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DOMINION DENTAL JOURNAL.

VOL. V.

TORONTO, MAY, 1893.

No. 5

Original Communications.

Bridge Work.

By G. V. N. RELYEA, L.D.S., Oswego, N.Y.

Over forty years ago I made bridges, which differed only from those made at present in the manner of their attachment to the roots. They were permanent, and, of course, had the same objectionable features of all bridge work, viz., uncleanness, and I abandoned them. No refined, cultured or sensitive person can long endure the strong, fearful odor which is inevitable, I care not how well the fixture has been adjusted. There will be a lodgment which no brush or silk floss can reach, however dexterously or thoroughly used. No new departure (and we have had many) has been fraught with more dissatisfaction than this "new craze." Many, if not all, who were most enthusiastic at first, have long since abandoned it, and some have pronounced their anathema *maranatha*. A dentist at Albany, who was a most sanguine advocate, now loses his temper if you only mention bridge work. Is it at all surprising, when some in their zeal, without wisdom, allowed their avarice to overrule their judgment, and build infirm, insecure foundations, which in a very short time gave way? Not only did they suffer in reputation, but those who had charged \$15 for the first tooth, and \$10 for each additional tooth, began to realize that it was not all gold that shone so bright at first, particularly when they had to make amends as best they could.

A serene, conservative, eminent dentist in New York said, at a large public gathering: "I have never put in any bridges, *but I have taken out a great many*," which, to say the least, was very significant. Dr. W. H. Thomson, of New York, had a patient who had been completely prostrated from having a bridge put in. The dentist had charged \$1,750. I asked the doctor what his bill was for attendance. He said, "Oh, my bill was only \$300."

In this paper I intend only to give my way of making bridge work on vulcanite.

A case at hand: A patient had lost the entire left half of the superior teeth, except the roots of the front incisor and eye-tooth, which I found in a fair condition. The other side was good, the second bicuspid only being absent. The patient could not pay for gold, and wanted only four teeth to correspond with the opposite side. I filed the stumps close to the gums; drilled into the roots about one-third of an inch; put in tubes, with standards accurately fitted, allowing them to extend half an inch below the tubes, and the ends bent in the form of an L. An impression was then taken, the standards following the mould. The plaster was formed, and when separated, the standards were cut off, leaving only enough when flattened to catch in the rubber. Four teeth were selected; a plate of wax only about one-fourth of an inch in width, and it was ready for the flask. Before packing, I placed a wire the full length of the intended plate close to the teeth, and vulcanized for one hour. The wire was brass, tempered. When ready, it went at once to its place. It was light; the wire made it strong, and it could be removed at pleasure. I adopt this method sometimes for a single tooth, and I have inserted six and eight which have been worn for many years with great satisfaction. When the opening in the roots are funnel-shaped, fill around the tubes with amalgam.

Orthodontia.*

By A. E. VERRINDER, M.D., D.D.S., Victoria, B.C.

In this dissertation I shall not lay claim to a vast number of new discoveries, or to the advancement of a thousand new theories, it

* British Columbia Dental Association.

being merely an attempt to aid in the accumulation of evidence already digested by the average graduate dentist, combined with a few facts derived from my own practical experience.

Without going into the minutiae of the etiology of orthodontia, of which you are all familiar, I have thought it advisable to edify my idea of a correction of a typical case, presented to me a few days since, of a young lady 15 years of age, a native of British Columbia, perfectly formed and well-developed, [with] no malformation other than that found in the maxillæ.

She has been, until quite recently, under the personal supervision of the family dentist, when she consulted me as to the best method of procedure to correct the long-standing difficulty, which, in my estimation, could have been advantageously treated at the early age of eight years, with a successful termination at this date.

The model of the superior maxillæ is a peculiar combination of the acquired saddle, with the inherited or hereditary V-shaped arch, which I have never heard of or met with before. Another characteristic is there is no superior protrusion or prognatism, as you will readily see by the occlusion, which is easily accounted for by the non-appearance of a number of the permanent teeth, viz., the two lateral incisors, right superior cuspid and first bicuspid, and the left superior, first and second bicuspid.

The absence from the arch, of the right superior cuspid is explained by the odontocoele just to the right of the median raphe. The temporary cuspids are still intact, occupying the position normally filled by the permanent lateral incisors, the permanent central incisors being separated by a considerable space.

The model of the inferior maxillæ presents a better contour, and with the exception of a crowding of the left inferior incisor to the inside of the arch, with a slight forward movement of the cuspid and first bicuspid of the same side, and a space on each side between the first bicuspid and first molars, due to the non-eruption of the second bicuspid and the tardiness of eruption of the right inferior second molar, would have presented a normal appearance.

The method of procedure in this case is, first to remove the odontocoele, being careful to preserve it without injury, for future consideration, and if in a normal condition, probable implantation to its proper place in the arch. The next step is to properly

expand or widen the arch, and I have found no better or more applicable device than the Coffin expansion method, especially in a contracted arch and few teeth, like the model before you.

