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ORIGINAL COMMUNICATIONS.

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EDITORIAL NOTES ON PRACTICAL SUBJECTS.

DESTROYING THE NERVE AND FILLING THE ROOTS OF THE TEETH.

BY C. S. CHITTENDEN.

For a good many years I have been in the habit, when teeth were presented to me with exposed nerves, of destroying them, and afterwards filling both roots and teeth. I have met with a great measure of success, and have, at one time or another, adopted nearly every manner of performing the operation, which has been promulgated. At the present, and for some considerable time past, I have been endeavouring to preserve the nerve alive in as many teeth as possible, of which, I propose to have something to say in a future number. So far, I have not been able to save the vitality of the nerve in every case of exposure that has come into my hands, or at least, I have not thought it advisable, under the circumstances of the case, to make the attempt, and have, therefore, in some instances, resorted back to the practice of extirpation of the nerve, and root filling. In this paper I propose to make a few remarks on the manner in which I perform these operations, on such teeth, as it appears to me, can be preserved *better* by this operation than by attempting to save the vitality of the nerve, being the conclusions which I have drawn from many years practice.

1st. That after trying several, the arsenious acid paste, composed of equal parts of arsenious acid and morphia, or of three parts of the arsenic, to two parts of the morphia, is the best devitalizer in use. I know that some condemn the employment of morphia with the arsenic entirely, and allege that it aggravates the pain of the destruction of the nerve, but it has proved so very beneficial in my practice, that I cannot help thinking that the fault has lain in the manner in which those parties have applied it. It is seldom that a person complains of anything more than a slight uneasiness after I have made the application. I feel sure that in most cases where severe pain has been produced by the use of the paste it has arisen either because there was a layer of partially softened dentine between the paste and the nerve, or the covering placed over the paste to retain it, has been driven too firmly into the cavity, so as to produce pain by direct pressure on the nerve.

2nd. In applying the devitalizer, whether arsenic or anything else, I use as little as will do the business effectually, and apply it directly to the exposed surface of the nerve if possible, and allow it to remain for twenty-four hours.

3rd. In removing the dead nerve, to do it thoroughly and at the first sitting, thus leaving nothing to decompose and generate gasses. It is not an easy task to do this in every case, but it should be done as thoroughly as possible, and as success depends in a great degree on this part of the operation, I spare *no pains* in doing it. If necessary I drill through sound enamel and dentine to enable me to gain direct access to the root canals, as it is far easier to work on a line with the axis of the root, with a straight broach than with curved instruments through the cavity of decay.

4th. After removing the nerve I apply whatever dressing the circumstances of the case seem to demand, (I seldom employ more than four remedies, viz: creasote, carbolic acid, iodine, and nitrate of silver,) and I see that it is perfectly covered. If a topical remedy is applied to any part of the body, it is essentially necessary that it should remain in contact with the affected part to effect a cure, and it is fully as essential in treating a tooth, for if the dressing is not covered so as to prevent it, the saliva will find its way into the root canals, and dissolve the remedy or force it out, and then decompose itself, thus hindering, if not actually preventing the action of the drug. I

believe that a great part of the failures in root filling have arisen from allowing the secretions of the mouth to gain access to the root canals after the nerves have been removed. Sandavch varnish or Gutta Percha cut in Chloroform form excellent coverings for a dressing when it is intended to remain but a few hours, but it requires something more durable when the patient is to be absent for any length of time. I frequently cover my dressings with L. M.'s Stopping, and allow them to remain for days and even weeks, and find all right when the patient returns. I frequently find it an excellent plan also, to fill the pulp cavity with tin foil in order to exclude the saliva, when the grinding of the food will wear out the Hill's Stopping.

5th. When I find that there is no tenderness in the tooth on percussion, and other circumstances indicate that "all is well within," I proceed to fill the root canals with gold. I usually introduce a little creasote first, for this reason, creasote is laid down in the Pharmacopœias as a stimulant, an escharotic, and an anti-septic, and as there is, in nearly every instance some probability that a small portion of the devitalized nerve has been left near the apex of the root, I hope that the anti-septic properties of the drug will prevent putrefaction and the formation of gasses, which, if not counteracted will excite the periosteum about the end of the root, and cause a sensitiveness in the tooth on the occlusion of the jaws, if it does not proceed further and cause an abscess. I can give no positive rule as to the manner of introducing the gold, as I am governed by the circumstances of the case.

6th. While I am of the opinion that it is best to fill the roots with gold, I am fully persuaded that teeth may be preserved for a long time, if not for life by filling them with Hill's Stopping, or a piece of wood, or cotton saturated with creasote. In favorable cases, no doubt good results have followed the practice of leaving the root unfilled. Indeed, I can see no reason why the nerve, when cut off at the end of the root of a tooth, should not cicatrize as healthily as when severed at any other point, if no dead, or partially devitalized portion is allowed to remain in contact with it.

8th. I think that there is a much greater chance of *perfect* success with some teeth in the same mouth, than with others. There can be no doubt whatever, as to the incisors in ninety-nine cases out of a hundred. I have found that the bicuspid, particularly the lower ones,

are more liable to give trouble after filling than any of the other teeth, which, I attribute to the form of their root canals. The roots of these teeth are large and flattened, and of course the canals assume nearly the same form and are often nearly divided through the centre of their axes by a compression of the posterior and anterior walls, thus rendering it exceedingly difficult to remove the dead nerve perfectly.

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### PREMATURE DECAY OF THE TEETH.

BY R. TROTTER

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No question is more frequently asked the dentist, and there is none which he ought to be better prepared to answer than, "What is the cause of the early decay of the teeth?" To be better prepared to answer this question properly, and to duly appreciate the importance of it, requires a knowledge extending far beyond the boundaries which are generally considered sufficient for the dental practitioner, and is an important example of the necessity of the profession aiming higher than merely acquiring a sufficient mechanical knowledge to fill, extract, or insert teeth. It involves the necessity of a knowledge of physiological laws, more particularly digestion, nutrition, and hygiene. The human system is not a dead, inert machine, which may be patched or altered at the whims or caprice of a mechanic, but is regulated by inflexible laws, and must be dealt with accordingly. The organs of digestion are wonderfully adapted by the creator to elaborate from the bounteous provisions that have been made to supply man with all he requires; and as long as he confines himself to the simple dictates of nature, or natural appetites and tastes, every tissue will receive its normal supply of nourishment. But civilization with its concomitant artificial wants and luxuries, have sadly perverted his nature, and notwithstanding its many elevating tendencies, he has widely deviated from the laws which should regulate his mental, moral, and physical constitution. The result has been degeneration. It was never intended by the creator that man should be the subject of misery and suffering from infancy to old age, or that organs playing such an important part as the teeth, in the animal economy, should be the cause of pain and physical disturbance, from eruption till their removal. It is true that the "fall" sowed the seeds

of death, but the cultivation of them has been with man himself, and he has succeeded in bringing them to maturity to a deplorable extent. He was intended to come into the world with every organ performing its functions, normally, until in due course of time, natural decay returned him to the dust from whence he came. As far as the teeth are concerned, and these are what we have to deal with, how many come short of realizing the designs of nature. It is quite the exception to find a person who has not been the subject of suffering and premature decay of these organs, before arriving at the prime of life. The state of the general health during the formation of the teeth determines the quality of these organs, and consequently their susceptibility to morbid impressions. It is now a settled point that teeth in a normal condition receive regular nutrition the same as any other organ or tissue of the body, and that their health and vigor depend upon the manner in which all the other organs perform their function, and the supply of such elements of nutrition as their nature requires. Such being the case, how obvious it is that a strict compliance with hygienic laws is necessary, for a normal condition of these organs, during the period of gestation and after life. The teeth being, perhaps, more remotely situated from the centre of the function of nutrition, in fact being at its periphery, and having less recuperative power than any other tissue, and being more exposed to the action of morbid agents, it is the more necessary that special attention be paid to everything pertaining to their well being. It will be my object in a future article on this subject to point out wherein man has failed to carry out the designs of his nature, and the reasons of the premature decay of the teeth.

