done by the use of leeches, counter-irritants, activity of body or mind, or both or any other act that will change the current of blood to some other point. It takes very little irritation in some persons and especially at certain times to produce inflammation at the apex of the roots of teeth sufficient to cause an abscess, and the conditions mentioned above seem peculiarly to favour this result. There are other cases where the nerve of a tooth is not exposed, but the decay approaches very closely, the cavity is cleansed and filled, and the thermal changes in the filling, together with the close proximity of the same to the pulp, will cause irritation and inflammation; and as the tissue is encased in a firm and unyielding chamber the only egress is

through the foramin of the root, and whether the cavity is filled or not an abscess may form. After a tooth is filled the nerve often dies from inflammation produced by the operation. Abscesses may be formed and exist for a long time without being apparent, and in persons of good health, have existed and been cured by nature alone. I have seen cases where there had been abscess and no external signs of lesion, and the persons themselves had no knowledge of its existence, clearly showing to my mind that an abscess may exist and be radically cured by nature alone. The next among the causes that we shall mention is mechanical violence; this, like many other causes, has its peculiarities. Mechanical violence may be in any direction that will bruise the periosteum of the tooth. But the most favourable is the lateral. You may force a tooth in the socket with such violence as to bruise or otherwise wound the membrane and cause inflammation. It may, first be in the form of periostitis, but if the inflammation is not allayed a plasma will be wiped out and matter formed; but as before stated the most favourable kind of violence for the production of abscess is the lateral. Strike a tooth on either side and not only bruise the investing membrane, but the nerve itself is liable to be injured, either of which will cause thickening of the membrane and produce the same result. An alveolar abscess is sometimes caused by simple inflammation of the PERIOSTEUM this is often the result of sudden transitions of temperature. These are some of the exciting causes; there are others that might be named, but for the present we will omit them. There are general or constitutional causes which contribute largely to the formation of abscess,—persons of a manifest inflammatory diathesis or those in which there is considerable local inflammation from some local exciting cause. Those of a manifest strumous diathesis and persons living in miasmatic districts are more likely to be attacked than those of a healthy condition.—*Dental Register*.

(To be continued.)

IODINE AND ACONITE IN PERIODONTITIS.

BY FRANK ABBOTT,

PROFESSOR OF OPERATIVE DENTISTRY IN NEW YORK COLLEGE OF DENTISTRY.

THE best remedy, and the one that works the most conveniently, for periodontitis, I have ever used (and I have tried nearly everything recommended), is a mixture of equal parts of—official tincture of iodine and tincture of aconite root, applied to the gum around the roots of the tooth with a camel's-hair brush, or a portion of cotton wound on the end of a

stick of orange wood; I have been using it about a year, and, to my knowledge, it has never failed to relieve the patient. I apply it, in the early stages of inflammation, once in twenty-four hours; in very severe cases, twice. In my office practice, and in the Infirmary, I have opportunity of observing its workings to quite an extent. There are advantages in its use over other remedies which you will readily observe on trying it.

One other little thing I have just discovered; it may be old (it is certainly good enough), but is new to me. To prevent exudation from the gums, where it is difficult to use the rubber dam, dry the gum well, then paint with collodion. If not *disturbed*, it will remain dry as long as you wish.—*Cosmos*.

MISCELLANEOUS.

ALUMINUM AS APPLIED TO DENTISTRY.

Dr. Starr gives the following as his observations made in two years, in regard to the advantages and disadvantages of aluminum as compared with other bases for artificial teeth. "As compared with gold, which many consider as the best article upon which to insert artificial teeth, the advantages which gold possesses over aluminum, is greater strength and capabilities of a higher finish; while aluminum has the advantage over gold in being only about one-sixth its specific gravity; is more easily worked, and is capable of resisting the actions of the alkalis and acids of the mouth nearly as well as gold; what has been said of gold as compared with aluminum, will apply to platinum as well. Aluminum in comparison with silver has many advantages. Silver will corrode, while aluminum will not. Silver has four times the specific gravity, and has about the same strength, but is not as easily adapted to the mouth as aluminum. Rubber is thicker, heavier, more brittle and no cheaper than aluminum."—*Dental Register*.

NITROUS OXIDE.

The Quebec journals mention two cases of surgical operations successfully performed under the influence of nitrous oxide in that city. In one case, —removal of a cancerous cicatrix—the gas was respired during twenty-five minutes without producing, it is said, any derangement of the stomach or causing any depression of the heart's action. In the other, Choparts operation was performed, and occupied so long a time that the gas was all used up, and then the patient who had hitherto felt nothing, began to suffer. Dr. Pourtier, a French dentist, of Quebec, administered the gas. Protoxide has been used at the Middleton Hospital in two cases, one of which, the removal of an in-growing toe-nail, furnished a good test of the power of the agent to produce insensibility to pain. Dr. John Murray administered the gas to the patient, a lad, whilst Mr. Hulk split up his nail and removed it in halves. No pain was experienced. The whole process occupied one minute and a half, and in thirty or forty seconds afterwards the patient was able to get up and leave the theatre.

In another case an elderly man with sinuses in the abdominal wall, which Mr. De Morgan slit up, the influence of the gas was not quite so satisfactory. The patient felt some pain. His appearance to bystanders during part of the time was, to all intents, that of a person in an epileptic fit, presenting as he did dense lividity of features, frothiness about the teeth, fixed and staring eyes, with dilated pupils, and rigid convulsions of the muscles of the arms. Notwithstanding this aspect Dr. John Murray, who is well qualified from experience to pronounce an opinion, told us that he should have been quite content to prolong the inhalation. It is impossible to imagine a condition of safety more strongly resembling that of imminent danger to life, and the secret of the physiological condition which it obtains has yet to be discovered.—*European Mail*.

LAVATER ON THE TEETH.

The following extract from Lavater's "Physiognomy" may be appropriately read in connection with the selected article on "Artistic or Expressional Dentistry on page . . ."

"Than the characteristics of the teeth, and the manner in which they display themselves, nothing is more striking, or continually visible. The following are the observations I have made thereon:

Small, short teeth, which have generally been held by the old physiognomists to denote weakness, I have remarked in adults of extraordinary strength; but they seldom were of a purer white.

Long teeth are certain signs of weakness and pusillanimity. White, clean, well arranged teeth, visible as soon as the mouth opens, but not projecting, nor always entirely seen, I have never met with in adults, except in good, acute, honest, candid, faithful men.

I have also met foul, uneven, and ugly teeth, in persons of the above good character; but it was always either sickness, or some mental imperfection, which gave this deformity.

Whoever leaves his teeth foul, and does not attempt to clean them, certainly betrays much of the negligence of his character, which does him no honor.

As are the teeth of man, that is to say, their form, position, and cleanliness, (so far as the latter depends on himself), so is his taste.

Wherever the upper gum is very visible, at the first opening of the lips, there is generally much cold and phlegm.

Much, indeed, might be written upon the teeth, though they are generally neglected in all historical paintings. To be convinced of this, we need but observe the teeth of an individual during the course of a single day, or contemplate an apartment crowded with fools. We should not, then, for a moment, deny that the teeth, in conjunction with the lips, are very characteristic, or that physiognomy has gained another token, which triumphs over all the arts of dissimulation."

The new law in Ohio, compelling all physicians to suspend practice who have never received regular diplomas, took effect the 1st inst.

Dr. H. Schmidt has found that the power of accommodation of the eye is materially influenced by toothache. His observations are published in vol. xiv. of the *Archiv fur Ophthalmologie*.