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THE
CANADA JOURNAL
OF
DENTAL SCIENCE.

VOL. I.]

AUGUST, 1868.

[No. 3.

ORIGINAL COMMUNICATIONS.

HOW TO RESTORE OLD AMALGAM FILLINGS, AND
THEIR REFUSE TO THE ORIGINAL STATE.

BY L. CLEMENTS, L.D.S., KINGSTON, ONT.

Coat the inside of a clean crucible with borax, put your refuse amalgam in it, place the whole in a common stove or furnace over a charcoal or common dry wood fire; heat up slowly so as to allow the mercury to evaporate. After the mass is melted, allow it to stand ten or fifteen minutes in a molten state, then pour into an ingot mould and file up in the ordinary manner.

I recently treated a lot in the above manner, that had been accumulating in my office for eleven years; and to my great satisfaction I found that I had a few ounces of amalgam, equal, if not superior, to any in the market. The above process may not be new to some members of the profession, but as it is something new to myself, I give it for what it is worth.

NECROSIS OF THE JAW CAUSED BY THE WISDOM TOOTH.

A CASE IN PRACTICE.—BY SAMUEL LEE RYMER, L.D.S., V. P. ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

The appearance of a creditable journal devoted to the best interests of the Dental Profession in the loyal and patriotic Dominion of Canada, is an event to be noted with gratification by all who desire to witness its material progress, and, I think, it is so noted; especially by those in the

mother country and here, who, for a considerable period, (twelve years), have been anxiously working to place the profession upon a satisfactory basis. I learn by a communication received from the editor of *The Canada Journal of Dental Science*, that he is particularly desirous of obtaining articles for his periodical from members of the profession in England, and he favors me with a request to assist him in that way. I cannot but regret that, from the limited time at my disposal, I am unable efficiently to aid him, but I hope this will be rather an advantage than otherwise, and that more able pens will contribute to fill the space which mine might unworthily occupy. To refuse a few lines, however, would seem to make it appear that I took no interest in his labours; therefore I have pleasure in condensing some notes of a case which I published in the *Dental Review*, in October 1866, with certain additions as a sequel to the case, and which cannot now appear in the *Review*, that journal being now, (what I hope the *Canada Journal* will never be), *defunct*.

The dental surgeon has now and then presented to his notice cases of necrosis of the alveolar processes, sometimes involving the body of the jaw, which may mostly be traced to irritation from diseased teeth or stumps, although the causes may be other and more obscure.—(See Dr. Chapin Harris' "Principles and Practice," Dr. Richardson's Lectures, Mr. Tomes' System of Dental Surgery, &c.") Again, in rare instances, the disease may be idiopathic.

For the most part, necrosis from whatever cause it may occur, attacks the weakly and debilitated,—not always so, as here is a case in point to show. In February, 1865, Mr. E. B——, a medical man in active practice, consulted me under these circumstances:—On the 1st of the month having felt some inconvenience from a stump of the second lower molar, right side, he extracted it himself and experienced relief immediately, but the relief was not of long continuance, for on the 3rd of the month, pain was felt about the region from whence the stump was removed: and as this increased from day to day, my opinion was requested. Upon examination I could find nothing to account for the pain except that the gum at the point of extraction had not healed, otherwise the parts looked healthy. The neighbouring teeth were sound and bore testing without inconvenience. It should here be stated that the patient was of middle age, free from constitutional affection, and enjoying an average degree of health. A thorough examination was subsequently made at the patient's residence. During the interval of two or three days, between the first and second interviews, the pain had increased to an almost unbearable extent; the appearance of the mouth had scarcely changed, and the wound in the gum showed no signs of closing. I enquired of the patient whe-

ther he was certain the whole of the stump had come away. Of this he was positive. Yet I could not help coming to the conclusion that the irritation was owing to a splinter of some kind. In carefully probing the wound in the gum the walls of the socket were plainly felt and found intact, but deep down the point of the probe came upon a hard substance, which I knew to be tooth substance, and which I thought at the time was a root of the second molar. The diagnosis of the case now seemed to me determined—the irritation of this substance set up inflammatory action in the bone, extending to the dental canal, and so causing compression of the nerve therein contained. The patient was now so reduced as to be obliged to temporarily relinquish practice, but he was willing to submit to any operation likely to secure relief. I proposed an attempt to extract the splinter supposed to remain in the jaw. Before the attempt, which was consented to by the patient, I again explored with the probe, and found, as before, a distinct indication of tooth substance deep down. The patient being steady I employed a pair of fine long beaked lower stump forceps, and was able to nibble at the object sought after in a tempting way, but I could secure no grip and was equally unsuccessful with an elevator. Subsequent general medical treatment was as powerless for good as the operative attempt just mentioned. The pain increased and relief could only be obtained by the almost constant use of chloroform, and in the course of one night no less than three ounces were inhaled. So the pain went on for a fortnight, at the end of which it somewhat subsided. There was considerable thickening of the parts, symptoms of inflammation became apparent, and the mouth could only be opened to a trifling extent. An abscess having formed, pus exuded from the unhealed wound, as also from a minute opening which shewed itself posteriorly. The discharge gradually increased, and as the inflammatory action appeared to be travelling forward, the first molar was extracted, and some days afterwards the second bicusped, to allay inflammation. These teeth had become loosened, and the removal of the first was followed by a discharge of pus through the socket. By this time the patient was terribly reduced, for in addition to the exhaustion caused by the discharge, he became subject to profuse sweatings at night and was unable to take solid food. Strong beef tea and stimulants were employed to keep up the system, and a change of air for a few days, was attended with benefit, as on his return home the general health was better and the pain had ceased, but paralysis of the dental nerve had set in, there being about its extremities an almost total insensibility—so that the right side of the chin could be pinched or punctured with little or no sensation. The disease was, nevertheless going on, and as the bone

was evidently affected, the opinion of an eminent hospital surgeon was taken. He could discover no "tooth substance," but easily detected the existence of diseased bone, and advised an immediate operation for its removal. The patient with, I think, good reason was averse to being operated upon then, as the diseased portion of bone was not all loose.

In April following, a fistulous opening through the cheek took place, which communicated directly with the seat of mischief;—i. e., about the bottom of the socket of the second molar. The discharge from this opening was continuous and excessive. The patient, at this instance consulted another hospital surgeon. He advised patience, in order to see what nature would do for him; at any rate he regarded an operation as premature. In July following, a piece of necrosed bone came away through the opening in the cheek, the exfoliation being about the size of a broad bean.

From this time a great and general improvement took place, and it was hoped that all would be better by and by—but not so, altogether, as the discharge through the opening in the cheek continued in a diminished degree for a year afterwards, at the end of which, the patient called upon me with the desire that I should examine his mouth, as, he said, the splinter of bone substance I had declared at the onset, was working its way through the gum. Upon examination I found, to my surprise, that a *wisdom tooth* was rising, and this was the "tooth substance" I had touched by the probe and which had been imprisoned within the jaw for so long a time, and which had been the cause of so much trouble. The tooth had become fully erupted in September, 1866, occupying nearly the position of the second molar, and as it occasioned no great amount of inconvenience, it was allowed to remain for a time; although the discharge from the cheek continued. From the period just named, September 1866, to the present, June, 1868, the patient has enjoyed pretty good health. The discharge through the cheek has been continuous, without further indication of diseased bone. As his teeth generally had become loose I extracted ten of them, under chloroform, on the 16th instant, the wisdom tooth being included. This tooth is large and the roots necrosed—portions shewing indications of absorption.

The discharge ceased immediately upon its removal, and the mouth generally, presents at this date a healthy appearance. I hope to be enabled to put in a new set of teeth shortly, and have the pleasure of seeing my friend and patient restored to his wonted health and strength.

This case is interesting, I think, as an example of difficulty in diagnosis in affections of the kind, and it calls to mind an observation of Mr. Tomes, namely,—“It is desirable that it should be borne in mind, when

disease about the posterior parts of the jaws is coincident with the absence of the wisdom tooth from the usual situation, that the lost teeth may be buried in the substance of the bone, and be the existing cause of mischief."—A System of Dental Surgery, by John Tomes, F.R.S., pp. 195-6.