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## PROCEEDINGS OF SOCIETIES.

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### DENTAL ASSOCIATION OF WESTERN NEW YORK.

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The seventh semi-annual session of this Association, was held in the Supervisor's room, Court House, Rochester, commencing on Tuesday the 4th instant, at 10 a m.

Dr. French, the President, in the chair.

Dr. W. C. Barrett, Secretary.

The minutes of the last meeting were read and confirmed. Dr.

Whitney introduced Mr. R. Trotter of Guelph to the Association, and moved that he be elected an honorary member. *Carried.*

On motion, the following committees were appointed, viz: To prepare a report of the proceedings for the city press—Dr. Requa of Rochester, and Mr. Chittenden of Hamilton. On revision of the By-laws—Drs. Whitney, Bristol, and Southwick. On membership—Drs. Barrett, Coleman, and Daboll.

The committee appointed at the last meeting to report on Rose Pearl as a base for artificial teeth, were instructed to act, and report, as a committee on mechanical dentistry.

The President appointed Drs. Bristol, Requa, and Mayhew, a committee to prepare subjects for essays, and to appoint essayists for the next meeting.

Drs. Coleman, L. J. Walter, and Clark, were requested to act as a committee to make the necessary arrangements for clinics.

Communications were asked for from foreign dental societies, but more particularly from the Dental Association of Ontario, as there were two gentlemen, members of that Association, present.

Mr. Chittenden remarked that he and Mr. Trotter had not come to the meeting as delegates from the Ontario Association, but to listen to the discussions, and form the acquaintance of the members of this Society.

Mr. Trotter said that one of the objects which he and Mr. Chittenden had in view, in attending this meeting, was to endeavor to bring about a more reciprocal feeling between the members of the profession in the two countries.

Dr. Barrett said that he was pleased to see the gentlemen from Canada, and hoped that a delegate would be appointed by this Association to attend the meeting of the Association of Ontario at its next session.

Dr. Whitney said that hitherto, the Constitution of the American Dental Association had prevented their admitting delegates from Canada or any other foreign country to membership, but he hoped and believed that at its next session, the constitution would be so amended, as to admit them to all the privileges and benefits of that Association.

The committee appointed to draft such amendments to the Constitution as would make it conform to the requirements of the Act

respecting dentistry, and the code of ethics of the American Dental Association, presented a report, which, on motion, was adopted.

The committee on membership, reported in favor of the admission of the following gentlemen, viz: Drs. Bowen, Pritchard, and Fowler, who were elected by an unanimous vote; after which they signed the Constitution and Code of Ethics, and were declared entitled to full membership.

The committee on Rose Pearl as a base for artificial teeth, reported through their Chairman as follows, viz: Your committee have nothing favorable to report, but on the contrary, with the little additional evidence they have been able to obtain, including the experience of Dr. L. D. Walter, the previous impressions as to the want of utility of Rose Pearl, are more than confirmed. It only approximates in the most favorable cases to the requirements necessary to produce a perfect fitting plate, and in comparison to rubber and other materials used as bases, may be considered as an utter failure, even in the hands of the best of operators in mechanical dentistry.

Signed,

G. C. DABOLL.

Dr. Daboll exhibited a case which had been worn for some time, and had afterwards been laid aside for a few days, which had shrunk, or changed its form so much that it could not be put into the mouth. The smell of ether was so strong at that time, that it was almost unbearable. After some further discussion, Dr. Whitney stated that in Buffalo and vicinity, eight practitioners had purchased the right to use Rose Pearl and after duly testing it, found it to be a failure. He, however, would not entirely condemn it, as by further experiments, it may possibly be made eminently useful. The report of the committee was adopted and ordered to be placed on the minutes.

The first subject on the list for discussion, was, "Nitrous Oxide Gas, and other anæsthetics, their comparative merits," Dr. A. P. Southwick, essayist. Dr. Southwick not being present, the President called on the members to state whatever information they had on the subject. Dr. Barrett said he had used nitrous oxide for two years, and the longer he used it the better he liked it. It can be kept for a great length of time without deterioration, over water, which absorbs its impurities; thinks it acts by hyperæsthesia, that is, over stimulation; always watches the pulse closely to see that it does not go beyond the right point; has given it to persons seriously troubled with dis-



ease; had given it recently to a lady who was supposed to be in consumption, whose physician had advised her not to take any anæsthetic; had given it to her at three different times for the purpose of extracting teeth, without any ill effects whatever; in fact, the lady seemed to be much improved in health since the extraction of the teeth; would not say that it was the nitrous oxide that had benefitted her. From his experience he thought it was *the* anæsthetic for dental purposes; never having had any bad results from its use. Thinks it acts not by depression, but, as one might say, it lifts the patient above the sense of pain.

Dr. Fowler fully endorsed the remarks of Dr. Barrett; always made it a point to gain the entire confidence of the patient; always endeavors to allay the nervousness of the patient by turning the direction of the mind to such subjects as will be pleasing. He said he had extracted sixteen teeth at one sitting, under the influence of the gas, but, cannot always take out as many, before the patient becomes conscious. He keeps it over water, and has kept it in that way for three weeks. Patients sometimes fancy that they feel pain, but, he doubts whether it is not a sort of dream.

Dr. Coleman said he had used anæsthetics for several years, but had had the best success with nitrous oxide; always assures the patient that it is not going to give any pain, and strives to impress the mind of the patient favorably when the effect of the gas commences; he too, had extracted as many as sixteen teeth at one sitting; considers the gas as good after standing for three weeks as when made.

Dr. Barrett said he had given the gas in a case of endocarditis, without any ill effects, but has never given to any one affected by organic disease of the heart; he always refuses to give it in cases of inflammation of the lungs.

Dr. Pritchard would like to learn something of the physiological action of the gas, and whether the patient obtains any oxygen from it.

Dr. Barrett wishes to say that in his opinion, we are just feeling in the dark in this matter; that when giving nitrous oxide or any other anæsthetic he always feels that he is taking the life of his patient into his hands, and has everything ready to restore the patient if he finds he is sinking; never gives it for trivial reasons; thinks we should use the greatest caution, until we know more fully the action of the agent, or the result may be fatal.

Dr. Cook said that so far, no one has given us any idea as to the best means to adopt to recover a patient from the effects of the gas. He had, at one time, used it to a considerable extent, but had now abandoned it altogether.

Dr. Fowler could not answer Dr. Pritchard's question, as to whether oxygen was obtained from the gas, while in the lungs. He had given it probably ten thousand times to patients, and so far, has never met with any serious results; he had given it six times in succession to the same patient; he gave it in one instance to a person very seriously affected with disease of the heart.

