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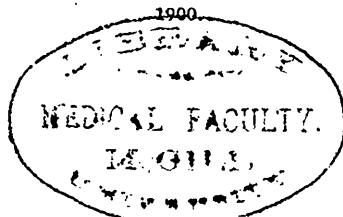
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Original Communications

DENTAL ETHICS.

FREDERICK J. CAPON, L.D.S., D.D.S., M.D.S., TORONTO, CANADA.

I find the general line of topics worn threadbare, thus I take "Dental Ethics" as something admitting a plain talk to the students about to go out into the world and fight for themselves.

Definition of Ethics.—Doctrine of morality, that philosophy which treats of human duties, their grounds and obligations. The first duty to yourselves and to your will-be patrons should be to aim high, for a low aim in our profession is more criminal than an honest failure. Conscientiousness should predominate, direct, and guide us all in our work. Without the resolution in your hearts to do good work, so long as your hands have motion in them, and to do it whether the issue be that you die or live, no life worthy the name will ever be possible to you, while in once forming the resolution that your work is to be well done, life is really won, now and forever.

John Newton said, "Ofttimes the hindrances that lie in the path of duty may be compared to the toll-gates upon our turn-pike roads—they are kept shut till we are just upon them, and then fly open, as it were, of themselves. And that is time enough. If they had been opened a week beforehand we could not but have gone through at last."

In these materialistic days it is hard for many men to rise to a truly professional standard. The idea has crept in that the most successful man is the one who accumulates the greatest number of

dollars, regardless of methods. The difference between a tradesman and a really professional man is that the former makes the dollar his highest aim, the chief end, while the latter makes the services he can render to humanity his highest aim, the chief end, and regards the money he receives as of secondary importance, or as simply a means to an end.

I know the temptations to stray from the "straight and narrow path" of professional rectitude are more numerous and more strenuous than is generally supposed. When a young man is making a struggle for bread, a dollar bill looks as large as a horse blanket. If the young man has moral stamina, if he has world foresight, he will realize that in professional life honesty is in every sense the "best policy." But to the young dentist who sits in his office and waits patiently, but vainly, for the "footsteps upon the stairs" of the coming patient, it must seem indeed hard that his neighbor, and possibly his colleague, who advertises his "real painless dentistry," "full sets for \$3," "free extraction," etc., has his office constantly crowded with patients, and perhaps the young man wonders if it really pays to live up to the highest standards of professional morality.

A few years ago I felt it my duty to act as a missionary to save a young colleague of mine who had fallen into evil ways, for "money is the root of all evil." I asked him, "Why did he sacrifice professional pride for the mighty dollar?" He was a man of few words; he threw out his chest, took a haughty stand, thrusting both hands to the depths of his trouser pockets, then withdrew the right hand slowly, bringing with it the pocket lining, showing its impoverished condition, remarking at the same time, "This is my professional pocket," and then he brought forth from the left pocket a huge roll of bank notes, and said, "This is my advertisement pocket." "Then why not turn out cheap and nasty work for quick returns? Why not extract for the dollar the teeth that rational practice would save? Why not do a lot of things just a little 'off color' for the sake of coin? I can sow my 'wild oats' now and come back to correct living and take things easy." To such a young man when he asks your advice, it is your duty to impress upon his mind that honesty and plucky persistence bring rich rewards.

The professional man would rather render his services in a professional manner and receive no fee, than to render them unprofessionally and receive money. This, to some, may seem to be merely an ideal, and not to be found among men of any profession to-day. Well, the proportion may be small; but in just the proportion that these professional men are to be found, so in the same proportion is the profession reaching its highest aim. The tradesman nor the

"professional" advertising writer cannot understand these things. They are above them.

The dental profession is beset with more temptations along the line of advertising than others. There is more intimacy with the trade side. The two come closer together. We are beset along another line. We are tempted by our patients to do unprofessional things. They wish to dictate the manner of certain operations. Some will claim the right to say what we shall do. If you aim for a professional plane, never lose your dignity and command respect. You must have the will-power to assert your authority, and the nerve to see a patient walk out of your office in search of a less scrupulous man. This stand may mean dollars lost at the time, but to return in the future with added respect and confidence.

Ethics.—Doctrine of morality, moral purity and integrity of character are also necessary if we would win the confidence and respect of our patients. At this period of psychological study we are subjected to such searching scrutiny, one becomes so sensitive that a moral taint of any kind is quickly felt or detected at a glance, and an instantaneous aversion or repugnance is the consequence. Who has not experienced this feeling on coming in contact with certain persons, though they be comparative strangers. It is like that of a blind man when he feels the presence of a second person in the room. How much more keenly must such aversion be intensified in the close, personal relation that necessarily exists between the operator and patient if he is not morally pure.

Then dental ethics embraces the often and so aptly quoted "Cleanliness is next to godliness." The most scrupulous care and attention must be given to personal cleanliness in every detail, especially in regard to hands, nails and breath. The morning bath is as essential to the hygienic dentist as the sterilizer is to the instrument he uses in the mouths of his patients. The operating coat should be suitable in texture and color, and always neat and clean. I favor white linen—when soiled it can be seen. In June number of the *Items of Interest* quite a lengthy article is written by a Berlin dentist of an ideal dental office in Moscow, Russia. Dr. Fischer, the owner, is clad in a tightly fitting white linen habit, which covers his tall body to his very shoes. It may be of some interest that every patient—male or female—upon entering his ideal operating room is at once enveloped in a snow-white apron of considerable size, which is tied around the neck. This brings patient and operator, outwardly at least, into full harmony. Dr. Fischer's rooms admit of the north light, which is most essential, as the light is more steady, less injurious to eyesight. The reflection will admit of one working at least half an hour longer by daylight than any other. Dr. Fischer has the walls and ceiling of his

operating room covered with white enamel paint—washed every week—and the chair is covered in light colored oil-cloth, instead of plush, and has a soap bath administered daily, and the upholstery is renewed every year. His whole system is carried out in a purely hygienic manner. Although it may not be convenient for all of you to follow such rigid methods, you should endeavor to have about the office and operating room an atmosphere of immaculate neatness, and thorough ventilation should prevail. It is indispensable that no odor of medicaments be detected either in the apartments or about the person of the operator; a waist cotton receiver will prevent the carpet under your feet becoming saturated with odious combinations. Nothing but the cleanest napery and the most thoroughly cleansed, sterilized and polished instruments should be used, especial care always being given to the mouth mirror. As few as possible of the necessary instruments and appliances should be exposed to view, thus avoiding undue suggestion of the operation to the patient. With the constant multiplicity of equipments, there is also a danger of the operating-room having the appearance of a machine shop. One of the most helpful and essential factors of a well-appointed office, one that greatly facilitates the operations, that attends to the appointments and cares for the instruments, and gives tone to the whole place, is the neat, refined and well-dressed lady assistant. In my estimation she is an indispensable adjunct to our work.