Croydon, Surrey, England,
June 27, 1868.

AN ARTIFICIAL PALATE.

BY J. NEELANDS, LINDSAY, ONT.

In the month of July, 1866, H. G., a young man residing about 20 miles distant, called to consult me respecting the possibility of getting an *artificial palate* or *obturator* that would be of service to him. He was accompanied by his sister to interpret for him, as he was so literally dumb that it was impossible to understand anything he said. This was caused by an opening or defect in the upper part of his palate. Upon inquiring into the history of the case, I ascertained that about ten years previous, he had been attacked with a disease in his eyes, which had been treated for a length of time with very powerful medicines. The disease finally located in the region of the palate causing the destruction of a large portion of the superior maxillary bone.

Such was the extent of the disease that an open space was left which extended from the canine tooth of the left superior maxilla to the corresponding place of right superior maxilla and including the nasal spine and processes of the incisive teeth anteriorly and the palate spine and palate bones posteriorly together with the palate process, crista nasalis, part of the vomer, and horizontal plate of the palate bone. A large open space was left which extended laterally nearly an inch and a half, and posteriorly to the velum pendulum palati about two inches.

This case was very distressing to the sufferer as well as to his friends.

He could not articulate a single word; eating and drinking were most painful to him; the food and liquid passing up into his nose. He also presented a most unnatural appearance; the four incisor teeth were gone, and the upper lip and nose very much sunken. He as well as his friends were very anxious that something should be done to alleviate his sufferings.

I saw that the principle difficulty at the outset was to obtain a correct impression owing to the peculiar shape of the parts to be taken. This I succeeded in taking; previous to which I plugged the cavity in the palate with cotton wool.

In this case it being impossible to construct a suction plate I fitted strong gold clasps to several of the teeth which still remained in the jaw, and to these clasps I soldered clingers which were retained in the vulcanite plate. The plate was constructed of rubber and in such a manner as to supply as near as possible the place occupied by the bone which was destroyed, in order to give the lip, nose, &c., their natural appearance. Almost immediately after the plate was inserted, I noticed a decided improvement in his speech; in fact I could understand him without any difficulty. I have not seen the patient since I inserted the palate for him, but some of his friends told me a few days ago that it continues to give him the best of satisfaction.

The following is a short extract of a letter I received from him about nine months after I saw him.

“I am glad to let you know that the artificial palate you made for me answers a great deal better than I expected. I did not think it would have done near so well as it has done; I have not the least trouble with it, I could not do without it.”

It affords satisfaction to know that such operations are acknowledged with gratitude by those for whom they are performed, and that our labours are so well appreciated.

A CANADIAN DENTAL JOURNAL.

By W. H. ATKINSON, M.D., D.D.S., New York.

Journals, like every separate individual existence, must live upon a pabulum, the preparation of which brings death and destruction to the bodies upon which they feed, in the process requisite to fit them for this appropriation. Therefore, permit me to advise that you avoid the folly of attempting to bring forth a journal of full maturity, and of wisdom, above all that has ever been. For this has been the covert or expressed promise of nearly all the professional periodicals and schools at the time of issuing their prospectuses.

This is to be a Dental Journal. Let it reach far and wide for the material with which to enrich its doctrines and practices resultant upon them. But test, with iconoclastic energy, all the doctrines, old or new, and sweep them, as but stumbling-blocks and rocks of offence, out of the way, if they are not proved and provable. Better, far better is it to have a few central truths around which to rally your forces, than to be overborne, as all professions are now, with false records and false conclusions, accumulated and accumulating to an intolerable burden, as the result of

the blasphemous assumption that "the whole field of the knowable has been long since well explored, understood, and recorded!"

Probably the greatest practical error of the past history of the world is the assumption that the lives of individuals is but the repetition of the lives of their predecessors! when, in the very nature of things, it is plain to every lover of the truth for its own sake that "life is a process from all time to all time;" and hence, no one person or thing can possibly be any other than just what it is in the order of the divine appointment!

Therefore, be persuaded to let the *Canada Journal of Dental Science* be its own fresh, fragrant self, without the pussillanimous attempt to put on airs of age and wisdom unbecoming its strength and years!

As the well-gestated infant comes forth ruddy and plump from the maternal confinements and restraints, so let this child of the profession be born, nourished and educated as becometh the noble stock from which it springs, and the holy mission of disseminating light and dispelling darkness and death, for which it is brought forth! A journal, to be useful, must needs be of ready access, terse and lucid in sense, and free as possible from ambiguity and *double entendre*.

That the greatest benefit may accrue from its publication, the *reader* must not only subscribe and pay for the Journal, but he must read and thoroughly digest its contents, so that he may be able to approve, or intelligently disapprove and overturn, the blunders and fallacies he finds in it.

All work is legitimate or illegitimate—in other words, "work is worship or blasphemy;" that is to say, either coinciding with or opposing the truth, in whatever department of the multifarious works of life we may engage. These aphorisms seem so clear, that arguments in their support would be a work of supererogation.

In view of these qualifications, what is the duty of the dentist of to-day?

Doubtless the primary duty of all who desire the office of a true dentist, is to duly and truly prepare by acquiring the qualifications requisite to meeting the demands of prophylaxis and redemption of the dental system. Prevention is to be secured by obedience to the physiological laws in cases where disease has not yet made its advent. Redemption and substitution are to be secured where these become necessary, because of the malign presence of pathological activities, consequent upon infractions of law through *ignorance*—by the exercise of all that pertains to the operative and mechanical departments of the profession.

That this incubus (ignorance) may be dispelled, let mind act upon mind until the attrition shall emit sufficient light and intensity of interest to enable us perceive the whole truth under the guidance of the

blessed host that stands ready to lead us into all the byeways and high-ways of physiological and pathological manifestations. How shall all this be accomplished? Simply by each one doing with all the might of his utmost strength the work before him, be it arduous or easy; giving as freely as he receives the results of the labors of head, heart, and hand, as his mite of contribution for the general good; through oral or written instructions and demonstration to patient or practitioner, to intimate friend or implacable foe, to pupil of unfledged proportions, or to ripest scholar and expert alike, with the burning desire to do good to somebody! And the work will be accomplished in such short space, that we shall marvel that we had not seen it in this wise long ago!

[The above communication was received from Dr. Atkinson, for the first number of the *Journal*, but we reluctantly had to differ it. His writings, however, are always fresh and readable, and the present one is well worthy of perusal.—Ed. C. J. D. S.]

HOW TO GET A CORRECT "BITE."

BY W. G. BEERS, MONTREAL.

The ordinary mode of procedure in obtaining the bite for full upper sets,—lower teeth remaining,—is to make the patient close the jaws upon a rim of wax on or off a pattern plate. The difficulty, however, is that the lower teeth and the distance between them and the bare gums are hidden when the teeth go into the wax, and the length, etc., is comparatively guesswork.

We find the following mode invariably satisfactory. After trimming the wax rim as usual, let the patient bite sufficiently to make a slight impression of the points of the teeth, or, if there is one front tooth above the line of the others, of that one tooth alone. Remove the wax from the mouth, and cut out a square block just over where the longest tooth touched, so as to expose the bare gums at the top, and the whole of the longest tooth and the half of each one adjacent. The width apart in every case of the kind has to be regulated by the length of the longest tooth and the natural molars, and the amount of grinding their artificial antagonizers will allow. At the open space made by cutting out the block of wax, you have a sort of loophole through which you can regulate the width apart to a hair's breadth, just as you wish it; and can see whether or not the patient protrudes or sidles the lower jaw in closing. By noting the manner of closing the jaws before the set is in, and the exact point

of the upper gum touched by the longest tooth, any deviation from it in closing on the wax rim is immediately seen at the open space.

After the bite is correct, make the patient retain the jaw in place, and press soft wax into the hole to get the impression of the guiding tooth that was uncovered.

THE LABORATORY RECORD.

BY W. G. BEERS, MONTREAL.

NEW YORK.