The President thought that nitrous oxide as an anæsthetic was a failure. He had never seen but one person perfectly unconscious from its administration.

Dr. Requa replied that, in some instances, the presence of the patient's friends seemed to distract the mind, and prevent the gas from taking full effect. He had no trouble in getting patients fully under its influence when all is quiet. He can tell when the patient is fully anæsthetised by the appearance of the countenance, and the eye. He always sees that the dress is loose enough to allow a full expansion of the lungs.

Mr. Trotter remarked that this is a very important subject, requiring a great deal of time to be spent in experimenting. As yet there appeared to be no definite idea as to the therapeutical effect, or the *modus operandi*, of the drug on the system.

Dr. Whitney said he did not believe that any one knows how anæsthetics act on the system. He agreed with Mr. Trotter that there ought to be more really scientific knowledge among us, as to the effects of anæsthetics.

Dr. Simpson, himself the discoverer of chloroform, has never given us any definite idea as to its *modus operandi*. He thought that all theories as to the therapeutical effects of anæsthetics were purely theories. The blood becomes venous from a want of oxygen, and an excess of carbonic acid gas. Does not think that one particle of oxygen is obtained from the nitrous oxide. It was a rule with him never to give an anæsthetic to a patient with a full stomach; an hour and a half should elapse after eating before he would be willing to give an anæsthetic. He objected to giving nitrous oxide from a bag, as the patient in that case would breathe the same thing over.

and over again—in fact, after a few inhalations, the patient would be breathing, not nitrous oxide and carbonic acid, but carbonic acid and nitrous oxide. When anæsthesia had been carried too far he thought there was but one rule to adopt to restore them. Ordinarily, in such cases, the tongue falls back and closes the larynx so that no air can pass into the lungs. The first thing to be done, is to draw the tongue forward ; some means of doing this should always be at hand, so that there need be no delay ; then artificial respiration should be resorted to, and then stimulents ; chloroform and nitrous oxide antidote each other. In reply to a question, he said that nitrous oxide would keep well over water, but he would be afraid to use it after having been kept in a bag.

Dr. Pritchard thought that much of the excitability which is often produced, arises from the keeping of it in bags, as it is likely to become mixed with air.

Dr. Cook stated that he had discovered a new anæsthetic, the effects of which, he would show at Dr. Requa's office, to any who would like to attend.

Dr. Bristol said we know so little of the effects of anæsthetics as yet, that we should make very poor witnesses on the subject in court, and agreed with Mr. Trotter that a committee of scientific men ought to be appointed to determine the modus operandi of their action.

Dr. L. D. Walter moved that a committee be appointed to confer with scientific men in the other professions, with the object of determining what effect anæsthetics have on the system. *Carried.*

On motion, the next three subjects for discussion were laid over, and Doctor Bristol of Lockport, was called on to read an essay on "Miscellaneous subjects," which he at once proceeded to do.

(We gave most of the Doctor Bristol's essay in our last No.)

The committee appointed to make arrangement for clinics, reported the names of Doctors Fowler, Chittenden and French as operators ; the clinics to be held at 8 a m, at the office of Dr. L. D. Walter.

The subject of exostosis having been spoken of in the paper by Dr. Bristol, came up for discussion ; several of the dentists taking part. There was a general agreement as to the treatment, viz : "good, honest, extraction," as Dr. Bristol expressed it. As to the cause of exostosis, very few of the members seemed willing to express an opinion.

Dr. Whiting on being asked, said he thought exostosis very often arose from some irritation about the parts, or from a severe concussion, or sudden jarring of the tooth. He thought it frequently arose from constitutional causes. Irritation about the parts sometimes terminates in ossification, but more frequently in ulceration.

The employment of phosphate of lime, having formed a part of the "Miscellaneous Essay," was then taken up. Several of the members strongly urging the necessity for its use under the present system of dieting.

Mr. Trotter remarked that the administration of phosphate of lime might be, and undoubtedly is very beneficial under existing circumstances, but, he thought we ought to go further and educate the people on the necessity of proper dieting, as we know that a large portion of the necessary elements which go to make healthy teeth, is taken out of the food, during the process of manufacturing it.

Dr. Fowler thought that the members of the profession had not heretofore done their duty, in this respect, to the public, and recommended that every dentist should write short practical articles for the newspapers, instructing their patients as to what they should, and what they should not eat, in order to produce a better development of the dental organs in the rising generation, and to teach people how to preserve their teeth better after they were fully grown.

Mr. Chittenden quite agreed with the remarks of Dr. Fowler, and, acting upon the principle of giving the public such instruction, he prepared a small pamphlet for public distribution, which he presented to the Dental Association of Ontario, the members of which subscribed for twenty thousand copies.

Dr. Whitney said he was present when Mr. Chittenden read the pamphlet of which he had just spoken, and that he was never more pleased than when he saw the members of the Association rush to the Secretary's table to subscribe for it. It showed, he thought, that in the desire to educate the public, the dentists of Canada were far in advance of the dentists of the United States.

The hour for adjourning having arrived, the President declared the meeting adjourned until the next morning at 10 a m.

(TO BE CONTINUED.)

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 THE SEVENTH DISTRICT DENTAL SOCIETY.
 

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The members of the dental profession residing in the 7th Judicial District of the State of New York, met in the Court House, Rochester, on the evening of Tuesday the 4th instant, for the purpose of perfecting their organization, under the "Act of the State Legislature, incorporating the dental profession."

Dr. Frank French of Rochester, President, in the chair, and Dr. J. L. Clark of Waterloo, Secretary.

The committee appointed at a preliminary meeting held in March last, to draft a Constitution and By-Laws, made their report which was adopted. The Constitution and By-Laws after having been carefully examined and discussed by the members present, was adopted, as it came from the hands of the committee, by an unanimous vote. After which the meeting adjourned to meet again in the city of Rochester on the last Tuesday of June.

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 SELECTED ARTICLES.
 

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 DOES NITROUS OXIDE, WHEN INHALED, FURNISH OXYGEN TO THE BLOOD?
 

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BY A. WESTCOTT, M. D., D. D. S., SYRACUSE, N. Y.

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THIS being an important practical question to the dentists, as well as to those who are to inhale this gas for its anæsthetic effects, I propose to set forth the *chemistry* of this matter through your widely circulated and able dental journal—the DENTAL COSMOS. I should hardly have regarded this as an open or unsettled question at this late period, had my attention not been called to a discussion of it, or rather to an *opinion* upon it, adverse to my own, by two of our most learned professors in two of our best dental colleges. The gentlemen to whom I allude are Professor McQuillen, of the Philadelphia Dental College, and Professor Buckingham, of the Pennsylvania College of Dental Surgery.

Both of these able gentlemen have taken the ground that nitrous oxide not only furnishes oxygen to the blood during its respiration, but that it furnishes it in "*excess*" as compared with atmospheric air, as will be seen in the report of their remarks upon this subject in the proceedings of the Odontographic Society, Sept. 1st, 1868—commencing on page 535 of the DENTAL COSMOS.

Few are ignorant of the fact that the oxygen of the air is absolutely necessary to support life, and also of the necessity of its being diluted with nitrogen. Now, while the former would prove *too stimulating* (not exhilarating) if breathed in the pure state, the latter would destroy life still sooner, by reason of its possessing no life-supporting quality. But these *mixed* (not chemically combined), as in the atmosphere, in proportion as one of oxygen to three of nitrogen, constitute a medium just fitted for respiration.