The appliance is exceedingly simple in construction and easy of application, merely a vulcanite plate as the fulcrum, and a piano-forte wire, suitably bent, to produce the Coffin spring or the proper form to suit the case, as one's own ingenuity suggests, to supply the necessary power. This same apparatus or vulcanite plate can be so constructed as to produce the forward movement of the left superior cuspid, and at the same time, bring the central incisors to the median line by the proper adaptation of the piano wire to exert the required manipulation. Several other methods might be mentioned, but would not in my experience be applicable in this particular case, therefore, we will leave that open to the general discussion of your honorable body. The vulcanite plate now being separated at the median line, is ready for introduction.

The proper contour of the arch now accomplished, next comes the rotation of the right superior second bicuspid, easily manipulated by means of the Magill band fitted to the bicuspid to be rotated, and to the twelve-year molar of the same side, a small piece of German silver seamless tubing being soldered horizontally on the buccal surface of the bicuspid band, and a strong hook on the corresponding surface of the molar. After cementing in position a proper-sized piano wire to fit the tube and spring under the hook, by its elasticity will rotate the tooth to its proper position. The wire may be bent from time to time, as found necessary, or a new one inserted as its elasticity becomes spent. Next to claim our attention would be the extraction of the deciduous cuspids, and the implantation of two healthy permanent lateral incisors in their place. Then the right superior cuspid and left superior bicuspid implanted, would complete the connection of the superior maxillæ.

The inferior maxillæ may be connected in the following manner: Properly fit Magill bands to the cuspid and second molar of the left side, with hooks soldered to the labial and lingual sides of the cuspid band, and to the buccal and lingual sides of the molar band. After cementing them on, use rubber tubing stretched from hook to hook on the buccal and lingual sides; it will produce the amount of force required to close the space, giving the crowded lateral

incisor room to take its required position. Should force be necessary to produce this effect, I know of no better method than that of Dr. A. E. Mattison, consisting of two parts: First, a narrow ribbon of platina passed around the tooth, to be brought forward and on to the labial surfaces of the two approximal teeth. To each end of this ribbon is soldered a short seamless tube perpendicular to the mesial line of the teeth; second, to these tubes is inserted a proper coil of piano wire, which, when sprung to place, will rapidly restore the tooth to its proper position. With implantation of the right inferior second bicuspid, and the eruption of the second molar of that side, which, by the way, is now just making its appearance, we will have a corrected typical case of orthodontia.

A Difficult Case to Control.

By CARL E. KLOTZ, St. Catharines, Ont.

A lady of about forty-five years of age has, since her childhood, been inclined to nausea and vomiting upon the slightest provocation. She came to me for an entire denture. Her teeth, or rather the remains of them, were extracted under the influence of chloroform.

About three weeks after this, the patient came by appointment to have her mouth examined preparatory to having the impressions taken; but as soon as either the fingers or the mouth-glass entered her mouth, the trouble began. Up to this date I knew nothing of her complaints, as she showed no signs of it, nor said anything about it when she first consulted me. She told me now, and also said she found it very remarkable that she could that day tolerate the mouth-glass, when I was examining her mouth, without producing the usual disagreeable effect.

A gargle of bromide of potassa was given her, and the impression and articulation could be taken without difficulty. A trial plate was made of impression compound, and the teeth set up on it, ready to be tried in her mouth at the next sitting; this was attempted, but here the circus began.

Having taken the precaution to use the bromide gargle before the plates were inserted, I expected to get along as nicely as I did:

with the impressions, but not so. The bromide had no effect whatever, and, after trying different means, I finally succeeded with cocaine, not by gargling, but by painting over the whole roof of the mouth and over the alveolus with a pellet of cotton dipped into a twenty per cent. solution of cocaine. The plates could now be fitted. After having finished them I inserted them at the next sitting, having used the cocaine as previously, without any trouble whatever.

The upper denture fitted so well that force had to be used to remove it, but the old trouble soon came back, for the patient, after wearing the dentures several weeks, could not keep the upper in her mouth. In fact, it would not stay up. She came to the office, and I could do no better than paint again the same as before. All appeared well. The plate remained in its place and there was no inclination to nausea, but I had to repeat this frequently for several weeks, her own treatment at home, as I instructed her, having very little effect. This was getting monotonous, although I was getting to be quite an artist at painting, but it effected no cure. The idea struck me to try a spray, which was done, using the following with an atomizer :

Cocaine	grs. viii.
Syr. Tolutanus.....	ʒss.
Spts. Vin. Roe.....	ʒiii.
Aqua	ʒii.

and this was attended with happy results.

I gave her instructions to spray her mouth every morning and evening, and, if need be, during the day for two weeks, then gradually diminish to once a day for another week, after that only when sensation of nausea came on.

It is now several months since she used the spray. Since then she has been very comfortable. Although the time is rather short to be assured of a cure, yet, taking into consideration that she has been troubled with this malady since her childhood, and has scarcely been a day without an attack, it appears very favorable for a permanent cure.

Proceedings of Dental Societies.

Royal College of Dental Surgeons of Ontario.

SESSION OF 1892-93.