No.	Date.	Name.	No. of Model.	Base.	Full Upper Set.	Full Lower Set.	Partial No. of Teeth.	Kind of Teeth	Regulator	Details.
1	Aug. 1	John Jones.....		Vulcanite	1			G		
2	" 2	Mrs. Jas. Brown	5	Gold.....			10	4 p.		
3	" 2	J. Robinson, jr...	6	Silver.....					1	
4	" 3	Mrs. D. Smith.....		Vulcanite						Obturator
5										
6										

REPAIRS.

No.	Date.	Name.	Base.	Upper, Lower or Partial.	Details.
1	Aug. 1	Mrs. John Jones.....	Vulcanite..	Upper ...	1 Right Central Block.
2	" 2	Mrs. A. Brown.....	Gold.....	Lower ...	2 Gum Teeth.
3	" 4	Dr. Robertson.....	Gold.....	Partial...	Replace left 1st Bicuspid; gum.
4	" 6	L. Smith.....	Vulcanite..	Partial...	Solder Clasp.
5					
6					

We have been using for three years, the above method of chronicling the mechanical work done in the Laboratory, and find it well worth the little trouble incurred in keeping it. An boy assistant can enter it when the work is finished. The amount of work done in corresponding months of years is shown, the number and kinds of sets made, bases and teeth used.

In entering gum or plain teeth, simply use the letters G. & P.

If an antagonist is preserved, it avoids confusion to number it the same as the plaster model from which the die is cast.

The "new work," and "repairs" are at different ends of the book.

PROCEEDINGS OF DENTAL SOCIETIES.

PROCEEDINGS OF THE DENTAL ASSOCIATION OF
ONTARIO, AT HAMILTON, COMMENCING JULY
14th, 1868, AT 7 P.M.

PRESENT:—C. S. Chittenden, L.D.S., Vice-President, in the chair:—

J. O'Donnell, L.D.S., Corresponding Secretary, Peterboro; F. G. Callender, L.D.S., Cobourg; L. A. Bogart, L.D.S., Hamilton; M. E. Snider, Toronto; Charles Kahn, L.D.S., Stratford; J. A. Brown, Port Hope; S. B. Chandler, Newcastle; R. Trotter, L.D.S., Guelph; T. Neelands, Port Hope; J. Bowes, Ingersoll; J. Zimmerman, Zimmerman; J. B. Willmott, L.D.S., Milton; J. H. Bryant, Woodstock; J. C. McCausland, L.D.S., Barrie; J. B. Devlin, Oshawa; Robert Reid, L.D.S., Galt; L. Wells, L.D.S., Simcoe.

I. C. Kahn, Stratford, moved, seconded by J. O'Donnell, Peterboro:—That J. H. Bryant, be requested to Act as Recording Secretary *pro tem.*, until Dr. Scott arrives.—Carried.

J. O'Donnell, read letters from the Managing Directors of the Grand Trunk and Great Western Railway Company's, granting return Tickets at one fare to Dentists attending this session of the Association.

2. J. B. Willmott, Milton, moved, seconded by R. Trotter:—That the Meetings of this Session be held as follows, from 9 a.m. to 12 noon, from 2 p.m. to 5.30 p.m., and from 7½ p.m. to 10 p.m.—Carried.

At 8½ p.m., J. C. McCausland, L.D.S., Barrie; G. L. Elliot, L.D.S., Toronto; G. W. Hale, Toronto; W. C. Adams, L.D.S., Toronto, R. G. Trotter, L.D.S., Toronto; J. S. Scott, M.D., Toronto; and others having arrived, the Association adjourned for half an hour.

RESUMED AT 9 P.M.

PRESENT:—C. S. Chittenden, Vice-President in the chair.

J. S. Scott, Toronto, Recording Secretary, and thirty-six members. C. S. Chittenden, reported for the Executive Committee.—Report adopted.

F. G. Callender, Cobourg, Treasurer, reported.—Report adopted. Amount received at Toronto, \$18,00; report at Cobourg Session, \$86; report at Toronto, \$112; Making \$216. Paid various orders \$132; leaving a balance in Treasurer's hands of \$84.

J. S. Scott, Recording Secretary, Toronto, read his report.—Adopted.

J. O'Donnell, Recording Secretary, Peterboro, stated that in consequence of not having received the applications in the hands of Dr.

Day, the Commission on credentials would not be able to report for the present. Adjourned to 9 a.m. to-morrow.

July 15th, 1868.

In addition to members present yesterday, were the following:—

L. Clements, L.D.S., Kingston; D. Ward, Belleville; D. F. Hayes, Brockville; D. W. Dalmadge, Mountain View; C. Cartwright, Stratford; Walter Wells, Waterloo.

Also as visitors, Rev. Ormiston, D.D., Hamilton; Mr. McCallum, Superintendent of Schools, Hamilton; Rev. Bridgeman, B. A., Hamilton.

C. S. Chittenden, in the Chair:

J. S. Scott, read the minutes of the last session, which were on motion adopted.

J. B. Willmott, presented the report of the Commission on Auditors, which was adopted.

A communication from W. George Beers, respecting "The Canada Journal of Dental Science," was read by the Recording Secretary, and on motion of J. B. Willmott, seconded by W. C. Adams, it was referred to the following Committee: Messrs. Stone, Callender, Scott, Chandler, and Bowes.

On motion of J. B. Willmott, seconded by J. Bowes, the time for the Election of Officers was fixed for 2 o'clock this afternoon.

J. O'Donnell, moved, seconded by W. C. Adams:—That the following Incipient Members be raised to Active Members. T. Neelands, R. G. Trotter, L. Wells, and H. McLaren.—Carried.

R. Trotter, Guelph, moved, seconded by M. E. Snider, Toronto: That Messrs. Zimmerman, Calender, Bogart, Scott and the mover be a committee to select subjects for discussion, during this session received. Adjourned.

July 15th, 2 p.m.

C. S. Chittenden, in the chair, J. S. Scott, Recording Secretary.

J. O'Donnell presented the report of Committee on Credentials as follows: "Your Commission recommend for active members the following:

D. Ward, Belleville; D. W. Dalmadge, Mountain View; D. F. Hayes, Brockville.

As Incipient members, J. Neelands, Lindsay; and Walter Wells, Waterloo.—Adopted, on motion of L. Lemon, seconded by J. B. Willmott.

The several parties were elected and signed the Constitution.

Rev. Dr. Ormiston addressed the Association. R. Trotter moved, seconded by D. A. Bogart:—That the cordial thanks of this Association

be extended to Rev. Dr. Ormiston, for his kindness in attending this meeting, and for the very appropriate address just delivered.—Carried.

The Election of Officers being in order, the Recording Secretary called the roll, when 33 active members answered to their names.

The following were elected office bearers for the ensuing year.

President, J. O'Donnell, Peterboro; Vice-President, J. H. Bryant, Woodstock; W. H. Porter, Holland Landing; L. Lemon, St. Catherines; Recording Secretary, J. S. Scott, Toronto; Corresponding Secretary, R. G. Trotter, Toronto; Treasurer, L. Clements, Kingston; Librarian, L. Wells, Simcoe.

J. O'Donnell, in the absence of Dr. Day, the President, read the Annual Address of that officer, which was received with applause and referred to the following Committee Messrs. Scott, Reekie, Trotter, and Bryant.

J. H. Bryant moved, seconded by J. O'Donnell:—That W. C. Adams, C. S. Chittenden and R. Trotter, Guelph, be elected delegates to the American Dental Association.

R. Trotter, Guelph, reported the following subjects from the Committee thereon for discussion :

“Causes of Premature decay of the teeth.”

“Alveolar Abscess.”

“Anæsthetics.”

“Exposed Nerve and Root filling.”

Report Adopted. Adjourned.

EVENING SESSION.

Hamilton, 15th July, 1868.

J. O'Donnell, President in the Chair :

J. S. Scott, Recording Secretary. Forty-one members in attendance.

J. H. Bryant, Woodstock, Chairman of Committee on By-Laws, reported. Report adopted.

The following were elected an Executive Committee.