The error comes of blending a mere mixture, where each gas retains its own elemental properties, with a chemical combination where both elements are absorbed in a new compound, differing essentially in all its properties from either element. In any mere mixture we may always calculate with certainty the result, on knowing the nature and proportion of each of the constituents. Milk, spirits, or any other article mixed with water does not lose any of its own properties, but is simply diluted. Precisely so is it with the oxygen of the air. It is simply diluted with nitrogen, a gas having, as a simple substance, no active property. But the case stands very different when these elements are combined chemically. By the agency of chemical affinity, the most simple elements may result in the most acrid compounds; and, on the other hand, the most acrid substances form the most harmless and inert compounds. An example of the former we have in the union of oxygen and nitrogen (simply the elements of the air we breathe), which results in nitric acid; and of the latter in the union of sulphuric acid and lime, resulting in the tasteless and harmless substance, plaster of Paris. To illustrate the *entire antagonism* between a compound and its constituents, we can refer to none more striking than that produced by the union of oxygen and hydrogen. While the former is the great and almost the only supporter of combustion, the latter will not support combustion, but is one of the most inflammable of all substances. The resulting compound of the chemical union of these two gases is *water*, a substance wholly antagonistic in all its properties to both of its elements. Now, it would be just as rational for one to contend, while drinking water or breathing its vapour, that he was drinking or breathing oxygen as when it was chemically combined with any other substance. The universal law of chemistry is, that whenever any two substances are united by chemical affinity, the

properties of both are changed, and the result is a third substance differing from either, and that the elements in such compounds cannot act in their individual capacity, till a positive decomposition is effected. And hence the perfect absurdity of supposing that we are breathing oxygen, simply because we may be inhaling something containing oxygen as a chemical constituent.

These examples might be multiplied *ad infinitum*, but I shall offer but one other, which will not only illustrate remarkable changes wrought by chemical affinity between *different* substances, but where an equally surprising result is obtained *by combining the same substances simply in "different proportions,"* and I can offer no better example than is seen in these very gases—oxygen and nitrogen—in the different proportions in which they are capable of being united. Bearing in mind the nature and properties of these two gases, as simple substances, or when they are simply *mixed*, as in the atmosphere, let us see what changes are wrought by *chemically* combining them, and in different proportions.

These two gases are capable of being combined in five different proportions ;

	PROPORTION.	RESULT.
1st.	Oxygen 1, Nitrogen 1—	Nitrous Oxide—[laughing gas].
2d.	" 2, " 1—	Nitric Oxide.
3d.	" 3, " 1—	Hypo-nitrous Acid.
4th.	" 4, " 1—	Nitrous Acid.
5th	" 5, " 1—	Nitric Acid [aqua fortis].

It is not necessary to describe the peculiar qualities of all of these compounds. It is sufficient to say that, while one proportion of oxygen and one of nitrogen, *chemically combined*, form the exhilarating or laughing gas, *two* proportions of oxygen, with the same amount of nitrogen, form the nitric oxide gas, a single inspiration of which would destroy life almost instantly. And *five proportions of oxygen* with one proportion of nitrogen, constitute nitric acid, or aqua fortis—a substance not tolerated by any part of the human system for a single moment.

But if the theory above alluded to be correct, viz., that the more oxygen a compound contains the more healthful and exhilarating it becomes," then nitric acid, containing five times the relative amount of oxygen that nitrous oxide does, should be five times as healthful and exhilarating as the latter gas !

The upshot of this whole matter is simply this : no man, however good a chemist he may be, can predict the nature of a compound by any study of its elements, much less its effect upon the human system. This is to be done and only to be done, by actual experiment. The chemist who first discovered that the combination of one equivalent of each of the two gases, oxygen and nitrogen, constitutes the exhilarating gas, was of course entirely familiar with the nature and properties of both of its constituents, and yet he was doubtless not a little surprised to find the resulting compound was of such a character, nor could his surprise have been less when he found simply that by doubling the amount of oxygen, the resulting compound was of a most deadly character, as it regards its effects upon the human system.

Now, if I have not misstated chemical facts, I ask if there is, in view of these facts, the first shadow of a reason for supposing that nitrous oxide can furnish one particle of oxygen for purposes of respiration?—or can a person live longer in such an atmosphere (so far as relates to this fact) than he could live under water?

I have confined myself in this article strictly and purely to the question which heads it, but should this hasty paper find favor in your journal, or a place in your pages, I will, hereafter, give its readers my own views upon the relative merits of the three anæsthetics in common use—chloroform, ether, and nitrous oxide gas—together with their chemical composition, and their physiological and pathological effects upon the human system; simply now adding that neither of them, in my judgement, furnishes the least possible amount of oxygen in an available form to support respiration. *Dental Cosmos.*

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### ALVEOLAR ABSCESS.

BY DR. W. H. SHADOAN.

[Continued from page 239.]

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#### TREATMENT.

By treatment is meant all means employed for the cure of disease. The treatment of abscess may be divided into three classes, *Preventive*, *Therapeutic*, and *Surgical*. The preventive may embrace all means employed, and in order to be the better understood, and to avoid



confusion, we will arrange our classes of treatment, commencing with

#### PREVENTIVE.

In this class of treatment we often have to resort to general as well as local means. An abscess may, in some instances, be prevented by antiphlogistic treatment, such as saline cathartics, leeching the gums, and anything of a cooling nature, either constitutionally or locally applied. There are so many different remedies for different cases that it is impossible to give a single remedy that will suit all. Where we wish to prevent the formation of an abscess the first and most important thing to be done is to remove the exciting cause. If the pulp be dead in a tooth, its removal will in many cases, prevent the formation of an abscess, or the removal of any foreign body, such, for instance, as the roots of dead teeth, or any thing that proves an exciting cause. Sometimes the application of a counter-irritant to the gums, when the use of leeches is impracticable. The gums may be scarified and bathed in warm water to promote bleeding which will, usually, prove beneficial. Painting the gums well with compound tincture of iodine is also attended with good results. I have also found great relief in the application of croton oil to the gums; a saturated solution of creosote and iodine as a local application is invaluable in many cases. For the last year or two I have been using, with great satisfaction, "*Mercurius vivus*," (third trituration,) which, for acute periosteal inflammation, in many cases has no rival, except where the system is very susceptible to impressions of mercurial agents, when it should not be used. If the case is found to be too obstinate to yield to the preventives used, the only course left for us is to use palliatives until the sac is formed and then adopt the kind of treatment indicated.

"Pressure will limit the outward wave whenever applied upon a purely healthy portion of structure, and define the size of an abscess by turning back the wave of nutrient activity in the deteriorated part upon itself, preserving the outward sea from threatened disturbance." Vigorous or active exercise, both bodily and mental, have a powerful influence on incipient abscess, and sometimes cure entirely. Why, or how this is done may not be very well understood, nevertheless it is true, and may be accounted for by the inviting away of the nerve force and current of blood, and literally starving the abscess. When therapeutic agents are used the principle of their action is very much

the same as that of pressure in arresting the wave of poisonous nutrition, and in like manner they abate or greatly reduce the size of the sac.

#### THERAPEUTIC TREATMENT.

Of the remedial agents for the cure of alveolar abscess we will mention *creosote*, *nitrate of silver*, *chloride of zinc*, *chlorate of potassa*, *iodine*, *iodide of potassium*, *bromine*, and *bromide of potassium*, etc.