Students in attendance : Seniors, 45 ; juniors, 41 ; freshmen, 5. At the annual meeting of the Board of Directors, held March 30th, 1893, certificates of license to practise dentistry and the title of L.D.S., were granted to the following gentlemen who had fully complied with the curriculum and passed satisfactorily all examinations, viz :—

W. W. Alton, D.D.S., Hamilton ; Joseph Brooks, D.D.S., Alliston ; Geo. Albert Bentley, Forest ; Fred T. Coghlan, Guelph ; Harold Clark, Toronto ; J. G. Coram, Drayton ; W. A. Crowe, D.D.S., Tara ; S. R. Clemes, Thornbury ; D. I. Dulmage, Brighton ; Horace E. Eaton, D.D.S., Toronto ; George S. Fowler, Palmerston ; Edwin Forster, Toronto ; Geo. D. Scott, Port Hope ; E. S. Hardie, Tilsonburg ; George Hicks, Talbotville ; John Irwin, Collingwood ; R. J. Lougheed, Toronto ; James Loftus, Toronto ; C. H. Waldron, B.A., Toronto ; Robert Meek, Toronto ; J. W. Marshall, Shelburne ; W. M. McGuire, Waterford ; W. T. McGorman, St. Mary's ; E. A. Peaker, Toronto ; J. C. S. Robertson, Ottawa ; R. J. Robins, Warminster ; D. E. Russell, Hamilton ; C. J. Rodgers, Toronto ; Colon E. Smith, Bothwell ; Milo H. Steele, D.D.S., Arnprior ; J. A. Sanders, Kemptville ; E. A. Harrington, Toronto ; Charles Thompson, Hamilton ; J. M. Turnbull, Owen Sound ; Nelson Wager, B.A., Napanee ; C. H. Wortman, Napanee ; John E. Wilkinson, Brampton. All of the Province of Ontario. No formal commencement is held.

J. B. WILLMOTT, *Secretary.*

Toronto Dental Society.

The Toronto Dental Society held its regular monthly meeting on the evening of April 10, in the office of Dr. R. G. McLaughlin, corner of Yonge and College. The annual election of officers resulted as follows :

Hon. president, C. P. Lennox; president, N. Pearson; 1st vice-president, George S. Martin; 2nd vice-president, F. D. Price; secretary, R. G. McLaughlin; treasurer, William Wonder; Committee on Membership and Ethics, J. Branston Willmott, A. W. Spaulding, G. A. Richardson; Programme Committee, George S. Martin, J. Frank Adams, C. S. McLean.

After the business had been despatched, the essayist of the evening, Dr. Wonder, read a paper on "Construction of Lower Dentures." The difficulties met by the dentist in making these were reviewed, and reasons advanced why so many failures are made.

GEORGE S. MARTIN,
Retiring Secretary.

Dental Ordinance of N.-W.T.

As per requirements of the amended Dental Ordinance of the N.-W.T., a meeting of the Dental Association was held in Regina on April 4, and an adjourned meeting in Qu'Appelle on April 6.

Copy of amended ordinance submitted as follows :

AN ORDINANCE TO AMEND AND CONSOLIDATE AS AMENDED
THE ORDINANCE TO REGULATE THE PRACTICE OF DEN-
TISTRY IN THE NORTH-WEST TERRITORIES.

[Assented to 31st December, 1892.]

The Lieutenant-Governor, by and with the advice and consent of the Legislative Assembly of the Territories, enacts as follows :

1. No person shall practise the profession of dentistry or dental surgery in the North-West Territories without having first received a certificate, as hereinafter provided, entitling him to practise dentistry and dental surgery.

2. Such certificate shall be issued by the Clerk of the Legislative Assembly upon production to him of a diploma of graduation in dental surgery from the faculty of any Canadian dental college, or the faculty of any Canadian university having a special dental department, or from any such institution duly authorized by the laws of Great Britain or any of her dependencies, or a license to practise dental surgery issued by any of the provinces of the

Dominion of Canada, exercising similar powers as conferred by this Ordinance, and whose standing of qualification is equal to that of the North-West Territories, or a diploma or license (together with articles of apprenticeship), from a foreign dental institution, which required at the time of issue of such diploma or license, attendance at a regular course of lectures and an apprenticeship of not less than two and one-half years, or to any person receiving a certificate from the Board of Dental Examiners for the North-West Territories. And it shall be the duty of the person claiming to be entitled to the certificate required by this section, to secure the approval of the Chairman of the Board of Dental Examiners, and to produce to the said Clerk evidence satisfactory to him that he is entitled thereto. Provided always that nothing herein contained shall be construed to require physicians, surgeons or others to take out such certificate for the purpose of qualifying them to extract teeth.

3. After the assent to this Ordinance, there shall be held on the first Tuesday in April, at Regina, and thereafter at such place as may be decided, a meeting of certificated dentists of the Territories of not less than three members, who shall form an Association, to be known as the Dental Association of the North-West Territories, the officers of which shall be a president, vice-president and secretary-treasurer. The officers of the Association shall have power to appoint a Board of Examiners, whose duty it shall be to prepare papers and examine students in dentistry, and grant to such as are worthy, recommendations for certificates to the Clerk of the Assembly, which must have the signatures of the Examining Board and the seal of the Dental Association thereto.