R. Trotter, Guelph; T. Neelands, Port Hope; J. Bowes, Ingersoll; M. E. Snider, Toronto; W. C. Adams, Toronto.

R. Trotter, Chairman Committee on Finance, reported the several accounts correct, and recommended payment of the same.—Report adopted.

J. B. Chandler presented Report of Committee on Mr. Beers' letter as follows :

“That while your Committee would wish the journal every success, they would not recommend this Association to supply it to its Members, but would most cheerfully recommend it to the liberal support of its Members.”—Adopted.

R. Trotter, Guelph, read a paper entitled "The Dental Profession," which was well received, and ordered to be forwarded to the *Canada Journal of Dental Science*, for publication.

J. S. Scott moved, seconded by J. H. Bryant:—That in view of the valuable services rendered to the profession by Mr. W. George Beers, he be elected an Hon. Member of this Association.—Carried.

J. H. Bryant, Woodstock moved, seconded by M. E. Snider, Toronto, that this Association hail with delight the issue of the *Canada Journal of Dental Science*, among the profession of Ontario, and that we hereby pledge our hearty support, both by recommending Dentists to subscribe for it, and to contribute to its columns.—Carried. Adjourned.

The remainder of the proceedings will appear in next No. with Reports of Committees, President's Address, and Mr. Trotter's Paper, entitled the "Dental Profession."

NOTES FROM THE PROCEEDINGS OF DENTAL SOCIETIES.—(*Maryland State Dental Society, April '30.*)—In the first number of the *Journal* we gave Dr. Arthur's propositions on Dental Caries. Dr. Volek undertook to refute them; but the result is tantamount to his defeat, as the following report will show.

Dr. Arthur said he had before presented the matter fully to the Association, and had published his views. His little book had been ably and elaborately revised by Professor Noel; and the whole subject had been before the profession for some two years, but he had not become aware of any formal attempt having been made to disprove his views. Dr. Volek said he opposed the removal of the enamel of the teeth because he believed it to be furnished by nature as a protection from attacks of caries. He had taken pains to examine, microscopically, sections of the teeth of a number of animals (although he had not been able to bring his specimens with him), and had found that, in the human teeth, the enamel was thickest in proportion to their size, of any he had examined. He concluded, from this fact, that nature had provided the human teeth with this additional protection to secure them from the attacks of caries to which they were subject. He condemned filing sound teeth for the prevention of caries.

Dr. Arthur replied that the comparative anatomy of the teeth, as referred to by Dr. V., had no bearing upon the subject. If the human teeth were covered with enamel an inch thick, it would not alter the

well-known fact that caries of the teeth does commonly occur at points where the enamel is most perfectly formed. With regard to the removal of caries without filling, for the arrest of this disease, Dr. A. stated that out of 1375 cases of removal of caries, failures had occurred in less than one hundred. In all these cases the enamel had been entirely removed from the affected surfaces.

Dr. A. declared it to be a mistake to suppose he had advocated the indiscriminate filing of sound teeth. The whole gist of the views he has so earnestly advocated is the anticipation of the attack of caries by separation in cases where it is well ascertained that it is certain to occur; and he endeavoured to point out clearly the indications of a certain condition in which this treatment is advisable. Dr. A. did not find any objections had been made to his views worthy of attention. When such were offered, he would hold himself ready to give them his earnest consideration.

Dr. Bean regarded Dr. Arthur's experience and his deductions therefrom as of immense value to the profession and the public. The rule which Dr. A.'s careful observation has established in regard to *the indications which foreshadow the certain decay of all the teeth on their approximal surfaces*, had been eminently verified by his (Dr. B.'s] own practice. The only exception to Dr. A.'s rule which had suggested itself was in the case of young girls who have been in ill health during childhood, but, as is often the case, have acquired excellent health as they matured. In such cases we may find the superior incisors decayed at thirteen; but at sixteen, under improved constitutional conditions, we may find the causes of decay so far removed as to permanently arrest farther attack on the approximal surfaces of the bicuspid and molars. He thought Dr. A.'s exception of one in twenty might possibly provide for these cases. Dr. Bean did not think the enamel so essential for the protection of the teeth from decay or chemical action, as from abrasion by grinding the food, and for this reason the enamel is always thickest on the cusps of the crowns in most animals, and really thinnest on the approximal surfaces, and near the gums where the teeth are most exposed to the agents of decay. The much larger per cent. of lime contained in the enamel, would argue that it would be more readily dissolved by acids. He did not believe that *a smooth polished surface of sound dentine* would be any more liable to attack by chemical agents which cause decay than a similar surface of *enamel* under the same conditions. Decay is sometimes produced, and is often augmented by vitiated secretions from the stomach, and from a diseased mucous membrane, but never from saliva itself; which is really the alkaline corrective provided by

nature for these conditions. The almost universal agents of decay were most certainly those organic acids manufactured from the food and buccal secretions, by the various kinds of fermentation carried on in the mouth. In the localities indicated by Dr. Arthur, between the teeth when in contact, and in cavities and crevices where these matters are protected from lavement by the saliva and the abrasion of mastication, all the elements for producing these various fermentations are abundant. In these undisturbed laboratories are produced successively renewed portions of *acetic*, *lactic*, and *butyric* acids, which combine with the lime of the enamel and dentine, and at the same time continually enlarge the capacity of these localities for a continuously increasing supply of these corrosive agents.—*Amer. Jour. Dental Science.*

AMERICAN DENTAL CONVENTION NEW YORK, JUNE, 1868.—
J. A. McClelland of Louisville, Ky., patentee of the "Rose Pearl" (collodion) base, presented the merits of his patent. He claims that it is twice as strong as vulcanite, withstands the action of acids, and may be nicely adapted to the mouth. Plain teeth are employed, as the color of the base is a near approximation to that of the natural gums.

Dr. Atkinson spoke in favor of the collodion base. He was wearing a partial plate in his own mouth, with which he was greatly pleased, and he believed it would eventually supersede all other materials for fractional cases.

Dr. B. W. Franklin highly commended the collodion base.

A number of solders for aluminum were presented.

A. P. Preterre said that chemically pure zinc made a very good solder for aluminum, and one that is not easily affected by acids. A solder composed of pure zinc 90 parts, and aluminum 6 parts, is not affected by sulphuret of potassa, and hence does not blacken in the mouth.

A. Starr shewed a specimen of aluminum base soldered with an alloy composed of alumina seven-eighths, and tin one-eighth.

Dr. Atkinson advocated the preservation of dental pulps. He is able to save them, even when suppuration has commenced. He dries the cavity perfectly, applies creasote, 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 and

painful on presentation, or during examination and removal of the softened dentine over it, he quiets it with creasote, chloroform, or other remedy, before inserting the cap and temporary filling. Does not remove the temporary filling, because pain recommences in the tooth after its insertion. Timidity and want of faith in the method may cause some to remove the oxychloride and apply arsenious acid, but this is entirely unnecessary.

C. E. Latimer had tried Dr. A.'s method, but sometimes found severe pain to follow the application, and has felt constrained to remove the oxychloride and apply arsenious acid. He believed that very nice manipulation is necessary to success, and that general directions are insufficient. He did not wish his patients to consider it more than a dressing.

C. S. Weeks said he had employed the creasote and oxychloride of zinc generally with success, even after wounding the pulps; but in a few cases the pain continued so long, that he had devitalized and removed the pulp.

In reply to an interrogatory concerning the treatment of alveolar abscess, the President observed that it would generally be found best to penetrate the alveolus with an instrument, thus forming an artificial fistula. The medication may then be made into the tooth and into the fistula.

Dr. Atkinson remarked that it was important that the perforation of the gum and alveolus should be in such a position and direction as to drain the pus away from about the neck of the tooth, for at that portion should be the pocket for the retention of the formative plasma.

SOCIETY OF DENTAL SURGEONS OF THE CITY OF NEW YORK.—*Treatment of Exposed Pulps.*—Dr. Atkinson stated, as his own most decided conviction, that nine-tenths of exposed pulps, when not inflamed, are capable of being restored to health, and also that 50 per cent. of those exposed and suppurating are amenable to a like result.