#### CREOSOTE.

*Creosote* was discovered by Reichenbach, of Blenkso, in 1830; it is procured by the dry distillation of various vegetable as well as animal substances, but is officinally described to be obtained from wood tar. It is a colorless, oily liquid, of a peculiar, disagreeable and penetrating odor, resembling that of wood smoke, and has a burning, acrid taste which is perceived throughout the whole extent of the buccal, nasal, and pharyngeal mucous membrane. Its specific gravity at 68 ° F. 1.037. It boils at 397 ° F., and is frozen at 17 ° F. It burns with difficulty in the air, emitting large volumes of smoke. It coagulates albumen but exerts no action upon fibrin. Owing to these facts, and its strong antiseptic properties, it is considered one of the best therapeutic agents in the cure of all ulcerative affections. This substance is more peculiarly adapted to the treatment of alveolar abscess than any other known agent. "Creosote is an active caustic. Its escharotic power is due to its affinity for albumen, which is so strong as to take the latter from living tissue and thus destroy vitality to the extent of the combination. Its compound with albumen is white, hence the extent of its escharotic action is readily observed." In addition to its strong affinity for albumen with which it rapidly forms a permanent insoluble compound, it possesses the valuable property of arresting and preventing the decomposition of animal matter, which renders it preferable to any other agent that has hitherto been introduced for the treatment of abscess. "Its great penetrating power enables it to pervade every part of the cavity and diffuse itself over the entire surface of the sac, thus effectually securing the desired result." It is also one of the most energetic stimulents.

The mode of applying *creosote* is usually by injection. In some cases, however, where the fistulous opening is large it may be applied by saturating a pledget of cotton or lint and forcing it into the cavity

formed by the abscess. The most successful means of applying creosote is by injection. I find this most readily done by the use of a syringe when the liquid is to be inserted through the fistulous opening, but if the root of the tooth is well opened then the pulp cavity may be filled with gutta percha or Hill's stopping, through which drill a hole for the insertion of the point of the syringe which will greatly facilitate the operation. Another manner of injecting an abscess is preferable to the above, inasmuch as it is less complicated and will allow a much more thorough operation than with the syringe especially if the foramen be small. This is accomplished by shaping a broach of a piece of pivot, or any hard wood, such as straight grained hickory, barb the point, around which roll loosely some cotton, this dip in the creosote and use as a piston, dipping it into the creosote every few seconds and forcing it into the sac until the patient complains of pain. If there be a fistulous opening through the gums the creosote can, in nearly all cases, be forced through the tooth, sac, and gum. This is indicated by the surface around the fistulous opening turning white, and is an indication that the process has been carried far enough for that time. If the operation has been thoroughly performed, the creosote having pervaded every particle of the sac, there is little doubt that a cure will be effected, other things being favorable. I find, in many cases, a cure may be effected in healthy patients with a single application of the creosote. In most cases all can be accomplished with creosote that can be with other agents, so I seldom use anything else for that purpose. Were it not necessary in a paper like this to give all the remedies used I would let the above suffice, but to meet the views of all, other remedies will be given.

#### NITRATE OF SILVER.

Although this remedy is but little used, it is occasionally employed and is deserving a place in the catalogue of *remedies*, a consideration of its merits will not be regarded out of place.

*Nitrate of silver* is a white salt having an intensely metallic, bitter taste, it is usually prepared in the form of hard brittle sticks; at first it is white but becomes gray, and afterward more or less dark under the influence of the air. It was once thought that the light caused this substance to turn dark, but this is shown to be erroneous. The turning dark is caused by organic matter or sulphuretted hydrogen contained in the air. Silver coin will be affected in the same way.

Its affinity for animal matter is evinced by its forming definite compounds with albumen and fibrin. *Nitrate of silver* is soluble in its own weight of water and in four parts of alcohol, its solution stains the skin an indelible black color; when exposed to heat it fuses at  $426^{\circ}$ , and at  $600^{\circ}$  undergoes decomposition with evolutions of oxygen and nitrous acid.

*Nitrate of silver* is employed as a vesicant, stimulant, and escharotic, either dissolved in water or in its solid state. It may be used in abscess for two purposes, one to break up the sac, the other to heal the ulcer, and when employed for the latter should be applied in solution of about two or three grains to the fluid ounce of water; a drachm of the salts to an ounce of water forms an escharotic, and may be injected into the sac of an abscess. I usually prefer the solid nitrate to the solution. I find the best and most convenient mode of applying the nitrate in the solid state is by pulverizing the crystals as finely as possible, and by means of a small slightly tapering silver tube they may be carried into the sac with little difficulty. There is another way of introducing the nitrate that may be well to mention; take a small stick of the salts, about the size of the lead in a common pencil, and upon it form a covering of melted engraver's wax, this done, trim off a portion of the wax at the point and insert it rapidly, not allowing time for the substance to dissolve and stick to the flesh. This method is not so successful or satisfactory as the other. The injecting of the solution may be conducted in the same way as that of creosote.

#### CHLORIDE OF ZINC.

As this remedy is seldom used I shall not enter into a detailed account of its administration and uses. The chief employment of the chloride of zinc has been externally as an escharotic, applied to schirrhous and cancerous affections and to ulcers of an anomalous and intractable character. When thus used it acts not only by destroying the diseased structure but by exciting a new and healthy action in the surrounding parts. It may be applied in the same manner as nitrate of silver. The greatest benefit resulting from the use of chloride of zinc is in the reproduction of alveolar process, where it has no rival. The chloride should not be used oftener than once a day for one or two days. Then, if the application has been thorough, there is no further use for this agent.—*Dental Register*.

(TO BE CONTINUED.)

ON THE NECESSITY OF ARTISTIC KNOWLEDGE AND  
CRITICAL TASTE TO HIGHEST SUCCESS IN THE  
DENTAL PROFESSION.

By G. H. PERINE, D. D. S.

The art of healing, including medicine and surgery, of which latter dentistry is a special department, centres upon itself a wider range of collateral science than any other. It draws from every source of information something which can be applied to the alleviation of the miseries of mankind. Dentistry being only one department of the art, does not necessarily demand from its professors so wide a range of medicine and surgery combined, but there are doubtless few who practice it that are as yet aware how far the resources of the profession can be enlarged, by knowledge of principles and facts pertaining specially to other arts and professions. The object of this paper is to call the attention of the profession, especially its younger members, to the importance of the study of the fine arts, particularly that of portrait painting and modelling, with reference to the direct application of the knowledge and the critical taste thus gained, to the practice of dentistry; and also to show how such application can be made to the rational correction of malformations and artificial deformities.

Comparatively few are gifted by nature with perfectly formed jaws and teeth, but in the present state of the art we should hesitate to avow that any ordinary case of malformation could not be corrected, and that without the sacrifice of teeth or the infliction of serious pain or inconvenience to the patient.

But natural malformations are scarcely more frequent than artificial ones, caused by the injudicious and unnecessary extraction of teeth. It should be admitted as an axiom of modern dentistry, that *the extraction of any tooth from a young or old jaw, is certain to give rise to more or less permanent deformity.* Surely it is unnecessary at this day to substantiate this truth by argument. Every dentist has the proof at hand in the casts of jaws from which teeth have been removed. Let him compare the side of the jaw from which teeth have been taken with that in which the teeth remain, and assign if possible, any other reason for the difference, which is certain to be found.