Ethics require that an operator should have professional skill and ability. Nothing is of greater value and importance to the operator in this direction than the acquiring and possession of a gentle, yet firm and sure, touch. For what can weary and excite a patient more than the uncertain or unskilled handling of sharp instruments, where a sudden slip might lacerate the pulp or inflict a wound upon the surrounding tissues. Much valuable time may be wasted by an unsystematic arrangement of the necessary instruments for daily use, or from an unfamiliarity with and an unskilled use of the same, and also by indecision in quickly selecting the one best suited for a particular case. A good rule is to have a few carefully selected instruments, and to learn to use them well. The awkward, noisy and unskilled manipulation of the instruments not only causes fear and annoyance to the patient, but also cruelty. We are charged with cruelty on every side. "I dread to enter a dental office." "I like you socially and as a friend, but I hate your profession." "Why did you ever engage in such a cruel calling?" So general is the charge, so universal the complaint, that little children who do not know the meaning of the word "dentist" have to be dragged across our thresholds, and with quivering lips, pallid with fear, breaths tremulant with dread, beseeching eyes often filled with tears, beg for

mercy before they reach the chair. You all know what I say is true ; you hear it in society, at the club ; we are caricatured in the theatres, written about in papers—it is the same cry everywhere. We should try to obviate this cruel pain by administering anesthetics, local or general, by being gentle in our touch, soothing in our words ; the power of suggestion will also exert a wonderful influence upon a nervous patient. What pain is severer during the period of its duration than that endured in the extraction of a tooth ? What pang more unendurable than that caused by the thrust of steel on an inflamed pulp ? What will send shivers down one's back faster and colder than burring hypersensitive dentine ? What will bring profanity to the lips of real gentlemen, and tears to the eyes of women sooner than the grinding of carborundum wheels in the preparation of teeth for crowns ? Who likes the prod of the broach against the ultimate end of a root's pulp after arsenic has not devitalized it through its entire length ?

There is not a thoughtful man but knows that thousands of teeth are sacrificed daily in "painless dental parlors," and tens of thousands of dollars kept from the pockets of conscientious, reputable dentists, because of the dread of such sufferings as I have described. Tact, in my opinion, is an important factor in meeting our patients, and in successfully allaying any fear or apprehension that naturally arises in the mind of the one who is about to be operated upon. A quiet, reassuring demeanor, and, as I said before, a few sympathetic words, help greatly to accomplish this object ; while nervous movements, brusque manners, harsh or careless expressions, tend—especially with women and children—to create distrust and antagonism, and will repel the patient.

Another important but delicate point to emphasize is the need of our patients to understand the necessity of constant care of the mouth, the important and constant care of our little, tender patients with their troublesome deciduous teeth. In caring for temporary teeth the heart should be full of love ; in managing the permanent ones the head should be full of wisdom. Much could be said on the care of temporary teeth and the handling of children ; but before closing my talk my subject involves an important consideration of the operator, whose nerves are ready to snap with the powerful tension of the day.

The late Sir Benjamin Richardson, of England, thinks "that the normal period of human life is about 110 years, and that seven out of ten people could live that long, if they lived in the right way. They should cultivate a spirit of serene cheerfulness under all circumstances, and should learn to like physical exercise in a scientific way. A happy disposition, plenty of sleep, a temperate gratification of all the natural appetites, and the right kind of physical exercise will insure longevity to most people."

Practising dentistry, like most in-door occupations, has its detrimental effects ; it tends towards short life instead of longevity, and it becomes our duty to counteract the injurious effects that our calling produces. In a general way we may say that dentists look pale ; have a tendency towards nervousness ; are more or less dyspeptic ; have an enfeebled circulation ; acquire a contracted chest, etc. When we take into consideration our contracted position at the chair, the inhaling of poisonous exhalations of our patients, as well as the general nervous, strained condition that we are in while doing delicate work, and all the time trying not to hurt, it is not strange that these should produce an enfeebled condition of health. When we ponder this fact, we must see at a glance the desirability, yea, necessity, of taking regular out-of-door exercise.

For years I have made it a point to work in a gymnasium to keep an erect position, and have endeavored to be out of doors at least two hours out of the twenty-four, either walking, riding horseback, bicycling, curling, canoeing or yachting—in fact I am held to be a genuine sport.

Though I have spoken of good health last, I believe it is of almost the first importance, and, in recapitulation, might say that some of the important essentials of a successful practitioner are : first, health ; second, tact ; third, professional skill, conscientiousness and ability ; fourth, integrity, and moral and personal purity ; and, fifth, a high aim

WHAT IS THE REMEDY?

BY FRANK WOODBURY, D.D.S., HALIFAX, N.S.

Perhaps outside the problems that interest the dental surgeon in his personal practice, nothing should claim more attention than a study of our proper relation to the public at large, and the status of dental surgery among the specialties in medicine. There are some fundamental reasons why this subject should be carefully thought of.

There is an undercurrent of feeling among medical men that the dentist is not a specialist in medicine, in the same sense as is the ophthalmologist or aurist. Attention was drawn to this by an article in a recent medical journal, which classed "vets" and dentists together. This writer simply expressed that from which more genteel men would refrain, but nevertheless feel.

One may say, "We do not care what they think." In one sense that is true, but in another important sense we should care, for it circumscribes our usefulness and seriously limits our legitimate field of labor, for the same sentiment is abroad.

Nobody hears of the oculist or aurist being classed with the mechanical tradesmen, because the one incidentally fits spectacles and the other applies artificial drums, and yet dentists were so classed in the United States census of 1890. The mission of the dentist as a physician to the teeth and oral cavity is largely lost sight of. No other specialist in medicine has a more important sphere of usefulness. No more delicate and sensitive tissues exist in the body than those found in the mouth. No greater skill nor delicacy of touch is demanded anywhere than here. The diseases of the teeth and mouth require an extended knowledge of general pathology. The proper diagnosis and treatment of disease at this point is freighted with the greatest importance to the general health of the patient. No other specialty needs greater knowledge of general medicine and surgery. All other specialties in medicine have rights in the medical conventions, a place in medical literature, and recognition in medical circles.

We must recognize here the mistake of the founders of the profession. They established a standard for themselves which was not based on a course in general medicine, and the instruction for many, many years was far inferior to that of the M.D. of the time. Other specialties are the outgrowth of a recognized need within the charmed circle of the medical profession, and hence receive full recognition. Dentistry, on the contrary, was a development from without to meet the cry of need from suffering humanity. Dentistry is of no mean parentage. It is a human effort to repair the havoc sin has made, and to alleviate the wail of pain coming up from our race. It is in its highest thought divine like all other efforts to restore; and the man who grasps this thought, and endeavors to work it out in the routine of office life, has, thus far, become a "co-worker together with God." The fight that dentistry has been compelled to make in order to secure her present position, has doubtless fostered a spirit of independence and self-reliance which has been of vast importance in her development; but this "splendid isolation" has brought something into the world that never should have had any existence, viz., the Profession of Dentistry.