My own knowledge of the value of hydrochlorate of zinc, and of the oxychlorate of zinc, had its origin outside of regular scientific expectancy and deduction; for I had supposed that death would result to the pulp were it directly applied to its exposed surface.

The remarkable affinity by which the hydrochlor-zincate of albumen is produced, has only been known to me by the results of irregular experimentation in many hands, beginning in 1856, not culminating until early in 1867, and still, as I believe, but in the infancy of its munificence. The distinguishing trait of the hydrochlorate of zinc is that it is its own limitation and antidote, by reason of the ontological and organological law

referred to above, in the conversion of the living structure into chaos or a magma out of which to produce a barrier of protection and shield to the delicate pulp, out of which a new calcigerous wall is ultimately prepared completely answering the purposes of normal secondary dentine. This process of chaotification is indeed a great marvel, not only by what it does, but by the manner in which it acts. It is an astringent, and mechanically closes the capillaries by its biological force, driving the blood completely out of the vessels, beyond the limit of its combining power, thus reducing the connective tissue of the nerves, vessels, and whole pulp (so far as it goes) into a colloid mass, ready for transformation, without the possibility of the formation in the pulp territory of one globe of pus.

To make all things sure, in all cases of exposed or nearly exposed pulps, fully saturate with pure creosote previous to the introduction of the oxychloride of zinc. I have been led strongly to suspect that a reopening to a certain extent of the blood-vessels, contracted by the mere proximity without combination of the zinc, takes place in the pulp, favoring the process of calcification. My reasons for so thinking are the peculiar results witnessed in cases where the colloid mass was so thick as to entirely obscure the pulp redness at first; that afterwards, on the removal of the temporary stopping, presented a ring of secondary dentine around the margins of exposure, with a mere pin-hole in the centre, through which the red pulsating pulp was brilliantly displayed.

Dr. J. S. Latimer said that Dr. D. L. Dodson, of Williamsport, Pa, used the spray of rhigolene for obtunding the sensibility. He prevented the congelation in the tubes by keeping the bottle as cool as possible, adjusting the flow of the fluid through the lower portion of the tube. The pain of freezing is but slight, and patients came from far to Williamsport to get the benefit of his process. Dr. L. stated that the congelation was frequently caused in the tubes by grasping the bottle with the warm hand. The rhigolene should be applied to the gum first, gradually bringing it on the tooth. The sensibility being obtunded, the assistant occasionally puts the jet on, and in this way it is continued for excavations.

EDITORIAL.

THE CONVENTION AT HAMILTON.

We have received letters commenting in no very æsthetical phraseology upon the recent elections of the Association in Hamilton, and severely censuring the meeting for the unprofitable discussions on matters of no practical moment. Happily, the Journal occupies a position of perfect neutrality, and so long as we control its destiny, will never lend itself to *the abuse* of any one. It has no sympathy with ill-tempered correspondents who would fain keep alive old disputes, and whose one ambition seems to be to get themselves into power, or abuse others who are preferred. The mission of this Journal is to conciliate, not to embitter; to harmonize, elevate and improve, not to criticize and traduce. If events have rubbed against the grain of any one's private interests or opinions, we have nothing to do with them, and until we can see how such communications as those sent us tend to the elevation and improvement of the profession, we must positively refuse their insertion. There can scarcely be an election without a consequent disappointment in some quarter; but the choice of the majority must be accepted with good grace, or no organization can be successful. However much we think of the claims of our candidate, our co-operation should not fluctuate by their success or defeat; and as "office" never yet added one whit to a man's personal ability, the loss of it is by no means serious. Nothing is more uncourteous than to chuckle over victory, nothing more foolish than to carp at defeat. If you have won, aim to win the respect and support of those who opposed you; if you have lost, prove by your undiminished co-operation, that "office" was not the price of your suffrage. A consciousness that we labor for the good of the profession, not for our own selfish ends, not only dignifies the Association and the profession, but above all, the individual members who practice this principle. We trust, then, that every member of the Association will accept the position, and not allow any trifle to come between them and true progress.

It is a matter of considerable surprise and sincere regret that the meetings at Hamilton were not productive of more practical discussion. A great deal of time seems to have been spent in petty personal debate of no value to the profession at large; and some disposition to cliquism allowed to intrude. The weakness of such organizations is in just such useless debate, while their principal object of practical work, and which no doubt has more attractions for the large majority present, is too often made of secondary consideration.

One word as to fault finding. We cannot expect absolute perfection in any department of the associative work, especially if some men do all they can to stultify good intentions. Mistakes are possible, differences of opinion are to be found in every free body, but these should be kept subservient to the one end of progress. Let bygones be bygones; give the right hand of fellowship; settle private differences outside of the Association, and let every action be governed by the golden rule of doing unto others as we would be done by.

We especially intend these remarks for the authors of the several letters sent us, and any inclined to the same method of resentment, as we believe that nothing will sooner destroy the worthy work of the Association than keeping alive antagonism of any kind.

W. G. B.

DENTAL INSTRUCTION.

At the late Meeting of the Board of Trustees of the Dental College, held in Toronto, Mr. Relyea stated that the professors of the medical schools in the city had expressed a willingness to assist, in any way, in affording the instruction required upon the Medical portion of the Dental Course.

H. T. Wood, moved, seconded by Charles Kahn:—"That Messrs. Day Relyea, Elliot, O'Donnell, Scott, and Chittenden, be a Committee to arrange with the Professors of the Medical Schools, and others, to afford instruction in Dentistry; no arrangement to involve this Board financially."

The Committee are proceeding with their arrangements. Dentists preparing for the examinations in January, will probably be able to receive any assistance they may require. After the Committee have completed their arrangements they will submit their plan to the members of the Board individually. On receipt of replies the announcement will be sent to the profession without further delay.

With the exception of Dr. Day, who was obliged to return home hastily on account of illness in his family; C. S. Chittenden, whose illness prevented his attendance; and J. B. Meacham not in attendance, the members of the Board already understand the plan proposed. It is intended that preliminary instruction shall commence on the fifteenth of September, and the regular course on the first of October.

J. S. S.

THE AMERICAN DENTAL ASSOCIATION.

By invitation, Messrs. G. V. N. Relyea, of Belleville; L. Lemon, of St. Catherines, and the writer, attended the late session of the above Association at Niagara Falls. We were kindly received and welcomed to all the privileges of the session, except voting. An impression prevailed that we were there as delegates seeking admission as representatives of the Dental Association of Ontario. This was not the case, so far as we were concerned. The President of our Association, J. O'Donnell, of Peterboro, having attended a session at Chicago a few years since, we were fully aware of the nature of the constitution of the American Dental Association.

The Dental Association of Ontario, however, elected delegates; Mr. W. C. Adams, of Toronto, attended in that capacity. It is quite evident that the American Dental Association wish to extend to us the hand of fellowship. No Canadian Dentist of respectable standing need suppose for a moment that his presence among them is not desired. On the other hand, he will be received and made welcome in *true American style*. It is natural that a few American Dentists show an independent hand towards their northern neighbours, and "*talk of annexing them some morning*." Despite all this, it is pleasant and profitable to meet the men whose names are household words in every country where Dentistry is known and appreciated. The associations of 1776 are too remote to affect us, as Canadians, prejudicially towards our American neighbours, and we hope that inter-communication will soon wear off any feeling that may exist among our esteemed friends, to the effect that we are disposed to legislate with a view to keeping American Dentists from practising here. On the contrary, our Act protects their Dental Colleges in the use of their title of D.D.S.

Previous to the passing of our bill, the use of the Degree of the American Colleges was assumed by many unqualified itinerant empirics, and was brought into disrepute to that extent, that respectable operators would consider it a disgrace to use it. This is, perhaps, one reason that so many of our Dentists have taken a part or the whole of the Medical course, and that so few have availed themselves of the superior advantages of the American Dental Colleges. It is true that Dentists from any country must show their good faith towards the profession here, by becoming subjects of Canada before they can obtain a license; the same is required in law and medicine. But there is no difficulty in those professions on that account. There is nothing to prevent any American Dentist becoming a partner or assistant, during the two years he will

require to reside here before he can obtain license. There are many eminent American Dentists practising in Canada, who are a credit to themselves and the profession. In fact, we look upon American Dentists as a sort of an *Alma Mater* to the profession all over the world. As a proof that our doors are not closed to worthy eminent Americans, it is only necessary to allude to the fact that the Lieutenant Governor of Ontario is an *American*; *Canadian* only by naturalization.