Such deformity is much more likely to occur, and to assume exaggerated proportions in young jaws, yet it is the constant practice of

many otherwise excellent practitioners, to remove deciduous teeth, as though they were of no great consequence, thereby assuredly initiating a lifelong injury upon the features of the little patient, unless a subsequent treatment shall avail to correct the injury. The plea for the practice is the correction of malformations, as when the teeth are crowded, and are growing "all awry," to make room for the remaining ones. Without wishing or intending to be severe, I assert that it would be just as rational to remove one entire jaw to make room for the other, as to remove one or more teeth to give others room. Further on I shall describe a more rational practice ; before doing so, however, I wish to show how artistic taste, and, if possible, manual skill in painting or modelling, will aid the dentist in correcting deformity.

In most cases in which the aid of the surgeon is invoked for the correction of deformity, a standard of comparison by which the amount of deformity can be determined, is at hand, in the corresponding opposite part. A few operations about the face are exceptions. In cases of talipes when both feet are involved, his aim is to equalize as far as possible both members. The dentist is without this standard in many cases of artificial distortion ; the deformity on one side drawing out of their proper position the muscles of the face upon the other, so that no very accurate idea can be obtained in the ordinary mode of examination, of the real form of features previous to the date of the defect. To remedy the defect so as to make the features *better*, should not be the limit of our ambition ; we should endeavor while we have the matter in hand to so operate that the *best* expression shall be given to the features compatible with the character of those features upon which it is not our province to operate.

We are here working upon plastic material which we can mould and fix in any desired position ; why then should we stop at anything less than perfection, if we are prepared to judge accurately what is perfection ? It is my intention to confine myself in discussing this part of the subject to the importance of an application of the principles of art in the treatment of such cases as I have mentioned, not to write an essay upon art ; yet I cannot forbear calling the attention of the younger members of our profession to the part which the lower features of the face perform in the general expression. A very slight distortion is sufficient to render an otherwise beautiful

face, almost ugly, as an experiment with an ordinary card photograph will easily demonstrate. Especially is this the case with the female face, the lower portions of which cannot be concealed by beard, and to which any deformity is a serious calamity.

I need not add that a dentist skilful in the correction of such defects, secures to himself a practice which, although it may tax his patience, is certainly remunerative.

The distortions arising from the loss of teeth are in some cases so great that a comparison of the features with photographs taken before their extraction, will often surprise even one accustomed to making such comparisons. The extraction of the cuspids in childhood alters the features more than the removal of any others, yet these teeth are often ruthlessly sacrificed, by practitioners from whom a more rational practice ought to be expected. I have in my possession a photograph of a young lady now 24 years of age, who about two years since had the right upper cuspid tooth extracted. I am now treating her with a view to the correction of a marked distortion resulting from the loss of that tooth ; a distortion so marked that it has been a source of great mortification to the patient. The face is drawn to the right and, what upon the evidence of the photograph alluded to, were once remarkably well-formed and expressive features, have been most sadly, though I trust not irreparably, marred.

In cases of this kind, a photograph of the patient taken previous to the loss of teeth, is an invaluable guide to the dentist in correcting the defect. But it often happens that such a guide cannot be obtained. When this happens his power of analysis, and his artistic taste and knowledge are taxed to determine as far as possible from those portions of the general contour which remained undeformed, what must have been the natural form and expression previous to the occurrence of the deformity. And I assert that with a rational method of treatment, and all other things being equal, success in this difficult department of the art of dentistry will be in proportion to the artistic taste and judgement of the practitioner.

In cases of this kind I have been uniformly successful without recourse to the extraction of teeth, and I now proceed to give as briefly as I can, my method of treatment. I do not claim this method as entirely original with me, although I might claim to be the inventor of some of the details. I shall content myself how-

ever with a mere description of the mode of practice which I have found the best, leaving it to the profession to judge how far I ought to be credited with any of its features.

In treating these cases, I begin with the upper jaw, and as the principles involved are the same for both the upper and lower jaws, the description of the process need not comprise the latter ; I first fit a rubber plate to the roof of the mouth in the usual manner, and insert in sockets formed upon the borders of this plate, pins of compressed hickory corresponding to each tooth which it is desired to assume a more outward position. As soon as these teeth have yielded to the pressure so that the pins are loosened I substitute for them others which renew the pressure until they have yielded as far as may be requisite.

While the above process is going on, I at the same time compel the teeth which stand too far out to fall into line, by the following means : In the centre of the rubber plate above described, are inserted small hooks of platinum. Over these hooks I loop a small rubber band, (the small elastic bands used for holding bundles of tickets, etc., together, and of which I keep a supply on hand, answer the purpose perfectly) and also loop it over the tooth whose position I wish to alter. These bands are the best things I have ever used for the purpose, their elasticity, and their softness being strong points in their favor. They can be renewed as often as required by the patient, and can be worn without any serious inconvenience.

By the means described the teeth are expanded or drawn in, until they stand as regular and even as desired. But at this stage of the treatment the axes of the teeth extended would all meet at the apex of a cone of which the cusps of the teeth form a portion of the perimeter of the base.

Occlusion between them and the lower teeth is only partial, or wholly obviated. How then shall the jaw be expanded so that the fangs shall be thrown out and the teeth be made to assume their normal relations ? I have found no difficulty in accomplishing this by the following means.

I fit a new plate to the roof of the mouth, forming upon it artificial cusps corresponding to the teeth in the lower jaw ; upon these cusps the pressure of the lower jaw is received in the mastication of food, and more or less at all times and transmitted to the arch of the



plate. A general expansion of the bones and tissues is the result. The whole jaw is enlarged, and the work is complete.

I am aware that many will doubt that these simple means will accomplish so much, but let those that doubt, remember that the bony structures are plastic in their nature; especially so in youth; and that this plasticity if ever lost, is retained until late in life.

Let them make the experiment and convince themselves. It will require patient attention perhaps, for many weeks or months; much reasoning with over fond parents to keep the apparatus applied with sufficient constancy, to secure a good result; but with favorable conditions, the results need not be doubtful; nay, they may be as certainly relied upon as those of any other operation in modern dentistry.

I use rubber plate in preference to any other, because its effects upon the teeth are more harmless, and its rigidity is ample.

In conclusion I desire to urge upon the younger members of our profession a candid consideration of the value of art culture. Although in our own day but little may be accomplished, the time is coming when this department of our art will assume an importance little dreamed of by those who are content to tread in the old beaten path, and by whom any attempt at advancement, is regarded as an unwarrantable innovation.—*Med. Gazette.*

## DISEASES OF THE JAW.

BY THOMAS WATERMAN, M. D., BOSTON.

(*Concluded from page 281.*)

Under the microscope the disease presented a purely fibrous growth, without myeloid cells, distinguishing it from epulis, with which however, it was little likely to be confounded, neither the general aspect nor the mode of its growth bearing resemblance to the distinct masses and interdental origin of that affection.

The gross appearances of hypertrophied gums resemble the disease called lampas, occurring in the horse. The latter, however, is an *inflammation* of the gums, propagated to the bars of the roof of the mouth, and rising to a level with and even beyond the teeth. It usually subsides without treatment, or only requires slight scarifications.