(1) It shall be the duty of the Dental Association to furnish the Clerk of the Assembly, after the annual meeting, with a list of the officers appointed, and a list showing :

(a) Names of students who appeared before the Examining Board during the year.

(b) Names of those who were successful.

(c) Copies of the examining papers.

4. Before any such certificate is granted, the applicant shall pay into the General Revenue Fund of the Territories the sum of \$10, together with a receipt from the secretary of the Dental Association of the North-West Territories, that he has paid into the funds of the Association the sum of \$40. Provided that practitioners already registered under the provisions of Ordinance No. 9 of 1889, shall be considered as registered under this Ordinance

After a full discussion it was resolved to comply with the requirements of every provision of the law, and that a Board of Dental Examiners be appointed, organization of Association be completed, a curriculum of studies for students, and a standard of qualification for registration be established; and provision be made for the proper regulation of examinations.

Resolved,—That any party wishing to study dentistry in the North-West Territories, shall first pass the examination and receive the second class non-professional school-teacher's certificate, issued under the School Ordinance of the North-West Territories; that said student shall produce such certificate upon making application to the Secretary for enrolment, and sign the articles of agreement as provided by Association.

Resolved,—That every student enrolled under the Dental Ordinance shall serve two and one-half years with a preceptor, during which time he shall attend at least one course of lectures in some Canadian dental or medical college, and pass the college examination held at the close of the term; that he shall present himself for examination before the Board of Examiners, held subsequent to the completion of his term, and pass the examination prescribed by said Board. He shall then be entitled to the Association certificate, and recommended to the Government for license.

Resolved,—That for the guidance of the Board of Examiners, they be directed to accept for registration the license granted by those provinces of the Dominion of Canada which demanded at the time of issue of said license a matriculating standard equal to the second class non-professional schoolteacher's certificate—a preceptorship of at least two and one-half years, and an attendance upon at least one course of lectures in some Canadian dental or medical college, and of satisfactorily passing examination held at close of term—production of all above-mentioned certificates to be necessary.

Resolved,—That the Board of Examiners shall consist of the President, Vice-President and Secretary of Association; that they meet in Regina on the first Tuesday of April and October; that all applications for examination and registration shall be in the hands of the Secretary, at least one month previous to above dates, together with copies of certificates and fee of forty dollars (\$40), one-half of fee to be returned if application is rejected; all applicants to appear in person before Board of Examiners.

Resolved,—That all elections for officers of the Association shall be by registered ballot hereafter; ballots to be posted so as to arrive at the post-office of the secretary not later than the first Monday of April of each year; every dentist in the Territories to have the privilege of voting, provided his fees to the Association are paid.

Election of officers resulted as follows:

President and chairman Board of Examiners, Dr. W. D. Cowan, Regina; vice-president, Dr. L. D. Keown, Moosomin; secretary-treasurer, Dr. P. F. Size, Regina; registrar, Dr. C. R. Stove, Prince Albert.

Meeting adjourned.

Respectfully submitted,

W. D. COWAN.

University of Toronto—Graduates in Dentistry.

The following have passed the Examination for the degree of D.D.S., at the recent examinations at the University of Toronto: G. A. Bentley, H. Clark, F. T. Coghlan, G. H. Cook, D. J. Dulmage, E. Forster, G. S. Fowler, J. Loftus, W. T. McGorman, J. W. Marshall, Robert Meek, S. S. Peaker, C. J. Rodgers, C. E. J. Smith, C. Thompson, G. A. Walters, C. Wartmar, J. E. Wilkinson.

Dental College of the Province of Quebec.

The first annual dinner was held in Montreal, on the 4th April. During the entire day, clinics and clinical lectures were given in the college room by several members of the profession, among them Dr. C. H. Wells, of Huntingdon; Dr. Cleavland, of Richmond; Dr. Geo. H. Weagant, of Cornwall, demonstrated several very neat operations in filling teeth. There were a large number of patients in the infirmary, chiefly from the several benevolent societies in the city. One of the most valuable features of the day was a series of clinics and exhibition of original ideas in dental practice by Dr. D. V. Beacock, of Brockville, showing the ingenious application of many instruments of appliances to daily practice.

It was a matter of regret that it was not possible to make the invitations more general, as the event was rather hurriedly arranged;

so much so that a large number of Quebec dentists were obliged to absent themselves.

The following were present: Messrs. W. George Beers in the chair; on his right, S. Globensky, President of the Board of Examiners; D. V. Beacock, Brockville; S. J. Andres; on the left, C. Brewster, G. H. Weagant (Cornwall), and Dr. Kirkpatrick. The vice-chairs were occupied by W. O. Pichette and J. Springle. The others present were Messrs. Bourdon, Bazin, Fiske, Lovejoy, Throwsby, McDiarmid, Wells, Cleavland, Delisle, Ives, Watson, G. Lemieux, A. Lemieux, Maillet, Symons, Tansey, Lamarche, Hepburn, Dubeau, J. Delisle, Labelle, Franshere, Oliver. A large number of letters were received by the Secretary from licentiates in the province, regretting their inability to attend.