Having taken copious notes, we intend to refer to the transactions of the Association in a future number of the Journal.

J. S. S.

“THE OLD COUNTRY.”—The *Canada Journal of Dental Science* has found good friends in England, who have interested themselves in its success. Besides the valued contributions from Mr. WAITE, whose writings are well known on this side of the Atlantic, we have much pleasure in giving in the present number one from Mr. S. LEE RYMER, Vice-President of the Odontological Society of Great Britain. We have recently received letters from Mr. EDWIN SAUNDERS, and by proxy from Mr. JOHN TOMES, author of *Tomes' Dental Surgery*, etc., expressing their deep interest in the Canadian periodical. There is every reason to hope that if the profession in Canada show a determination to sustain their own Dental Journal, the leading members of our profession in “the old country” will often enrich it with their contributions. Let us make our first and only Canadian dental periodical worthy of such interest.

We are reluctantly compelled to lay over several contributions, but hope to give their insertion in the next number.

We will publish the list of paid subscribers in the next and ensuing numbers; and would again impress upon our friends the necessity of *payment in advance*. Those who subscribed, and who have not yet paid, are two months in arrears.

The original intention was to issue the Journal on the 15th of every month; but we will endeavour in future to have it out earlier.

DENTAL ASSOCIATION OF ONTARIO.—We are deeply sensible of the honour done us by the Association in electing us an honorary member, though we wish to give the *Journal* the merit. We esteem it a privilege to be connected in any way with the Dental Association of Ontario, and only trust that we may now, by virtue of the affiliation, the more emphatically claim sympathy and support from the profession of Ontario, in the effort to establish a Dental Journal in Canada.

W. G. B.

Dr. Day's Nitrate of Ammonia.—Dr. Day is devoting much attention to the manufacture of pure nitrate of Ammonia, and will soon be able to supply any quantity. We are informed by a reliable party who has tested both the home and the imported article, that a given quantity of Dr. Day's yields more gas than the same quantity of the other, and that it does not produce that livid appearance of the lips, which is due to carbonic acid in the oxide.

PRESENTATION TO PROF. C. V. BERRYMAN, M.A., M.D.

A handsome silver *Epergne* was presented to Dr. Berryman, on the 22nd of last month, at the office of Dr. Scott, Toronto, by Dr. Potts, of Belleville, Dr. Dean, of Keeno, and Dr. J. S. Scott. As Professor Berryman had assisted in procuring the Dental Act, a number of Dentists were invited.

The chair was occupied by G. V. N. Relyea, Belleville, and the vice chair by Ogle R. Buchanan, M.P., Toronto.

Dr. Scott read the following address:—

To Professor, C. V. Berryman, M.A., M.D.

"It affords me pleasure to present you with this mark of our appreciation of your services cheerfully rendered, and directed towards the elevation of the Profession of Medicine.

In presenting this record of our esteem, I can speak for Dr. Potts and Dr. Dean, in saying no slight is intended towards other worthy instructors.

We only wish to make a grateful acknowledgement for the many valuable services received from yourself, personally.

When you were perplexed with the importunities of the largest gathering that ever assembled to listen to the instructions of yourself and your associates, your gentlemanly nature, though often nearly worn out, was ever ready to give explanations, and to assist, in any legitimate way, the worthy student in the prosecution of his studies to a successful termination. For these services please accept our most grateful acknowledgements.

In your efforts you did not forget the humble branch of Medicine, recognized in England and other countries as a separate profession, having for its sphere the care of the organs of mastication.

To yourself, sir, and other medical gentlemen, the Dentists of Ontario are indebted for their first recognition. You proposed the first resolution in the Medical Council approving of our course, in applying for an act to regulate the practice of Dentistry. It is on this account, sir, that you are surrounded by the representatives of that profession in this province.

When our bill was wavering between a success and failure, before the

Legislature, you lent your valuable aid in helping us to secure the Act under which we are recognized.

Only a beginning has been made. A demand exists for Dental Instruction which can but be afforded by amalgamating with medical schools. The Dental Profession look with confidence to the men who have assisted them thus far, for a continuance of that support.

In Dentistry as in Medicine we are surrounded by quacks. It will require the united efforts of regular physicians (and if you will allow me the expression) of regular dentists to keep the unprincipled from imposing upon an unsuspecting public. The interests of Regular Medicine and of the established practitioners of Dentistry are one. Now that registration is shaking off the impostors in medicine, they are looking to dentistry for support.

It is a matter of congratulation that our Dental Act, if faithfully carried out, will effectually prevent quacks in medicine from practising under the, to them, assumed name of Dentist.

In our efforts to elevate Dentistry above the mere trade or calling, by establishing a proper course of studies for students, we expect, judging from the past, to receive the benefit of your valuable assistance.

Wishing yourself Mrs. Berryman, and the younger members of the family, long life, prosperity and happiness, on the part of the presenters, we remain, your ever grateful pupils."

Professor Berryman responded, thanking the donors for the handsome present.

After the usual loyal toasts, the toasts of "The Medical Profession," "Royal College of Dental Surgeons," "The Licentiates of Dental Surgery," "The Dental Profession," "The Legal Profession," "The Press," "Our Host and Hostess," "Prof. Berryman," "The Candidates," "The Chairman," &c., were severally proposed and responded to, and the evening passed away pleasantly and too soon.

REVIEW.

Dental Materia Medica, 108 pp. By Jas. W. White. Published by S. S. White, Philadelphia, 1868.

We have received a copy of the above small work from the publishers, and have much pleasure in recommending it to the attention of the Canadian profession: Its object is to give plain practical information as to the "properties, dental uses, and methods of applying the various medicinal agents and preparations" used in dental medicine. It is well worth a careful study; not to make smatterers in *Dental Materia Medica*, but to open a neglected field of research, and lead on to deeper and more scientific investigation.

SELECTED ARTICLES.

THE NEW ANÆSTHETIC? — NITROUS OXIDE.—A very opportune discussion took place at the Medical Society of London, on Monday night last, on the so-called Anæsthetic, Nitrous Oxide Gas. A question on the subject addressed to the President, Dr. Richardson, whose authority on such a point cannot be questioned, drew from him a clear and careful summary of its action. It was painful, he remarked, to see the childish excitement with which nitrous oxide and its effects had recently been dwelt on. The gas had been treated as an unknown, wonderful and perfectly harmless agent; whereas, in simple fact, it was one of the best known, least wonderful, and most dangerous of all the substances that had been applied for the production of general anæsthesia. No substance had been physiologically studied with greater scientific zeal or more rigid accuracy; and no substance had been more deservedly given up as unfit and unsafe for use. It had 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. In some cases, also, animals died after recovering from the insensibility.

Respecting the modes of action of the nitrous oxide, Dr. Richardson explained that it was not, in the true sense, the agent that caused the insensibility. It acted indirectly, and the immediate stupefier was really carbonic acid. In fact, nitrous oxide is an asphyxiating agent. There are two explanations of this. It may be that the nitrous oxide quickens the oxidation of blood, and so causes accumulation of carbonic acid in the blood; or it may be—and this is most probable—that it acts by checking the outward diffusion of carbonic acid. The vapor density of nitrous oxide and of carbonic acid is the same—namely, 22, taking hydrogen as unity; and as diffusion of gases into the blood and out of it, is governed by the same laws as in ordinary diffusion, to make an animal breathe nitrous oxide is virtually equivalent to making it breathe carbonic acid itself, the diffusion of carbonic being so determinately impeded. The living phenomena were also in character; the arterial blood was rendered venous by nitrous oxide; the animal temperature fell; the skin became livid. And although these symptoms might be induced many times without actually destroying life, they could not be sustained for any length of time without certain disaster. Dr. Sansom followed in nearly the same strain.