IV.—*Tumor of the Lower Jaw from a misplaced Wisdom Tooth.*

*Operation for its removal.*—A colored woman, æt. 41, ten years ago, noticed an enlargement of the lower jaw on the left side, near the angle, in the region usually occupied by the molar teeth. No permanent molars had ever appeared on that side, and it was the patient's conviction that there never had been any deciduous molars. The enlargement of the jaw was principally of the alveolar border, and this finally grew to such a degree as to prevent bringing the teeth together. Under these circumstances, five years ago a portion of the tumor, cartilaginous in density, was shaved off. A new growth gradually replaced what was removed, and there is now an enlargement of the entire bone, firm, dense, inelastic, slightly irregular in outline, sensitive on the inside to touch, whenever hard morsels are bitten upon. It is hardly of sufficient size to be visible from the outside, but can readily be felt, and it projects inwards about to the same extent. The jaw is perhaps double its natural thickness. For the last six months the tumor has been the centre of a radiating neuralgic pain constantly present, and so severe as to make the patient willing to undergo any operation likely to give her relief.

Removal of a portion of the continuity of the jaw being attended by disability and disfigurement, it was thought best to perform a temporizing operation, and excise so much of the tumor as could be from the inside of the mouth. In chiselling away the bone, which was dense and vascular, a well-formed wisdom tooth was found impacted in the jaw bone in a horizontal position. As this was deemed to have been the source of all the suffering as well as to constitute the tumor, no further steps were taken toward its more thorough extirpation. The operation was followed by complete disappearance of the pain. The wound rapidly granulated, and at the end of three weeks the patient was discharged at her own request.

The crown of the tooth removed was found to be enveloped by the membranous sac originally lined with enamel pulp, which having fulfilled its function had become detached from the surface of the enamel, and now remained as a capsular investment of that portion of the tooth. The sac thus formed was not distended with serous fluid into a "dentigerous cyst," as occasionally occurs, and an instance of which was reported in 1863,\* but retained its original proportions. The case must therefore be looked upon merely as one of impacted

\* Trans. Boston Soc. for Med. Improvement. Vol. V., p. 100

misplaced tooth, and the specimen is interesting from its deep-seated position, and as exhibiting the *pathogenesis* rather than the *pathology* of dentigerous cysts, in a manner all the more satisfactory from the rarity with which an opportunity is afforded for their study.

The subject of dentigerous cysts has been treated of at length by Mr. Salter.†

(The preceding cases of more than usual interest occurred in 1867, at the Massachusetts General Hospital.)

† Gty's Hosp. Reports, Vol. V., 3d Series, p. 319 and Holmes's Surgery, Vol IV., p. 32.

## CORRESPONDENCE.

### THE PROPOSED DENTAL COLLEGE.

*Mr. Editor,*—

In the March number of the Journal, casual allusion is made to the probability of establishing a Dental College in Ontario at an early date; and in a previous number we are told that a committee has been appointed from among the Board, to consider the advisability of the undertaking, and report at the next meeting of that corporation.

Now, as I have been consulted at different times by some of the leading members of the profession, in reference to the proposed enterprise, I propose offering a few suggestions, by way of *caution*, to the would-be promoters of such a hazardous undertaking.

When first advised by Dr. Scott, shortly after the passing of our dental "Act," that the Board contemplated organizing a college, I was led to concur with him and others, in the view, that some regular and legitimate course of instruction should be devised, in order to meet the demands of the younger members of the profession, upon whom the Act rendered it incumbent to pass an examination. But, since the Board have been pleased to recognize the *present* qualifications of the class of persons alluded to, and have granted licenses to all, or nearly all applicants, they have, by so doing, obviated the necessity of any further efforts towards establishing a dental school at the present time.

It can hardly be supposed that any great number of those who have *already* passed their examination, would avail themselves of the advantages of a college, even if it were practicable to establish one.

upon a respectable basis. As to the *future* wants of the profession, there is ample time to consider that yet. The demands of our Province are hardly so great, that we need go to *manufacturing* dentists wholesale, for some time to come.

From what I have seen of the management of the Baltimore College of Dental Surgery, whilst in attendance during the winters of '58, '59, '60, where the average attendance was about *eighty*, I should say that it was barely self-sustaining. Then what can we expect to accomplish, with hardly a pittance to provide and fit up a laboratory, an infirmary, and dissecting room? three *indispensable* requisites to a respectable dental college. And then Toronto is not sufficiently large to provide the patients necessary to keep the students in practice, without infringing upon the business of the resident dentists, and reducing the prices of professional services to a ruinous degree.

I would advise the committee, previous to making their report, to make a tour of inspection through some of the American dental colleges of *good standing*, and I am satisfied that they would readily become convinced of the futility of attempting to organize a college in our midst for years yet to come.

H. H. NELLES.

## EDITORIAL.

### OSSEOUS UNION OF THE TEETH.



The accompanying cut represents a specimen of the osseous union of two teeth, sent to us by Mr. N. Pearson, of Newmarket, who says it was taken from the mouth of a healthy child about eight years of age, and gives the following history of its removal, viz: "The child was brought to my office, on the 3rd of April, last, by her father, who wished me to remove the right superior central permanent incisor, which was, owing to the great width of the right lateral, completely crowded out of its position; with its palatine surface lying upon the central proximal surface of its fellow, and the labial surface looking to the right. After examination, I recommended the removal of the lateral, for obvious reasons, and proceeded to take it out. You can imagine my surprise and astonishment, when I saw both teeth come away together, and joined by an osseous union, with one nerve supplying both; a strange part of the

matter is the father says that the deciduous teeth were joined in a similar manner." We are very much pleased at receiving the above specimen, as, during a practice of nearly twenty-five years, we have never met with anything similar. Such cases are very rare, but few ever having been mentioned by our best informed writers. We shall be happy to receive specimens of anything out of the common order of things, connected with dentistry, from our professional friends, and will publish a description of them provided that they will be of interest to the profession generally. We would be glad, too, if our friends would keep a record of difficult and peculiar operations, and from time to time, send us a description of them, that each, by giving his method of treating them to others, might be the means of increasing the common stock of dental knowledge. C. S. C.

#### DR. NELLES' LETTER.

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In another page we publish a letter from Dr. Nelles, disapproving of the project of opening a Dental School next autumn. He states his reasons frankly for opposing it, and certainly they have a good deal of weight. It is to be hoped that the committee appointed by the Board to take the matter into consideration, will weigh all the arguments for and against the opening of a college, carefully, before the next meeting of the Board, as a false step at this time may be the cause of deep regrets in a few years. The columns of the *Journal* are open to all for a full and free discussion of the subject. C. S. C.

#### CODE OF ETHICS.

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In the last No. of the *Journal* we remarked that a code of ethics is sadly needed by the Dental Profession in Ontario, and every day makes the necessity felt more and more.

In England the dentists have a very strict code, as has the medical profession. In Canada, the medical society have set us an example in this direction, well worthy of being copied. In the States, too, the national medical and dental societies, as well as the state and district societies, have each and all adopted codes more or less strict. In order that all the members of our association may know exactly what the profession in the States are doing, we publish the code of ethics which has been adopted by the American dental association,

and nearly all the lesser societies. We will also publish the codes adopted by the dentists of England, and by the medical societies of Canada, if any one will furnish us with copies.

It is quite probable that objections may be urged against some parts of the one we copy, but if not taken as a whole, it may form a text from which to draw up a code suited to the wants of this Province.