Shall dental colleges be banished? By no means. No branch of medicine needs special education more than ours. The unique treatment required in lesions of the mouth and teeth, the necessary manual skill and delicacy of touch, demand more training, rather than less. The dental surgeon of to-day is not in a position to treat many lesions and diseases of the mouth. He cannot pursue the diagnosis to possible causes and then administer treatment that

may be absolutely necessary to a cure. While the dental student may have been taught in a dental college all that pertains to dentistry and oral surgery, his note-books may be filled with receipts for internal administration, but he will not in actual practice prescribe them. As a matter of fact, in the eyes of the medical profession and the world at large, his dental diploma does not confer the right, whatever we may think of it, and in any complications that might arise, the dentist would be the "under dog." In fact, some legislatures (in Canada, too) have seen fit to pass laws preventing the dentist from administering certain anesthetics unless a graduate of medicine be present, and yet we are called upon to administer these more often than the general practitioner. We deem this an interference with our rights, but such legislation must have been inspired by the medical men or the public, and simply shows where we are. The dentist who is also an M.D. has the undoubted right, even if his skill be deficient.

In respect to the administration of constitutional remedies for some of the diseases of the mouth and teeth, many other general conditions must be considered that are completely out of the range of the dentist as he exists to-day. I am writing for the rank and file, not the dental college professor, who has wrapped around him the mantle of position, and is conceded latitude that is not accorded to other men. In many places the right of the dental surgeon to perform minor surgical operations on the maxillæ or anywhere else in the mouth is seriously questioned. The medical men are few who would assist a dentist in any operation beyond the extraction of the teeth. Medical ethics provide for no such performance. As dentists in the narrow sense, we have a recognized standing. As oral surgeons or stomatologists we are practically without recognition by the general public or the medical profession, barring here and there a notable exception, which would go to prove the rule. What is the remedy? How and when shall it be applied? These are vital questions that need discussion, and it is hoped that the matter will not be allowed to drop.

EDUCATED VS. IGNORANT PATIENTS.

BY W. D. COWAN, L.D.S., REGINA, N.W.T.

The aim of the dental profession is, or ought to be, to secure to our patients for the longest time possible the use of the organs of mastication which nature has given them. The more reputable portion of the profession at least, would willingly confine their

practice to the saving of teeth were it possible for them to do so. That it would be possible to do so to a much greater extent than now is absolutely certain did the patients comply with the requirements of the dentist. That it would be better and cheaper ultimately for the patient to meet the requirements of the dentist is another thing that is absolutely certain. We have, therefore, certain requirements which, if fully met, would end in benefit to both the dentist and the patient. What those requirements are it is unnecessary to say. Every dentist knows them. It is simply proper attention at the proper time. Time is said to be the essence of all contracts. Whether it is or not, it is certainly the one thing necessary to the salvation of teeth. Could we but get our patient at the proper time it would mean the removal of four-fifths of the uncertainty that surrounds a large proportion of all kinds of fillings.

What is it that stands in the way of that one requirement being met? Ignorance, fear and poverty, I think, are the only three reasons that can be found. Of these, the first two (they are really one, for the fear is ignorance) I believe are capable of being removed by the dentists themselves, did they but make concerted effort in that direction. In fact, many of the misconceptions that exist are due to the money-grabbing portion of the profession, which thinks it profitable to adopt the commercial motto: "It is always necessary to agree with the opinions of your customers."

If we classify our patients we will find that those of them who have previously been in the hands of good reputable men, have no such misconceptions as those who have been handled by the "lower grade," nor have they as bad teeth nor as many artificial ones. The former will come to us immediately anything is wrong, probably to discover if everything is all right. The latter will come with a demand to have the "nerves killed," probably in an ulcerated tooth, or to have the fillings "guaranteed" for life, forgetting that the Almighty Himself didn't make their teeth so they would last more than five or six years. These people make all sorts of impossible or inadvisable demands, while the former do not. Classify your patients and see for yourself if these two different kinds of patients, have not previously been in the hands of two distinct classes of dentists.

This leads one irresistibly to the conclusion that some dentists have been able to educate their patients sufficiently far to largely meet the requirements already stated, and that others do not take the trouble to do so, or do not know enough to try it. How many dentists ever take the trouble to explain to their patients the objections to devitalizing a tooth? Very few. The only additional knowledge some patients have when they leave the office is that they are minus twenty dollars or so.

My idea for the correction of the evils complained of is that we

should all unite upon a few of the more necessary things for the public to know. We don't need to give them a dental education. We can scare them enough with a very small portion of it. All that is wanted is to fasten a few of the facts in the popular mind, and it will be found that the public will govern themselves more largely by the knowledge gained. The public is not always a stubborn animal, particularly when their own interests are at stake and they know it. Probably if our associations at their meetings were to agree upon a few of the more important fallacies that exist about dentistry, and ask every member to devote his energies to a correction of these misconceptions, it might not be long before a different story could be told.

CONSUMPTION.

BY A. E. VERRINDER, D.D.S., VICTORIA, B.C.

As a prevalent disease among the dental profession this most common plague of civilization has reached alarming proportions, attributed to their mode of life, and almost every-day contact with people who have acquired the disease.

In this little disquisition I shall not lay claim to a mastery of its subject matter, or to the advancement of new theories, it being merely an attempt to advance a few useful suggestions, which I hope will materially aid the busy practitioner who may have acquired the disease, or has inherited the constitutional peculiarities favoring consumption, to successfully combat its incipency.

To cure consumption is to prevent it. Prof. Robert Koch demonstrated that consumption was infectious and contagious, therefore a communicable disease, and that it could be effectually controlled and combatted by the proper precautionary measures. The disease is caused by a germ called bacillus tuberculosis, and through inoculation by this germ consumption is produced. This may be accomplished in many ways, of which the following might be mentioned as noteworthy: People with cuts or abrasions coming in contact with tuberculous matter, wearing the apparel, jewellery, etc., of a consumptive are known means of infection. It can also be communicated through the meat and milk of infected animals. A tuberculous mother should not suckle her child. Air is by far the most frequent source of infection, and whenever there is a lack of pure fresh air the disease is prevalent. Conditions favoring, or predisposing contraction of consumption are hereditary, and constitutional peculiarities, imperfect ventilation, lack of nutrition and out-door exercise, occupation, location,

soil, and many others too numerous to mention. It may follow a subsequent pleurisy, pneumonia, bronchitis, fevers, or anything tending to weaken the vital forces. The diseases of children, such as whooping cough, measles, etc., are known factors in its production. The attack may be gradual and not easily detected, conditions exciting suspicion are stomach troubles, anemia, loss in weight, and a general tired feeling may be a forerunner. Night sweats should at once awaken or excite suspicion. Later, cough, expectoration, hoarseness, difficult breathing, afternoon fever, and elevation of temperature are almost infallible signs that the disease is present and progressing. When suspicion is once aroused, examination of the sputum should be inaugurated by a specialist, as this is usually the earliest positive diagnosis of consumption. If at first no tubercle bacilli are found repeated examinations should be made before their presence or absence can be practically excluded, as they may be present at one time, and entirely absent at another. If a cure or any good is to be accomplished, it must be in the early stages. As soon as the presence of the germ has been demonstrated, it is criminal to neglect a rigorous and immediate treatment.