In speaking out thus boldly to a professional audience, Dr. Richardson has not spoken a moment too soon. The *ad captandum* method of applying the most potent medicinal agents against the teachings of scientific experiment and the experience of accepted observers, is a phrase in physic which requires to be put down with a strong hand. Administration of nitrous oxide, or laughing-gas as it is commonly called, is becoming a pastime for amateurs. We hope these few and timely words will prevent a catastrophe. If they fail, the fault or neglect will not rest with us.—*Lancet*.

[Only two deaths have occurred in America during the use of nitrous oxide. The lungs of one patient were covered with tubercles, and the other death was caused by swallowing the cork held between the teeth. The tone of Dr. R's address seems unreasonably severe. Ed. C. J. D. S.]

LOCAL ANÆSTHESIA.

The danger attending the inhalation of the vapors of anæsthetic agents led to the introduction of what are known as local anæsthetics. Various means have been tried, among them the application of the electro-galvanic current; one pole of the battery being attached to the forceps, and a connection with the other held in the hand of the patient.

Various local applications upon the tooth and surrounding gum have also been tried for the purpose of obtunding sensibility previous to extraction. For this purpose equal parts of chloroform and tincture of aconite root have been recommended; but as this last is a very dangerous agent it must be used with great care. By some practitioners a solution of camphor in ether is highly spoken of.

The following method of using chloroform or ether to obtain partial insensibility during extraction of teeth, has been tried, it is asserted, with success. The plan is to drop on the vortex from 10 to 30 drops of ether of these agents, covering immediately with a folded napkin or handkerchief; an athæsthetic effect is produced, during which the tooth can be extracted. Should the application cause a painful sense of heat, the cloth can be partially or wholly removed.

More recently, the method invented by Dr. Benj. W. Richardson, of London has come into general use. The process consists in directing on a given surface of the body, such as a tooth and the surrounding gum, a volatile liquid in minute subdivision or spray.

The apparatus consists of a bottle to contain the ether or other fluid to be used; through a perforated cork a double tube is passed, one extremity of the inner part of which goes to the bottom of the bottle; above the

cork, a tube connected with the bellows, pierces the outer part of the double tube, and communicates by a small aperture at the inner end of the cork with the interior of the bottle. The inner tube for delivering the ether runs upward to the extremity of the outer tube.

When the bellows are worked, a *double current of air is produced*; one current descending and pressing upon the ether, forcing it along the inner tube, and the other ascending through the outer tube and playing upon the columns of ether as it passes from the inner tube.

In operating for teeth extraction, most operators throw the spray first on the gum and then upon the tooth and gum. Others cover the gum and other teeth with a non-conductor and throw the spray directly upon the tooth to be removed, taking the precaution to cover the nerve, if exposed, with wax or cotton. By this method some pain will be experienced during the first seconds of application, but it will speedily pass away, and when the gum becomes white, which should be in from ten to fifteen seconds after the first application of the spray, the tooth may be removed.

To obtund sensitive dentine, throw the spray directly into the carious cavity, taking the precaution to cover that portion of the tissue over the pulp with some non-conducting material. Some operators fill the cavity with cotton and direct the spray upon that. The benumbing effect being only temporary, an occasional repetition of the spray will be required until the excavation is completed.

The spray has also been used with success in the treatment of periodontitis, thrown upon the affected tooth and surrounding gum. It is not considered necessary to carry the freezing process to the extent required for extracting teeth, but the application should be longer continued.

It has also been successfully applied to check undue hemorrhage following extraction, and as a means of affording at least temporary relief in severe local pain, especially in cases of neuralgia.

To obviate the disadvantages of local anæsthesia applied to operations in the mouth, the attempt has been made with considerable success, to produce the anæsthesia required by the application of the spray along the course of the trifacial nerve outside of the mouth.

For use in this manner, some prefer concentrated ether, others consider rhigolene as more sure and more easily controlled, and some advise a mixture of the two in equal parts,

The concentrated ether is the officinal *Æther Fortior*; but for this purpose it should be very carefully freed from alcohol and water, which interferes with the success of the process.

Rhigolene is one of the most volatile products obtained by the distillation of petroleum. It is one of the lightest of all known liquids, its specific gravity being 0.625. It boils at 70° F.

Local anæsthesia by cold, produced in this manner, has been used with great advantage in minor surgery; but if too long protracted, or over too large a surface, serious results may ensue.

Rhigolene is highly esteemed as a topical application in periodontitis. It is applied on cotton to the gum after free scarification,—it is extremely volatile rendering frequent renewal necessary.

Rhigolene and ether being extremely volatile and highly inflammable, should be kept securely corked and in a cool place, and not opened or used near a flame.—*Dental Materia Medica* : by J. W. WHITE.

A NEW METHOD FOR CONSTRUCTING ATMOSPHERIC PLATES.

BY N. T. FOLSOM, Boston.

I have a method of constructing the atmospheric plates of artificial teeth so that they will not move from their places in the mouth while eating or speaking, neither will food get under them, however difficult the mouth. I will describe it: First take an impression in wax and trim off the surplus, then press out the wax that comes against the labial surface of the dental ridge, to give room for the plaster, after which cool the wax. I now have a cup suited to the case, with which I take the impression in plaster, mixed with a solution of sulphate of potassa (Dr. Chamberlin's rule is $\frac{1}{2}$ oz. to 1 qt. water,) varnish with ethereal varnish, mix the plaster for making the model the same as for the impression (with the solution of potassa,) and then dip the impression in water and immediately pour the plaster. The next step is to examine the mouth to ascertain where the edge of the plate will extend; then mark that line on the model. Examine the mouth again to ascertain the yielding nature of the parts of this same line, note the hard and soft places, and then with a suitable instrument cut a groove in the plaster model along the entire line of the edge of the plate, one-twentieth of an inch wide, and varying in depth from one-sixteenth to one-sixtieth of an inch. As a general rule I commence cutting the groove in the rear of the tuberosity on the right side of the mouth. At this point I cut it deep, then shallow until I reach the soft part at the side of the back of the mouth, which I cut deeper than any other point, then shallow again till I reach the corresponding point on the opposite side.

From the rear of the tuberosities to the canine teeth, I cut it comparatively shallow. I endeavor to cut a well defined groove around in front from canine to canine, quite deep. A plate made on this cast if not

injured in vulcanizing or otherwise, will fit not only the mouth, so that atmospheric pressure is obtained, but as a packing ridge encircling it, which prevents ingress of air, under it, and thereby secures the pressure on the outside. I make the ridge as high all round the plate as is possible taking care that it does not pinch the flesh on the bone; as it is not necessary to have it hurt at all to secure the plate firmly.

In finishing the plate I do not reduce the ridge in width or height, or break its continuity. When ready to put in, I let the patient carry it to its place and after wearing it ten or fifteen minutes, if the ridge is hurting in any place, I reduce it at the point indicated, by scraping it a little until the plate sets easily. There are points along the edge of the plate where the under surface would need reducing, if no ridge was present; I reduce it and the ridge correspondingly. If after the plate has been worn a day or two, some points are bearing too hard, I reduce the ridge at those points. I had much rather have a patient come in and say that the plate is firmly fixed in the mouth, but is hurting at some point, than to have them say they can do nothing with them, because in the first case I can correct it, but in the last I have trouble. The reason why a plate made in this way is so firmly secured, is well set forth by Dr. Davis of New Bedford, when he says there is a movement of the plate attending mastication, and the least lifting admits the air and down comes the plate, whereas the packing ridge allows of this movement without admitting the air.

Amer. Journ. Dental Science.

MISCELLANEOUS.

BDELLATOMY. TAKING ADVANTAGE OF A LEECH.—A curious practice lately introduced in Germany is the cutting of the leech so that the blood will flow out of his body as fast as he sucks it from the patient. An ounce, or even two ounces, may be drawn in this way by a single leech. The spring lancet is preferred, though a thumb lancet will answer. The incision is made in the side, the left side being preferable, and at the time when the leech has nearly filled himself, and just before he is ready to stop sucking. The wound is kept free from coagulated blood by a warm sponge, or even by injecting warm water into the wound. If from rough handling the leech falls off, it takes hold again without difficulty. The process has been named *Bdellatomy* (*bdella*, a leech).