C. S. C.

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CODE OF DENTAL ETHICS, OF THE AMERICAN DENTAL ASSOCIATION.

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ARTICLE I

THE DUTIES OF THE PROFESSION TO THEIR PATIENTS.

SECTION. 1. The dentist should be ever ready to respond to the wants of his patrons, and should fully recognize obligations involved in the discharge of his duties towards them. As they are, in most cases, unable to correctly estimate the character of his operations, his own sense of right must guarantee faithfulness in their performance. His manner should be firm, yet kind and sympathizing, so as to gain the respect and confidence of his patients ; and even the simplest case committed to his care should receive that attention which is due to any operation performed on living, sensitive tissue.

SEC. 2. It is not to be expected that the patient will possess a very extended or a very accurate knowledge of professional matters. The dentist should make due allowance for this, patiently explaining many things which may seem quite clear to himself, thus endeavoring to educate the public mind so that it will properly appreciate the beneficent efforts of our profession. He should encourage no false hopes, by promising success where, in the nature of the case, there is uncertainty.

SEC. 3. The dentist should be temperate in all things, keeping both mind and body in the best possible health, that his patients may have the benefit of that clearness of judgement and skill which is their right.

ARTICLE II.

MAINTAINING PROFESSIONAL CHARACTER.

SECTION 1. A member of the dental profession is bound to maintain its honor, and to labor earnestly to extend its sphere of usefulness. He should avoid everything in language and conduct calculated to discredit or dishonor his profession, and should ever manifest a

due respect for his brethren. The young should show special respect to their seniors ; the aged special encouragement to their juniors.

SEC. 2. The person and office arrangement of the dentist should indicate that he is a gentleman ; and he should sustain a high-toned moral character.

SEC. 3. It is unprofessional to resort to public advertisements, cards, handbills, posters, or signs, calling attention to peculiar kinds of work, lowness of prices, special modes of operating, or to claim superiority over neighboring practitioners, to publish reports of cases, or certificates in the public prints, to go from house to house to solicit or to perform operations, to circulate or recommend nostrums, or to perform any other similiar acts.

SEC. 4. When consulted by the patient of another practitioner, the dentist should guard against inquiries or hints disparaging to the family dentist, or calculated to weaken the patient's confidence in him, and if the interests of the patient will not be endangered thereby, the case should be temporarily treated, and referred back to the family dentist.

SEC. 5. When general rules shall have been adopted by members of the profession practising in the same localities, in relation to fees, it is unprofessional and dishonorable to depart from these rules, except when variation of circumstances requires it. And it is ever to be regarded as unprofessional to warrant operations or work as an inducement to patronage.

### ARTICLE III.

#### THE RELATIVE DUTIES OF DENTISTS AND PHYSICIANS.

Dental surgery is a specialty in medical science. Physicians and dentists should both bear this in mind. The dentist is professionally limited to diseases of the dental organs and the mouth. With these he should be more familiar than the general practitioner is expected to be ; and while he recognizes the superiority of the physician, in regard to disease of the general system, the latter is under equal obligations to respect his higher attainments in his specialty. Where this principle governs, there can be no conflict, or even diversity of professional interests.

### ARTICLE IV.

#### THE MUTUAL DUTIES OF THE PROFESSION AND THE PUBLIC.

Dentists are frequently witnesses, and at the same time the best judges, of the impositions perpetrated by quacks, and it is their duty

to enlighten and warn the public in regard to them. For this and many other benefits conferred by the competent and honorable dentists, the profession is entitled to the confidence and respect of the public, who should always discriminate in the favor of the true man of science and integrity, and against the empiric and imposter. The public has no right to tax the time and talents of the profession in examinations, prescriptions, or in any way, without proper remuneration.

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## MISCELLANEOUS.

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### A MONSTROSITY.

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M. W. CAMPBELL, M. D., TROY, N. Y.

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A married female of 28 years was taken in labor at full term, nothing unusual marked the course of the confinement, and the delivery took place in a few hours. On removing the infant from the bed, it seemed healthy and vigorous, but its arms were entirely wanting. On the right shoulder there existed a navel shaped depression, and on the left a protuberance about two inches long which contained no bony substance. The infant lived but a few days. I am not aware of the cause of its death. On inquiry into the cause of this phenomenon, the mother informed me that soon after becoming pregnant she met, and was strangely affected by a soldier who had undergone amputation of both arms at the shoulder.

This is one of those not very rare cases which seem exceptions to the general rule. Dr. William Hunter, of London, when connected with the Lying-in Hospital made notes of the fears and expectations of 2,000 pregnant women as to the manner in which their offspring would be marked; and he declares that in none of the 2,000 did he meet with a coincidence. Still we cannot doubt that the form of the embryo is at times influenced by the nervous condition of the mother. *American Homœopathic Observer.*

EXAMINATION OF PORK.—Tiemann, Conservator of the Zoological Museum at Breslau, recommends the thorough examination of a single bit of muscle, taken from the diaphragm or psoas major of the slaughtered swine. He uses a lens that magnifies only ten diameters; saying that the trichina is much more likely to be overlooked when a higher power is used.—*Allg. Wiener Med. Ztg.*, No. 8.



A NEW PARASITIC AFFECTION OF THE LINGUAL NERVOUS MEMBRANE.—At a meeting of the *Societe Medicale des Hopitaux*, M. Raynaud read a note upon a new parasitic affection of the lingual nervous membrane. The affection is entirely local, and is not a serious one. M. Raynaud has met with it twice, and has found it characterized by an alteration of the epithelium of the lingual papillæ, and by the presence of a vegetable parasite consisting entirely of spores. The spores resemble those of the *Tricophyton* of Herpes circinatus, &c.—*Boston Medical and Surgical Journal*.

CARBOLIC ACID AND HOSPITAL MORTALITY.—M. D., in *London Medical Times and Gazette*, says:—"In answer to your correspondent who inquires as to the effect of carbolic acid on the statistics of Hospital mortality, I would beg to refer him to the annual reports of the Glasgow Royal Infirmary, the last of which, for 1868, has just been published. If he will take the trouble to calculate the mortality from the primary and secondary amputations of the thigh, leg, arm, and forearm before and after the introduction of carbolic acid into that Hospital, he will find that the results are not in favor of the so-called antiseptic plan of treatment. In the years 1860, 1861, and 1862—before the introduction of carbolic acid—I find 126 of the amputations I have mentioned recorded. Of these 126 there died 41, which gives a mortality of 1 in 3. On the other hand, in the years 1867 and 1868—or since carbolic acid has been used so extensively in that Hospital—there were 73 amputations of the same kind. Of these 30 died, giving a mortality of 1 in 2½.

The results are even more unsatisfactory if we take the compound fractures, which are the cases reported to be the most benefited by the carbolic acid treatment. I find in the three years already mentioned that there were 114 compound fractures treated in the Infirmary, of which 26 died, or nearly 1 in 4½. In 1868—a year in which, as I have been told, all the surgeons to the Hospital used carbolic acid—there were 59 compound fractures treated with a mortality of 20, or more than 1 in 3. Your correspondent may digest these data at his leisure."—*Ibid*.

CLEANING FILES.—James F. Smith states, in the *Scientific American* "that he has tried a very effective way of cleaning files filled with work, by simply holding them in a jet of steam under forty pounds pressure. In one minute the files come out 'as good as new.'