During the evening many toasts were made, Drs. Beacock and Weagant replying very happily to the "Profession of Ontario."

We regret that we have only room for the remarks of the President of the Board, Dr. Globensky, in reply to the toast of "The Board of Examiners."

Mr. Chairman and Gentlemen.—I sincerely regret that the honorable but difficult task of replying to the toast of the Dental Association of the Province of Quebec should not have fallen upon one more in a position to do it full justice. I see gathered around this table several of my predecessors in the presidential chair, for whom it would have been an easy task to discuss with credit for themselves and profit for you all, those matters that pertain to the institution of which we are all so justly proud. They could have found ample scope for their eloquence in the recital of their work and struggles to raise to the standard of the most honorable professions, a calling which quackery and ignorance had almost levelled down to ridicule and contempt. They would have referred in feeling terms to the eminent citizens, their own confreres, whom death has already carried away, and who, like themselves, had directed their whole life to that work of professional regeneration, the advantages of which they had foreseen but could not enjoy. The men of the present generation have had but a slight opportunity to appreciate those old practitioners and distinguished citizens, Bernard, Baillargeon, Pourtier, who were the pioneers in the work of reform, of which we now reap the benefit. But those who

know them or who are aware of the debt of gratitude due them by dental science in this country, will not be surprised if, when I mention those benefactors of our profession, I tender them also our most sincere gratitude.

While doing justice to those who have departed this life, we must not forget those whom we have the advantage to still retain in our midst, and who continue the work of devotion towards the welfare of our profession. Is it necessary that I should mention the names of men whom you have already brought to mind, and who live in the hearts of many? Who is not aware of the sacrifices of Doctors Trestler, Bazin, Brewster, our veterans? How great has been the work of those distinguished members of the profession to secure for the Dental Association civil recognition in this province?

Dr. Globensky then alluded very kindly to the Editor of this journal, but we must omit his remarks.

Notwithstanding the opposition met with by our predecessors and ourselves, we have reason to be proud of the work done so far, and of the success which has crowned both their efforts and ours in the rapid march towards a glorious future in our career; and one in accordance with the amount of good which we are called upon to do among the people with whom we live.

If one looks back to the origin of this Association, he will find that instead of a few solitary members in 1869, it has now become an important organization numbering over one hundred licentiates in dental surgery, many of whom are an ornament to their profession by their talent, and do honor to their fellow-citizens by their civic virtues and their social standing.

Our profession has, since a few years, achieved such importance among other callings, that it now often seems that men who could hold the first rank in other arts and sciences, seek in this branch a brilliant future and a good standing in society. An instance of this is found in the regretted Mr. Berwick, prematurely carried away from the affection and esteem of his confreres. He had come under our banner after giving up sure success secured for him by more than ordinary talents in the practice of medicine, where he had already distinguished himself. Mr. Berwick had been one of the most brilliant students of McGill College, where he took his degree of Doctor of Medicine.

Among our present students are several young men, who intend

to first of all graduate as physicians, so as to practise dentistry in a more competent manner and with greater success. This homage done to our profession by men who join it, after having been trained in another of a superior rank, is the best possible proof of the esteem in which it is held.

Allow me to add one word concerning our recently established college, the lectures of which are attended with both intelligence and diligence by the young men who prepare themselves for the dental profession. I will not refer to the dissensions that took place when it was founded, lest I should revive disagreeable remembrances in a gathering where all should be peace and harmony. I have not to appreciate the motives of those who abandoned us, and, moreover, this is neither the time nor place to do so.

I will then simply say—and this is the greatest praise that I can give to the new college—that it is the only teaching institution regularly and legally organized, where series of lectures are given in both the English and French languages; that it is one of the few institutions where the most perfect harmony truly reigns among the different races, from whose ranks it secures its professors and its students.

If I cannot express an opinion concerning the opposition of certain persons to our college, no one can, nor will, contest me the right to entertain a hope, which is, that those who abandoned us may soon find out their mistake and come and work with us for the prosperity of the Dental College of the Province of Quebec, which is called upon to provide the profession with worthy members, who, by their science and honesty, will give it still greater lustre.

Before closing, I wish to specially address the students so nobly represented here this evening. I have just mentioned the words *science* and *honesty*, and purposely so. Do not forget, young students, that to meet with success in our profession, science alone is not sufficient. Rest assured that you need besides, to have and to preserve intact, true honesty, based on principles of honor which nothing can shake. Then only will you be able to inspire confidence, and to draw and keep in your offices those whom the sufferings and infirmities of human nature will cause to seek the aid and assistance of your professional services. The guarantee of permanent success rests in the fulfilment of one's duties without

even turning away from the path of honor. Any other success can only be transitory, and is not worth the sacrifice made of one's dignity to secure it.

Selections.

What Will It Cost?

The *Dental Tribune* quotes the following from the *Chicago Tribune*: It is important for us to know that whatever information is supplied our readers will be perfectly reliable. Intending visitors to the Fair will avoid much expense and worry by organizing in parties—professional if possible.