In writing and citing a case—one of our profession, under my own personal observation and supervision—I hope to be able to give some desirable information to those who have the characteristics, an hereditary tendency, or have actually acquired the disease. In the regime and treatment as prescribed in this particular case, who had none of the characteristics or constitutional tendencies, but undoubtedly developed the disease by an attack of neglected pleurisy, with too assiduous application to business, combined with improper hygiene, imperfect ventilation and lack of outdoor exercise, causing imperfect nutrition with poor digestion and assimilation, encouraged by rushed and hurried meals, business and family cares. The onslaught was gradual, nothing being suspected until night sweats predominated, and in each of two examinations the germs in medium quantities were found present. Consumption was diagnosed some fifteen months ago, and at this writing I am happy in the apparent conviction of a complete recovery. This is not rare; in fact, there is a natural tendency in nearly all cases toward recovery under favorable conditions as evinced by post-mortem examination. The immortal Goethe unquestionably suffered in his youth from pulmonary tuberculosis, and had hemorrhage, yet lived to the good old age of four-score and two years.

There are two kinds of pulmonary consumption: The chronic, which is the usual form, the average duration of which is about two years, and galloping or quick consumption, which usually terminates in a few months or even weeks. The latter is usually

contracted by exposure to cold or some severe and depressing condition, and sometimes follows the miasmatic diseases of children.

In the treatment of a consumptive too much stress cannot be laid upon the disposition of the sputum which is the most frequent source of infection. The total destruction of this matter is essential, not only to the patient and his surroundings, but to the general population. The careless expectoration of a person who has acquired the disease has been the means of reinfection after an apparent recovery, besides endangering all who may have access to the house or grounds. The sputa should not on any pretense be swallowed, as this might cause consumption of the bowels. Careful expectoration into basins connected with sewers or into cuspidors containing water must be conformed to. When this is impracticable a pocket spit-cup should be procured from the druggist and used at all times when access cannot be had to the former. The pocket handkerchief can be used, but it is untidy and uncleanly and subjects the pockets in garments to another source of infection. However, it should be immediately burned, and destruction of the sputa from the other sources by some powerful disinfectant is advisable. Wearing apparel, jewellery, etc., of a consumptive should be eschewed by others. Instruments, towels, dishes and other appliances in daily use should be thoroughly cleansed after each usage. The feces should be destroyed by chlorinate of lime or corrosive sublimate.

The benefit the foregoing case derived was free from any remedial effort. Special attention was paid to diet without restrictions, and everything practicable was sanctioned to increase the appetite, almost to the limit of forcing, carefully watching, and preparing for stomach troubles. Outdoor exercise was adhered to each day, and gradually increased to sharpen the appetite and stimulate the vital powers. To avoid any fresh colds tepid baths were inaugurated and increased, as bearable, to cold, friction with alcohol completed the toilet. Good underclothing should be worn, both winter and summer next the skin. I know of none better than the celebrated Dr. Jaegers'. The medium weight is sufficient, worn new during the cold season they gradually become thinner, and are admirably adapted as the warm season advances. This should be repeated each year. Well developed lungs are the proper abortives of consumption, therefore it behooves us to use one of the manifold methods and devices of developing them, and should be adhered to throughout. It is wonderful what benefit is derived from inflating the lungs to their fullest capacity, and after a little practice how one can suspend respiration.

The above is the cheapest method of thorough pulmonary ventilation, although there are several instruments and devices which are admirably adapted to accomplish the desired result.

This is good exercise to take before an open window on rising in the morning, followed by the cold bath, alcohol and friction. A light repast should, however, be taken before rising. System must be cultivated in everything, and every detail accomplished at regulated hours throughout the day. Long hours out of doors, basking in the sunshine are essential. Sleeping at night with open windows is practically breathing pure fresh air during the entire twenty-four hours.

The relation of decayed teeth has been considered and emphasized, therefore it behooves us to pay strict attention to the mouth and its appendages. Keeping them as near aseptic as possible is one of the requisites. Fever is nearly always controlled by the outdoor life; warm drinks, slowly sipped after retiring, a rapid cold sponge bath with the usual alcohol and friction, and many other little things which will naturally suggest themselves will have the desired effect. The same also applies to the night sweats, and an apparent diminution will be readily discerned. One should not be without a generous supply of good long woollen night-shirts. Cold feet should be regularly treated by the various means of hot bricks, hot-water bag, etc., it being essential to have the feet comfortable on retiring, otherwise many hours will be miserably spent in wakefulness. Cough is a symptom of the disease, and is nature's means of expelling the sputum. This should not be checked, otherwise sputum will accumulate in the lungs, which should be guarded against.

There is, however, another dry hacking cough which has nothing in common with expectoration. This usually occurs at night or on rising in the morning. Change of temperature, going suddenly from one room to another, or in going from indoors to sunshine or air, and *vice versa*, will often produce an attack. This should be controlled, especially at night, and something warm to drink, or one of the many different kinds of lozenges gradually dissolved in the mouth will usually allay the cough.

The case to which I refer had no trouble in controlling the morning paroxysm by the following formulæ: One fresh egg, two tablespoonfuls of pure cream; beat rapidly together, with sugar to taste; to this add coffee to make a hot drink before rising. Sleeplessness is always cured by the outdoor life, combined with quietude and the proper ventilated bed chamber.

Other sequels of this dread disease should be treated as one's own devices and home remedies suggest themselves. No restrictions should be placed on diet, but everything compatible with good digestion which can be tolerated should be pushed to the limit. Meals should be regular, and as often throughout the day as necessary to appease the appetite, and a slight repast should be taken both on retiring for the night and before rising in the morn-

ing. Pure fresh milk should be indulged in *ab libitum*, preferably from one cow known to be free from tuberculosis. Artificial remedies have so far been superseded by nature. Pure air and equable temperature and sunshine are the avenues for convalescence.

I could continue writing until an encyclopedia had been established, but will close this little article happy in the thought, that some poor sufferer will at least gather some suggestions or information from this writing.

OSCULATORY THERAPEUTICS IN DENTISTRY.