At first sight it looks like taking an unfair advantage of the animal, if not treating him cruelly. But it is probably just the reverse, as it affords him an opportunity to feast longer on his rich beverage without giving any noticeable pain. If carefully kept in clean water the same leech may be repeatedly applied, and incised at intervals of days or weeks.

GOLD FOIL.—An important item in preparing the foil for filling is to avoid contact with the fingers; to do this, with heavy shears cut the book of foil into two or three parts, then with the pliers lift off the successive leaves of paper and foil, place the latter upon a napkin or piece of linen, a piece of well worn table linen is perhaps the best; this should be folded into a strip about four inches wide and eighteen inches long, having six to eight thicknesses; lay the foil upon this strip, then take in the hand the distant end of the cloth and bring it over upon the foil, and, by an adroit backward movement, the foil will be made into a uniformly dense and beautiful roll, any desired density being attainable in a moment. The roll is then taken up with the pliers, and passed through the flame if thought best, but we scarcely regard it necessary, and cut into pieces of the proper size.—*Dent. Register.*

A CASE OF SUNSTROKE.—The *St. Catherine's Journal* says: A few days ago, during the hot term, Mr. Peter Fowler was prostrated by an attack of sunstroke. Singular to say his gums commenced bleeding at the eye teeth, and bled profusely for about three hours. Becoming alarmed at the hæmorrhage, he consulted a physician, and was informed that the bleeding probably saved his life, although a similar case had never before come under his immediate observation.

DENTISTRY, A.D. 1612.—“Common Barbor Chyrurgions doe commit great errour in plucking out of innumerable teeth which might well serve—and too much curiositie in rubbing the gummes, and taking away the flesh at the roote of the teeth—is a frequent cause of toothache.” [*Peter Lowe's "Chyrurgie,"* 4to. p. 189, A. D. 1612.

EQUINE DENTAL HYGIENE.—An elderly lady in the upper Province owns a magnificent span of horses, and one of her daily recreations is to go out into the stable and polish their teeth with an old nail-brush. The horses rather enjoy it, and the old lady is proud of their ivories.

EFFECT OF ALCOHOLIC STIMULANTS UPON THE ACTION OF ANÆSTHETIC AGENTS.—*The Amer. Jour. Dental Science* says that the anæsthetic condition is brought on more rapidly in the use of all general anæsthetics if the patient is in a state of partial intoxication, and suggests the administration of a small quantity of brandy or whisky pre-

vious to inhalation. The effect of such stimulants upon persons of very nervous temperaments, was favorable, and in no case was nausea produced.

Dr. Riley, in the *Pacific Med. and Surg. Journal*, says he has found the stimulating effect of liquor prevents nausea and vomiting in administering chloroform, and ensures the more rapid awakening of the patient.

DEATH FROM CHLOROFORM.—An apparently healthy woman, aged 35 years, died from the administration of chloroform last April, in Oneida, Ill. She had taken it six months previously without any bad effect. Two drachms upon a sponge were given on this occasion, with evident judgment. An autopsy could not be obtained.

The Grand River (Michigan) Eagle, which has evidently cut its eye-teeth, gets off the following in relation to the marriage of a dentist :

The deed is done! How Cupid's forceps draw!
 Not one poor fang—but a whole life of jaw!
 No more shall molars and incisors gleam
 With ghastly horror through his lonely dream;
 Or brooding nightmare sleep's pure joys eclipse,
 With rows of blood-stained, pain-distorted lips;
 But pouting beauty teach his heart to feel
 Where kisses revel is no place for steel.

Should the mouth napkin adhere to the mucous membrane of the gums and cheek, inject water on the cloth before attempting to remove it.—*Cosmos*.

There are over forty Dental Societies in the United States.

In 1853, a Prussian dentist published a work on the cure of tooth-ache by *smelling*.

Lancing Children's Gums.—Dr. F. H. Thomson, believing that the irritation of teething is caused by the engorgement of vessels supplying the circulation, advises the practitioner to cut low down, at the reflected junction between the lip and the gum, instead of upon the summit of the gum itself.—*Med. Record*.

DEVITALIZING PULPS.—PROF. TAFT: Dear Sir,—In one of your lectures, session before last, you stated that you occasionally found a nerve of a tooth whose vitality was not overcome even by repeated applications of arsenious acid. Having noticed the same thing, before and since, myself, I was led to give some attention to the reason of it.

From my investigations, I have come to the following conclusions: All freshly exposed and abraded pulps, having the mouths of the capillaries opened, whereby the arsenious acid is taken directly in (or if, as some

contend, that it is not taken into the circulation) it acts dynamically by being brought into sensible contact with the vital part, and the life is thereby destroyed. Whereas, pulps that have been exposed for a long time, the reparative process is established, which produces a granular surface, exuding new cells, serum or pus, and it may be elaborating ossific matter (secondary dentine). Now these form a barrier to the applied devitalizer. Instead of it being taken up or absorbed into the pulp, it is excluded or thrown away from the vital part by this continual exudation. This also prevents catalytic action, because the devitalizer is at a sensible distance from the vital part, and is kept so by the barrier before alluded to.

Consequently, no injury is done to the vitality of the pulp by the application of arsenious acid when this condition of the pulp exists.

Some one may ask, why is it that arsenious acid will devitalize a pulp through a wall of dentine of considerable thickness? The reason is obvious, there are hundreds of nerve fibrils passing through the dentine.

Now, if arsenious acid is placed in contact with the exposed ends of these nerve fibrils, in the cavity of decay, and they are in a condition to receive the devitalizing effect of the acid, it will be conveyed to the pulp, and death to it will ensue.

Now, if these conclusions are correct, what must be done to a pulp that refuses to give up its vitality? The answer is, remove the granular surface down to the vital part, and apply the devitalizer in the usual way. Very respectfully, M. McCARTY.—*Dental Register*.

MORPHIA IN SENSITIVE DENTINE.—*By James S. Snow, Madison, Florida.*—In the April number of the *Dental Cosmos*, Dr. Mowbray, of Warsaw, Ill., in descanting on the use of morphia as a remedy for sensitive dentine, recommends the use of it internally instead of applying it to the cavity to be operated on. While I agree with the doctor that (with the majority of patients) his plan will put us on the "safe side," so far as to obtain the desired end, I beg leave to differ with him as to the use of the remedy as indicated by him; and we are led to the inference by his statement that—his experience has been far more happy than that of any one else—he makes no exceptions to the use of the remedy in the manner indicated, but states that he "has no difficulty in filling sensitive cavities, and as many of them as circumstances may indicate."

Does he never meet with cases where the administration of morphia in doses of one-tenth to one-fourth of a grain, *internally*, will not obtund sensitiveness of the tooth? when, instead of having this effect, it makes

the patient much more sensible to pain? where even one-tenth of a grain shocks the system to such an extent as to entirely suspend digestion for over twenty-four hours? Let me cite a couple of instances in my limited experience.

November, 1867.—I was so unfortunate as to be compelled to destroy the nerve of one of my own teeth—not to allay sensitive dentine. I applied morphia and arsenic for this purpose, when the pain became so intense, that to obtain relief I took one-eighth of a grain of morphia; the consequence was, that in getting rid of one trouble I got into another, and was totally unfit for any business for over thirty-six hours.

April, 1868.—Called on to fill a tooth for Mrs. W. In excavating, exposed nerve; applied morphia and arsenic to destroy the nerve; in a few minutes pain became very severe; proposed to administer morphia; patient objected, on the ground of unpleasant effects. I then applied ten drops solution of morphia under the skin with syringe, inserting it a little behind the ear; it took effect in ten minutes—but not such as was hoped for; the patient got no relief from the pain, and was rendered so nervous and sensitive as not to be able to rest till the effect of the morphia had entirely subsided; nor did the pain abate for over twelve hours—the morphia and arsenic remaining in the tooth forty-eight hours.

How will Dr. M. treat such cases as these, where the patients cannot take morphia without such unpleasant consequences?

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