The *Chicago Tribune* published an article on what it will cost to see the Fair, from which we make the following extracts:

The individual that undertakes to see the Exposition in one day, must first be sure of his energy, then load up with an extra supply of activity, go early, stay late, and not lose a minute looking at the lake. He must remember that the inclosed portion of the Exposition covers 700 acres of ground, and contains fifty-two Exposition and State buildings, besides the buildings of several foreign nations, the stock exhibit, and numerous other drawing attractions. However, on the supposition that he can make the rounds, including a tour down Midway plaisance, enter all the places charging admission fees, ride on the electric boats, elevated, sliding and ice railroads, \$7.05, allowing 50 cents for lunch and 25 cents fare to and from the park, will pay the bill.

This estimate is made on the understanding that there will be twenty-one side shows charging 25 cents admission. Here is an itemized account:

Admission to the Exposition grounds	\$0 50
Admission to side shows	5 25
Ride on electric boat.....	0 25
Ride on elevated railroad.....	0 10
Ride on sliding railway	0 10
Ride on ice railroad	0 10
Lunch	0 50
Round trip fare	0 25
Total	<hr style="width: 100%; border: 0.5px solid black;"/> \$7 05

SELECTIONS

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By travelling on the cable cars to and from the park, he can save 15 cents car fare, thus making the actual cost \$6.90. The additional cost for a two days' visit will be :

Admission to grounds	\$0 50
Lunch	0 50
Car fare	0 25
Total	<u>\$1 25</u>

This added to \$7.05 puts the amount up to \$8.30. If he still sticks to the cable instead of the lake boat or Illinois Central road, it would be \$8. For five days the sum would be :

Admission to the grounds	\$2 50
Side shows	5 25
Two rides on elevated railroad	0 20
Two rides on electric boats.....	0 50
Two rides on sliding railway	0 20
Lunches	2 50
Round trip fares, railroad or lake boats	1 25
Total	<u>\$12 40</u>

By thus restricting himself the cost for ten days may be kept within the following estimate :

Admission to the grounds	\$5 00
Side shows	5 25
Lunches	5 00
Round trip fares (Illinois Central or lake boat)	2 50
Ride on electric boat.....	0 25
Ride on elevated railroad.....	0 10
Ride on sliding railroad	0 10
Ride on ice railroad	0 10
Total	<u>\$18 30</u>

It will be seen, therefore, that by simply cutting out all extra features requiring an expenditure of money, and confining himself exclusively to the show included in a single admission of 50 cents to Jackson Park, the man living in Chicago can do the Fair in one, two, five and ten days for much less than the several expenses given above, as shown by the following amounts : One day, \$1.10 ; two days, \$2.20 ; five days, \$5.50 ; ten days, \$11.

Following in detail and on the economical basis, the question of cost can safely and satisfactorily be answered for the benefit of the rich and poor alike who anticipate coming to the Fair from any part of the country. As an example, take the man of ordinary means, living 500 miles distant. He decides to devote one week to it. At the rate of one fare and a third, his railroad ticket for the round trip will stand him \$13.50. He leaves home Sunday evening and arrives in Chicago Monday morning. If he wants a room without meals there will be plenty of comfortable quarters to be had at \$1 per day; with breakfast and dinner or supper \$2 will cover that item. Otherwise, say his meals cost him \$1.50 a day, he stays six days and has expended:

Railroad ticket.....	\$13 50
Sleeping-car berth (each way, \$2).....	4 00
Room.....	6 00
Meals in Chicago.....	9 00
Admission to Exposition grounds.....	3 00
Side shows, if he takes them all in.....	5 25
Pleasure rides on electric boats, elevated, sliding and ice railroads.....	0 55
One trip to and from the grounds on lake steamer.....	0 25
Five trips on street car.....	0 50
Total.....	\$42 05

The only difference to the men living 800 or 1,000 miles away will be the difference in railroad fare. These are not minimum figures. Liberal allowances are made for respectable as well as comfortable accommodations.

Taking it for granted that one proposes to get through as cheaply as possible, and at the same time see everything, he will be satisfied with one visit to the extra attractions and one whirl on the pleasure schemes.

Much depends of course upon the extravagant or economical tastes of the person who sets out on a voyage to Jackson Park when the Exposition and its attendant attractions are in full swing. By following closely the lines of a judiciously arranged programme, covering ten days, every resident of this city can take in the Fair thoroughly and see everything on \$20. The man of extremely liberal habits may easily spend that much in a day. The prospective visitor, living 500 miles away, coming for a two weeks' stay,

who expects an extra good time, can get through in fine style on an outlay of \$100. His next-door neighbor may see the show for \$50. But where one man spends \$100 and five men \$50, twenty people from the same point will keep the cost within \$30 and go home satisfied."

Bacteria.