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 BY L.D.S.
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The dental profession, which has so much to do with the lips of the ladies, probably overlooks their importance in passing its glances beyond them into the mouth. It is a mystery to the susceptible laity how the young dentist can become oblivious to the distilled sweetness, of which from the very earliest historic times poets have sung, and all lovers have raved more or less. There may be men who have been as dull to this material and spiritual ecstacy as if they were the lips of an elephant, but to the dentist there exists conditions anatomical, physiological and pathological, which the laity cannot appreciate. To handle, or rather finger, a lady's lips so as to leave no wrinkle or "trade mark" behind, is a gift of manipulation which I have known old practitioners never to learn. "What's the matter with your lips?" asked her John of his Jane. "Oh! I've been to my dentist!" she replied. To scar a lady's lips with an instrument is malpractice. Recently I had a patient who had the alveolus of her superior maxillary chopped into hollows, so that it looked like a Transvaal landscape, while her lips were deeply cut by the sharp edges of the forceps, and blue and black marks on her chin, as if she hadn't washed her face. Deal tenderly with those lips; guard carefully the face from such accidents.

An ingenious dentist—of course, he isn't a Canadian—has discovered that by moderate osculation he can diminish the hypersensibility of the oral tissues. Some one advised him to try massage for gingivitis, but he got mixed and thought it was osculation, and before he found out his error, his success justified him in continuing the treatment, not always promiscuous, of course. The question of the microbial danger did not deter him, as he maintained that the osculating bacteria are non-pathogenic.

The therapeutical value of this improvement upon local anesthesia, and even upon general anesthesia, has been proved beyond a shadow of doubt. It not only acts locally, but constitutionally; establishes a mutual confidence between the practitioner and the patient; is economical, and always ready. The immediate effect upon the arterial system is very gratifying. Occasionally hallucinations may occur, and upon one occasion the husband of one patient called the next day and borrowed a hundred dollars from the dentist on long time, and without as much as a verbal promise to pay; and further remarked that he could continue his osculatory therapeutics as often as he liked upon the same terms. I look forward with great hope that this new discovery may prove to be the *ultima thule*, and that deprived of any suspicion of the sentimental, its practical uses may serve to sound the death-knell of the hypodermic syringe, and of those dangerous drugs which have caused fatalities in the extraction of teeth. I am afraid you will think I am trying to be funny. I am quite serious.

Proceedings of Dental Societies

"WAY DOWN IN OLD KENTUCKY."

I wish you to announce in the DOMINION DENTAL JOURNAL that the Annual Meeting of the Kentucky State Dental Association will be held in the city of Louisville on the 15th, 16th and 17th of May, 1900. We are already assured of the best meeting in the history of the Association. Aside from an attractive programme, the meeting of the National Confederate Association in Louisville at the same time enables us to procure a one-cent-per-mile railroad rate from over the greater portion of the United States. There will be many other attractions to the dentists who attend—trips to the wonderful Mammoth Cave, and to the blue-grass regions of Kentucky. Ample accommodation at reasonable rates has already been obtained.

For further information address the Secretary.

Yours truly,

F. I. GARDINER, D.D.S.,
Secretary,

213 West Chestnut St., Louisville, Ky.

Medical Department

Edited by A. H. Beers, M.D., C.M., D.D.S., L.D.S., Montreal, Que.

THE CARE OF CHILDREN'S TEETH.

The care of children's teeth is a matter too often neglected; especially by persons of limited means. It has come to be taken for granted that from the cradle to the grave the teeth are an endless source of trouble, and that when a child complains of toothache it is to be regarded as one of the many childish aches and pains which will soon pass away if no attention is paid to them.

Persons of average education and intelligence will readily admit the necessity, on the score of cleanliness, of having their children's teeth brushed once or perhaps twice a day; comparatively few, however, realize the importance to their children of possessing healthy and comfortable teeth. The consequence is that advice is not usually sought until the child has complained of pain more or less severe, thereby making it a difficult thing to treat the tooth without increasing the inflammation of the already irritated pulp.

The deciduous molars are the teeth most likely to cause trouble, and parents, as a rule, do not know that these teeth are not replaced by the bicuspid until the tenth or twelfth year. They suppose that because the deciduous incisors are lost at the seventh year all the rest of the deciduous teeth will be replaced by new ones within a few months after the loss of the incisors. The pulp of the deciduous tooth being relatively larger than that of the permanent tooth, it follows that in the former a comparatively small cavity will be sufficient to cause considerable pain from the impact of food during mastication.

Many parents, too, have the idea that if the deciduous teeth are allowed to decay the permanent teeth will come in more easily. The very opposite is the case; the pulp of the deciduous tooth performs the double function of forming the dentine of the tooth in the first instance and of absorbing the root as the crown of the permanent tooth advances. Therefore if the deciduous tooth is allowed to decay and the pulp thereby is exposed and destroyed, the absorption of the root of the tooth is arrested. One of three things then happens: the root of the deciduous tooth may be pushed out through the side of the alveolus by the advancing permanent tooth; the permanent tooth may be pushed out of line; or it may be indefinitely retarded by the presence of the dead deciduous tooth.

These, however, are only some of the minor consequences of the neglect of the deciduous teeth; of more importance are:—first, pain, which results in the child either refusing its food or swallow-

ing it without mastication, thereby upsetting its digestion. As the cavity increases pain becomes more severe, and leads to loss of sleep and general depression of the nervous system; finally the pulp dies and suppuration with the formation of an alveolar abscess usually follows. This in time induces a diseased state of the gums—and may lead to chronic poisoning due to the pus and bacteria swallowed with the saliva. Those who have not had occasion to examine the mouth of a child containing two or three "dead" teeth can form no idea of the foul condition often present. If parents in general realized the depressing influence on the health of their children caused by painful and diseased teeth, the very general neglect which is now prevalent would soon disappear. Ignorance in this, as in most cases, is the chief obstacle to be overcome. Among the permanent teeth the six-year molar is especially liable to suffer from neglect on account of the mistaken idea that it is one of the milk teeth. It is the first of the permanent teeth to appear, coming through at the back of the jaw behind the second deciduous molar. As it does not push out any of the deciduous teeth and usually causes no pain during eruption, it is overlooked and allowed to decay. Being the largest tooth of the permanent set, it makes a great gap in the arch when extracted. In these days when the wisdom teeth are either absent altogether or so soft that they are seldom successfully saved, the loss of the six-year molar greatly diminishes the masticating surface of the teeth. Instead of twelve molars the individual who has lost the sixth-year molars in childhood and has no use of the wisdom teeth is reduced to four, namely, the twelfth-year molars.

Thumb-sucking in children is a pernicious habit only permitted through ignorance. The pressure of the thumb against the alveolus of the superior maxilla causes it to protrude. In extreme cases the superior incisors may be nearer the horizontal than the perpendicular, and when the mouth is closed the lip cannot cover the teeth without effort. This gives an idiotic expression to the face, and, furthermore, prevents the patient from bringing the upper and lower incisors into contact.

While discussing the care of the teeth of children the subject of suitable food must not be overlooked. As a rule foods requiring vigorous mastication have a better effect on the teeth than those requiring little or none. Stale bread and butter with a glass of milk are better than a bowl of porridge and milk. The mastication necessary before the bread can be swallowed necessitates slower eating, polishes the surface of the teeth, and helps to develop the muscles of mastication, and thus aids in the development of the jaw bones. Acid fruits, if taken in large quantities, have a tendency to dissolve the enamel. The writer has in mind the case of a girl aged twelve years who permanently injured the enamel of

the superior incisors by the habit she had formed of squeezing grapes under the upper lip against the teeth. She declared that she had only done so during the autumn of that year, and when seen in the Christmas holidays, the enamel of the central incisors was roughened and opaque, resembling chalk in appearance and feeling. Dental caries begins on the surface of the teeth and requires an acid medium; as the ptyaline of the saliva forms lactic acid with starchy food, the importance of thorough and frequent brushing of the teeth becomes at once apparent. White castile soap and camphorated chalk make a simple and effective dentrifice.

The shape of the toothbrush is of some importance. The bristles at the end of the brush should be the longest. This will make it much more effective in brushing the surfaces of the molars and getting between the teeth. When the permanent teeth appear, their proximate surfaces may be cleansed effectively by passing waxed floss silk between them, but care should be taken not to wound the gum where the teeth are very closely in contact. Deciduous teeth as a rule do not decay rapidly where the above simple directions are carried out systematically.—*Montreal Medical Journal, December, 1899.*

GENERAL SURGICAL ANESTHESIA AND ANESTHETICS.

Dr. Ernest J. Mellish (*Medicine, December*) concludes a paper on this subject with the following propositions:

1. Chloroform almost invariably kills by its effect primarily upon the circulatory system, and ether by its effect primarily upon the respiratory system. There probably are exceptions to both of these rules; consequently hair-splitting discussions on this point are unpractical and useless.

2. In anemia of the medulla the patient should be placed in the head-down position. In sudden paralytic dilatation of the right heart, as after several deep inhalations of chloroform, the heart should be rhythmically compressed by squeezing the chest, or the patient placed temporarily in the feet-down posture to empty the heart, artificial respiration being constantly maintained.

3. Anesthetics act directly or indirectly upon all the tissues, interfering profoundly with metabolism; and they tend to produce degenerative changes in the tissues, especially those of the vital organs. Of the anesthetics in general use, chloroform is probably most dangerous in this respect.

4. Deductions based upon laboratory experiments are apt to be deceptive, and should be accepted with the greatest caution in

regard to sick human beings, unless they agree with conclusions based upon clinical investigations.

5. As a rule, ether produces less circulatory depression than chloroform. It causes dilatation of arterioles and increased capillary circulation, thereby insuring a good blood supply to the circulatory and respiratory centres and to the heart muscle; consequently these systems are in less immediate danger with ether than with chloroform.

6. Cocainizing the nasal mucous membrane to antidote certain bad effects of anesthetics is not a commendable practice.

7. On account of the reduction of body heat by anesthetics, they should be administered in a warm room, and the patient should be protected from loss of heat so far as practicable by proper covering of the body, by application of artificial heat, and by protection from dampness of the skin. An excessively high room temperature will do harm by adding heat depression to anesthetic—and operation—shock.*

8. Ether, when properly administered, is no more liable to produce nephritis than chloroform, perhaps not as much so. The changes produced in the kidneys by ether are as a rule temporary, while those caused by chloroform are apt to be more persistent.

9. Most of the pronouncedly dangerous effects of ether, and to a less extent of chloroform, upon the kidneys are due to poor preparation of the patient, faulty administration, bad after-treatment, or all of these combined.

10. Postanesthetic nausea is best prevented by preparation and after-treatment which favor normal physiological tonus, with especial reference to the emunctories. Gastric lavage at the termination of anesthesia, followed by vinegar inhalation, will in the great majority of cases prevent serious disturbance from nausea.

11. The danger from hemorrhage is no greater with ether than with chloroform, perhaps not so great, since the bleeding which occurs from the effects of ether is primary and is more certainly provided against; while the circulatory depression and the vasomotor constriction due to chloroform to a great extent prevent primary bleeding and lead indirectly to later hemorrhage.

12. The safety margin between sufficient chloroform for anesthesia and the lethal dose is much narrower than it is with ether.

13. Patients should be well fed with easily digested and non-bulky food to within a few hours preceding anesthetization, and should be allowed water to within two or three hours of it. If this plan is followed, shock will be less and elimination of the anesthetic will be more rapid, and less harm is likely to accrue to the emunc-

* The researches of Dr. Robert Coleman Kemp and Dr. W. H. Thomson, published in our issues for November 18th and 25th and December 2nd, appear to directly controvert this proposition.

tory organs. For the same reasons water should be given as liberally as practicable after anesthesia.

14. Routine methods in selecting anesthetics should be avoided so far as practicable, the anesthetic being selected according to the conditions present in the individual case.

15. Any anesthetic, but especially ether, should be given with the greatest caution in the presence of special susceptibility to acute bronchial or pulmonary affections.

16. Further clinical investigation in the use of nitrous oxide is desirable and necessary, in order to establish its status in relation to surgery ; but its general employment is not practicable.

17. The majority of inhalers on the market are bad. An inhaler made on the principle of the Esmarch chloroform mask is the cleanest, safest and best for ether as well as for chloroform. However, the "open method" of administering ether is not practicable in the tropics, at great altitudes, or in open-air military surgery, on account of too rapid diffusion.

18. The ordinary tongue forceps is a barbarous instrument and is often barbarously used.

19. The mouth gag can usually be dispensed with ; its use is often positively dangerous, from forcing the base of the tongue against the pharynx.

20. The post of anesthetist is second only in importance to that of the operator, and the selection of an anesthetist should be made with great caution where possible. No person who has not a wholesome fear of anesthetics can be trusted to administer them. Beware of one who believes any anesthetic to be "perfectly safe."

21. The anesthetist should gain the complete confidence of the patient as to his ability and carefulness, so that the latter's mind will be at rest on these points.

22. Patients who greatly fear anesthesia are the ones likely to give the most trouble to the anesthetist.

23. Other things being equal, the intelligent and educated take anesthetics better than those of low intellect.

24. The patient should be kept as free as possible from unnecessary noise and other disturbance during the induction of anesthesia.

25. The pupillary reflexes constitute the best guide to the presence or absence of surgical anesthesia.

26. The anesthetist should watch carefully the pupils, pulse, respiration, and the color and condition of the skin, depending upon no single symptom as a danger signal.

27. The patient should be carefully watched from the beginning of the anesthesia until fully restored to consciousness.

28. When anesthetics are properly administered patients seldom struggle.

29. Noisy breathing during anesthesia should be the exception, as it generally means faulty administration.

30. The minimum amount of anesthetic should be given consistent with the production and maintenance of the desired degree of anesthesia.

31. Compression of the phrenic nerve will, if properly done, usually control retching and kindred symptoms occurring during anesthesia.