Putrefaction is always accompanied by the presence of bacteria; and bacteriologists maintain that this process cannot take place without the presence of micro-organisms. It has been reasonably demonstrated that micro-organisms are the definite cause of specific diseases. The cholera bacillus has been successfully isolated, and the disease produced in healthy animals by inoculation. This is also true of many others; anthrax, typhoid fever, consumption, etc., can be produced by inoculating healthy animals with pure specimens of the micro-organisms found in these diseases. It is the confident expectation of bacteriologists that characteristic bacteria of every known disease will be determined by further research. Just how these minute organisms produce such destructive changes in living tissue is not definitely known. It has been observed that conditions favorable to their growth are moisture, body temperature, and a favorable medium. Excessive temperature, hot or cold, will inhibit their growth, or destroy them; 105° F., will inhibit most varieties; at 32° F. they will not grow. They will not grow in either an acid or alkaline medium. It is evident that the process is very closely allied if not identical with fermentation. It has been found that there is present in tissue affected with pathogenic bacteria a peculiar nitrogenous waste product, which has evidently been produced by the activity of the micro-organisms. It very closely resembles vegetable alkaloids, which are formed in putrefying mixture, and is usually poisonous. It is called a ptomain (from *ptoma*—a corpse) because it was first isolated from dead bodies. It is the ptomain that produces in animals the characteristic disease, poisonous or fatal results.

There exist in the body at all times various and numerous species or forms of bacteria. It is a wise provision of nature that it is so, for we find that the presence of the non-pathogenic orders have a decided tendency to modify or correct the action of the disease-

producing species. The favorable conditions and presence of germs in so great a variety would seem to promise the speedy overthrow of all vital function in the tissues of the body, were it not for the fact that nature has made provision for resisting the encroachment and interference of these organisms, which is brought about principally in three ways:

First, the fluids of the body are capable of destroying them by their acid character, or prevent their growth by their alkaline reaction.

Second, the white corpuscles of the blood and the connective tissue cells have the power to destroy the bacteria by taking them into their interior and digesting them. This can only be accomplished to a definite extent, and when more bacteria are present than the cells can digest, the cells themselves give way and are destroyed by the bacteria, and we have death and the putrefactive process set up.

In the third place, the bacteria overcome and destroy each other, or are destroyed by their own products. If a wound is inoculated with several kinds of bacteria, one species will gain the ascendancy at the expense of the others, till it has by destruction so contaminated the media in which it is operating by its own activity, and has produced a condition in which it cannot grow; an excess of acid, or alkali, or alcohol; then its activity ceases and the germ becomes incompetent to produce its species. At this stage another kind of germ that thrives on the conditions present may take up the fight and change conditions to his own hurt or disadvantage, and he in turn is compelled to give way to a more vigorous successor.

This kind of warfare will continue indefinitely, or till by surgical and medical interference or renewed and reinforced vital function, the system is enabled to overcome the parasitic influence and re-establish a normal and vigorous functional condition.

It is at this point that the interference of the surgeon or physician is needed to turn the process in favor of the attacked structures.

That the disinfecting process may be intelligently accomplished, it is not necessary that we recognize the peculiar variety of microorganisms which may be present, as fortunately the larger number will succumb to comparatively harmless agencies, and all can be reached by drugs contained in our materia medica.

The conditions produced by the different species are varied according to the germ, but those which are especially concerned in the formation of gases and odors are of particular interest to the dentist. But all forms are liable to produce both gases and odors under the conditions present in most dental lesions, such as putrefaction of the pulp, alveolar abscess, pyorrhœ alveolaris. It is not important here to enumerate the particular action of special species or forms.

We must classify all agents or drugs which may be used to overcome the influence or results of the action of micro-organisms under the general head of antizymotics, that is, agents which will, prevent fermentation, for we are not justified in separating fermentation from putrefaction, for fermentation is an essential feature of putrefaction even in animal structures.

In the clinical application of antizymotics for the correction of disease, we find that all drugs and methods to be efficient must be applied in such concentration or power to effect the desired results, that continued application would result in the destruction of large amounts of valuable tissue that is not all or only slightly affected by the encroachment of zymotic influences. And we have learned also that tissue which is not inoculated, or only slightly affected, can be kept in an aseptic condition by attenuated solutions of strong germicides or by milder agents, which we will designate antiseptics. We will, therefore, make a sub-classification of antizymotics into disinfectants and antiseptics. The disinfectant is the means whereby we aim to remove all infectious matter and agencies from the tissue; the antiseptic is the means used to preserve the cleanliness obtained by the use of the disinfectant.—*Dr. N. S. Hoff, in Dental Register.*

Correspondence.

The World's Columbian Dental Congress.

SPECIAL NOTICE.

To the Officers of Dental Societies in the United States and Foreign Countries :

GENTLEMEN,—The Committees of Membership and Registration of the World's Columbian Dental Congress will be

saved much trouble, and the applicants for membership much vexation, if the members of Dental Societies in good standing are furnished with credentials or certificates of membership, so that they may be presented at the desk where intending members apply for their membership cards.

Advanced membership cards will be furnished on application to the Secretary of the General Executive Committee or the Secretary-General of the Congress when the membership fee (\$10) accompanies the application.

A. O. HUNT,

Secretary of General Executive Committee,
Iowa City, Iowa.