32. The use of drugs preceding and during anesthesia should be avoided save where positively indicated, and if resorted to they should be used with the greatest care. It is best to depend almost wholly upon other means for the prevention of syncope or for resuscitation.

33. Anesthetic mixtures are in general less safe than the "straight goods." One can not know the relative proportion of the different components that the patient actually inhales.

34. Partial or "talking" anesthesia is advisable in some cases, but should be avoided in delicate or sensitive patients, especially for prolonged operations, unless the anesthetic is taken quietly and with apparent abolishment of pain sense.

35. Finally, the subject of anesthesia and anesthetics should be thoroughly treated in medical colleges, and each student required to conduct a number of anesthetics under the supervision of an expert.—*New York Medical Journal*, December 23rd, 1899.

THE PREVENTION OF DENTAL CARIES.

There is an impression prevalent in European countries that Americans are peculiarly liable to early decay of the teeth. We have long been of the opinion that the notion had no firmer foundation than the fact that a great amount of dentistry was done in the United States, a fact due to the attention paid by most of our people to the care of their teeth and to the excellence of our dentists. It has now been made plain that in one other country, Great Britain, early decay of the teeth takes place with such frequency as to have led a careful and competent observer, James Cantlie, M.B., F.R.C.S., to present the subject with great seriousness before the Section of State Medicine of the British Medical Association (*British Medical Journal*, September 2nd), and, after the discussion that followed, to propose a resolution to the effect that, in view of the early decay of teeth prevalent in Great Britain, the council of the Association be requested to appoint a committee of not fewer than three persons to inquire into the subject and to report upon

it to the council in twelve months from the date of their appointment. The resolution was carried unanimously.

In his paper Mr. Cantlie recognized the excellence of the art of dentistry as practised in his own country and in America, saying that, so far as mechanism was concerned, there was little more to be done. But he expressed the wish that the dentists should "look a little further afield," and tell how to rear a child so that the teeth while yet within the dental sacs, before their eruption, might be allowed to grow to the greatest perfection. "If," he said, "dentistry is to aspire to its highest ideal, it must not be content with merely repairing or removing damage done;" it must tell us the reasons of the early decay of children's teeth and show us how to prevent it. Mr. Cantlie mentions two theories only to dismiss them as unworthy of serious consideration. One is that of the preponderant early development of the brain of the present generation, whereby the teeth have been thought to be robbed of a good part of the nutrient material that should go to them; the other is that the jaws do not now reach their proper growth, so that there is not room for perfect dental arches and the teeth are crowded together and thrown into such irregularity of arrangement as to afford many a lurking place for decaying matter. The first of these theories perhaps has little to sustain it; it is fanciful or at best only plausible. The second, we are inclined to think, is more entitled to weight. At all events, we think Mr. Cantlie is in error in dismissing such a theory on the ground that the changes mentioned are assumed to have taken place in our generation, an assumption "contrary to natural law." We do not understand that anything of the sort is assumed, and we question if it can be shown that, as Mr. Cantlie says, "the generation immediately before us had fairly good teeth and well-shaped jaws."

The November number of the *Dental Cosmos* has a strong editorial article entitled "Tooth Caries and Public Health," which gives the gist of Mr. Cantlie's argument and points out some of its defects, among others that of ignoring bacterial influence in producing dental caries. The writer professes the complete readiness of dentists to give information as to the prevention of premature decay of the teeth, if only they possessed it. They are still in quest of that information, just as we are seeking for the prevention of cancer, for example; when they have found it they will give it to the world, for they, like all other workers in medicine, have constantly in mind the prevention of disease.—*New York Medical Journal, December 16th, 1899.*

PRECOCIOUS DENTITION.—Dr. R. Lynn Heard (*British Medical Journal*, December 2d) relates the case of an infant, a girl delivered at seven months and a half. Labor was induced on account of justo-minor pelvis. The baby was perfectly normal and healthy in every way, but had the two lower central incisors appearing under the gum. These cut through in a few days after birth, the right on the fourth and the left on the fifth day, as well as the author recollects. As in Joukovsky's case, in a few days an abscess began to form and the teeth to loosen. Dr. Heard then extracted them, and, as in the other case, it required a distinct effort to remove them. They were typical milk teeth of a whitish color. For some time after the lateral incisors appeared there was a gap, but at the time of writing this had closed, and no one, unless they were in the secret, would remark anything amiss. This case is of special interest, owing to the fact that the teeth were cut at a period of seven-months-and-a-half gestation.—*New York Medical Journal*, December 23rd, 1899.

Selections

MANAGEMENT OF CHILDREN'S TEETH.*

BY DR. C. N. JOHNSON, CHICAGO.

In the management of the deciduous teeth, palliative work, keeping the patient comfortable for a few years, is usually the object. With the permanent teeth—those which appear early in life—the aim should be given the greatest permanency to the operations, with the thought ever in mind that the highest possibilities in dental art involves saving these organs for a life time.

The assumption that the deciduous teeth may be neglected, however, because they will eventually be lost, should be combated at every opportunity. This is not only because of the possible suffering, and the injury to health resulting from lack of mastication, and from the presence of diseased and abscessed teeth, but especially is the question of acquired habits which may conduce to permanent injury. The habit of belting the food unmasticated, and therefore unfit for service, is one that often clings through life. Effective mastication is a weighty factor in the health and longevity of the individual, and it is all-important that the teeth of children shall be kept in such condition as shall conduce to habits of thorough mastication. If a pulp is exposed in a deciduous tooth,

* Read before National Dental Association, Niagara Falls.

syringe well with tepid water, and remove anything causing pressure on the pulp; then apply oil of cloves on a pledget of cotton the size of a pin-head, and cover with dry cotton. Fill over this. Oxide of zinc and oil of cloves make an anodyne and antiseptic paste which may be flowed over an exposed pulp and protected by a filling of gutta-percha or cement. The pulp will probably die easily under this, and after a week or two the canals can usually be cleansed and filled. If abscessed they should be cleansed mechanically and packed with cotton saturated with oil of cloves, which, by means of pressure with unvulcanized rubber placed in the cavity, should be forced out through the fistulous opening. The pulp chamber may then be flooded with a solution of gutta-percha in eucalyptol and some temporary stopping forced into each canal until the eucalyptol shows at the opening of the fistula. They will rarely give further trouble.

The first permanent molars are called upon to do longer service than any other tooth in the mouth, and have a very important function during the growth of the bicuspid and second molars to full length. If not kept in place the jaws are allowed to drop together so that the upper incisors overlap the lower more than normal, and the bicuspid and molars never acquire their full length. Every effort should, therefore, be made to preserve the first molars. On the slightest approach of caries they should be carefully filled. If they are much broken, build them up, or crown them if necessary. The material to be used must be governed by the ability of the patient, or the disposition to withstand dental operations.