A. H. HARLAN,

Secretary-General of Congress,
1000 Masonic Temple,
Chicago, Ill.

Committee on Exhibits for the World's Columbian Dental Congress.

IMPORTANT NOTICE.

The Committee on Exhibits for the World's Columbian Dental Congress desire to obtain rare specimens of growths, abnormalities, casts, illustrations of methods, instruments and appliances, both ancient and modern, whereby the growth of the profession may be shown from its early infancy up to the present time. They also desire to exhibit an ideal library, operating-room and laboratory; and to this end, earnestly request all members of the profession, together with dental dealers and publishers, to loan them any specimens, instruments, appliances, books, photographs or pictures of societies and eminent men (of all countries), together with anything and everything that will be of interest to any dentist from any part of the world. They will pay all transportation charges on such exhibits to Chicago and return, and will insure the same, while on exhibition, if desired.

Committee:—Chas. P. Pruyn, Chairman, 70 Dearborn Street, Chicago, Ill.; Arthur E. Matteson, 3700 Cottage Grove Avenue, Chicago, Ill.; E. M. S. Fernandes, 36 Washington Street, Chicago, Ill.; M. L. Rhein, 104 E. Fifty-eighth Street, New York; A. W.

McCandless, 1001 Masonic Temple, Chicago, Ill.; R. C. Young, Anniston, Ala.; James Chace, Ocala, Fla.; W. A. Campbell, Gold and Fulton Streets, Brooklyn, N.Y.

Address all communications to Dr. A. W. McCandless, Secretary, 1001 Masonic Temple, Chicago, Ill.

Editorial.

The World's Dental Congress, Aug. 14th-19th.

No foreign dentists owe half as much to our American cousins as Canadians. We not only get all the good that the rest of the world gets in dental journalism, but we enjoy many special advantages by reason of our proximity. There is not a local or state society, from Maine to California, that does not open its meetings to us as guests, and many times we Canadians have received their hospitable greeting at banquets and professional gatherings. The very least we can do in our seven provinces is to help to swell the great World Congress by a good representation.

With characteristic hospitality, our neighbors invite all the world to the Congress, but refuse to let us contribute the membership fee. Every respectable foreign dentist is exempt from payment.

Licentiates desiring to attend must send in their names and addresses as follows :

Ontario—J. B. Willmott, or Fred. J. Capon (Toronto); Manitoba, British Columbia and the North-West Territories, H. R. Robertson, Portage la Prairie, Manitoba.

The Maritime Provinces—A. C. Cogswell, Halifax, N.S.

Quebec—W. George Beers, Montreal.

The rule made by the Congress is as follows :

"All dentists residing in foreign countries who desire to acquire membership in the Congress, will file their application with the Honorary President or Vice-Presidents of their respective countries, who are empowered to pass upon their eligibility.

"Where names are satisfactory to the Honorary President and Vice-Presidents, or a majority of them in said country, the names so agreed upon shall be transmitted by *July 15th, 1893*, to the Chairman of the Committee on Registration, who will proceed to issue a membership card without further reference, whether they reside in the United States or elsewhere."

By the 1st July next, every name must be in possession of the officers in Canada.

There will be plenty of room for everybody. Dr. Louis Ottofy, 1220 Masonic Temple, Chicago, writes us as follows: "Probably the best way, with regard to accommodation, is to place dentists in communication with me direct, or with Dr. Frank N. Gardiner, 126 State Street, Chicago; he is Chairman of the Local Committee of Arrangements." We would suggest that the dentists of each town and city arrange to start at the same time.

An Additional Object.

Whatever enables the dentist to add to his stock of practical knowledge is now eagerly in demand. From the 14th of August to the 19th, the Congress should occupy all of one's attention.

But the Chicago College of Dental Surgery, of which Dr. Truman W. Brophy is Dean, has decided to give a series of courses of three weeks each to practitioners during the summer, the first of which begun on April 11th. They will follow one another up to October 1st, and will be of estimable value to the dentist visiting Chicago.

Reviews.

Catching's Compendium of Practical Dentistry. By B. H. CATCHING, D.D.S., Editor and Publisher. Issued annually. Vol. III., 1892. Atlanta, Ga. Price \$2.50.

Just in front of us, in its third year, and yet with its wisdom teeth fully erupted, we have the three annual volumes of this practical, pithy and prosperous *multum in parvo*. As usual, this work strikes us as most desirable for two classes of dentists: one class, who never or seldom read the journals, and who therefore need this compilation to keep them professionally from going to the dogs; the other, the very busy and ambitious class who are anxious to keep ahead, but who cannot possibly make such a compilation for themselves. There is another class, "the know-it-all," who are better without this work, because it would destroy the greatest happiness they possess, that of being utterly oblivious to the density of their own ignorance.

If our readers in Canada would send to Dr. Catching at Atlanta, Ga., for the current volume, they would not rest content until they owned the two predecessors. The conception was specially one of Dr. Catching's own, and though the volume, over 200 pages, is sold at \$2.50, it is well worth a dollar a page. In several instances it has been worth more to us a line.