It is well to use cement on the occlusal surface as a prevention, forcing it into the grooves and sulci, renewing it until conditions make it possible to insert metal fillings—"conditions" here referring to expediency and forbearance on the part of the patient, rather than to any pronounced change in structure. The choice between gold and amalgam depends upon the question of expense and the ability of the patient to submit to gold operations. It is a question of physical and mental stamina on the part of the patient. The mesial surface of the first molar calls for the most careful attention, as it is in contact with the deciduous molar, and if the latter is affected on the distal surface the former is almost certain to suffer. It is well in many cases to grind away the distal surface of the deciduous molar. If decay occurs control it with gutta-percha or cement until the deciduous molar is lost, when the permanent molar should be promptly and permanently filled with gold while it is fully exposed. If decay occurs early in the permanent incisors it should be controlled with gutta-percha or cement until the patient is schooled into an attitude of sufficient forbearance to submit to gold operations, as early as may be practicable.

As the mineral becomes the vegetable and the vegetable becomes the animal through the action of vital energy, rising a step higher—from mineral to mind—there is no break. Through it all there is a vital principle that cannot be weighed, cannot be measured. A tooth is developed which corresponds with another on the opposite side of the mouth in size and form and color that is divine, and so it is with all the other organs. The tooth is sustained by vital energy; when it becomes inert it is cast out. Taste is vital electricity. When silver is worn in the mouth, coming into contact with food the current is converted into organized electricity and gives an unpleasant taste. Metal in the dentine which comes in contact with the pulp also creates a current which is connected with galvanized electricity. Food produces a vital current and electricity carries on the work.

Dr. Corydon Palmer said, the older men present had all been familiar with the use of tin and gold. He had used it himself as far back as 1839. If it was good then, it is good now. It is better than anything except pure gold, and for many cases it is even better than gold. With teeth of good structure, and with all other conditions favorable, gold was undoubtedly the best material, but there are cases which require cement, and gutta-percha is best for others. There is no subject of greater interest than the management of children's teeth. Begin early with the little children; watch them carefully while they are changing their teeth and getting their sixth-year molars. If there is a little decay, fill them promptly. Do not use tin and gold simply because it is easy to use it in that way, you can do it quickly and make a nice operation; do not use cement or amalgam because you can let the patient go quickly and make room for another; but do what is best for the tooth in each case. But do not subject the little ones to too severe operations. There is nothing better than tin cut in strips and folded over, of the right width and made into cylinders.

DISCUSSION.

Dr. B. HOLLY SMITH: The conservative spirit of Dr. Johnson's paper appeals forcibly to me. The day has come when old-fashioned dentistry has to go. Children will cease to come to us crying and afraid; they will no longer approach us with dread. The youngsters will come to us willingly and gladly. I congratulate the modern conservative dental operator on the new attitude of the public mind toward dentistry. It has been said that the dental profession is increasing out of proportion to the population. But with dental practice as humane and conservative as that advocated by Dr. Johnson, there will be 50 per cent. more done. People will no longer stay away from the dental office because of wrong impressions and dread of dental operations.

Dr. GARRETT NEWKIRK : It is often quite difficult to keep the teeth of little children dry ; you cannot always use the rubber dam or clamps. I have often found it advantageous to make the little patient my assistant. Give them a hand-glass and adjust an absorbent pad or a piece of spunk in place, and show them how to hold it between the cheek and the tooth. They will often be so greatly interested in being of assistance in this way as to forget their discomfort.

Dr. DARBY : I rise not to criticise but to commend, and also to put in an interrogation mark. Ought arsenic ever to be used in deciduous teeth? It has been spoken against most positively. If I had been asked the question ten or fifteen years ago I should have said it would be positively reprehensible ; that it would be bad practice ; that creosote and cantharides were all that were required. But my views on this question have changed. I know of no reason why it should not be used with proper precautions, and in the last ten years I have so used it in very minute quantity, and I have yet to see the first indication of bad results. Another point, and that is as to the use of gold in the permanent teeth of young children. Just as soon as it is desirable, or the patient is prepared to stand the wear and tear of the gold operation, it is said to be the better practice that we should make permanent operations as soon as possible. But the pulp must always be taken into consideration, and the dangers from thermal changes. It is better to hold them along with cement and gutta-percha. Not until, I do not dare to say in the presence of Dr. Black, until the teeth have attained a greater degree of hardness, but until the teeth have matured. I must give some credit to the results of experience and observation, though I am less ready now than formerly to put theory against observation. I know that Dr. Black's science is worth more than my observation. Formerly I would have said that great changes do take place in the structure of the teeth—changes from good to bad, or from bad to good. At the age of twelve I should have said this was my position ; at the age of thirty-five or forty, less certain. But I am afraid to put my observation against the scientific knowledge of such men as Dr. Black and Dr. Williams. But I must disagree as to the use of gold in young teeth.

Dr. H. J. MCKELLOPS : I must take exception to some points in this paper. Young teeth can be filled with gold, but I have urged ever since the cements came in that by the use of oxy-phosphate we can keep the teeth along to the age when we can operate as we desire to do. But even then a foundation of cement at the bottom will save two-thirds of the work. There will be no decay under it, and you can put what you please on top of it. Pay attention to these little things, and you will get fine results

and save much suffering. For old people who cannot stand much you can save the teeth for years and years, when they cannot stand the insertion of other materials. I know of one lady who will have nothing but cement in her mouth. She travels a great deal, goes everywhere, and has no trouble with her teeth. If it wears out, it can be replaced with but little trouble. I am not ashamed to have any one look at my work of this character. Try it and see what you can accomplish with it. If you will use amalgam, put cement under it, and keep the mercury away from the dentin. It will create no soreness and never leaks.

Dr. A. W. HARLAN: I am astonished at the position taken by one of the essayists on the penetrability of cement, as shown by cylinders placed in bottles, which were all permeated with the dye. He said that no cement was sold to dentists that would not either expand or contract; that cement was not a reliable filling material. And yet this evening Dr. McKellops, an old practitioner, and Dr. Darby, a professor of operative dentistry, say that the cements will and do preserve the teeth. So that laboratory experiments and practical experience do not go hand in hand. What are we to do? Shall we go on using the cements, or shall we abandon them? If the experiments are to be relied upon, it is not safe to use them in the teeth, because they leak. But the conditions in the laboratory experiments are not those which exist in the mouth. Some manipulators, too, are so skilful that they always mix their cements so that they do not either shrink or expand, though it is also true that there are many who cannot so mix them. Dr. Darby says he uses arsenic for destroying pulps in deciduous teeth. But even his experience in this direction is not a safe guide; the danger is too great in consequence of the uncertainty of retaining the application, especially in the presence of the fact that all known cements leak. A well-known writer in the *Cosmos* has recently advocated the use of arsenic for sensitive dentine, but I apprehend that sooner or later he will find those teeth pulpless if not abscessed. The presence of arsenic is fatal to the vitality of the pulp. The non-appearance of the bicuspids is due to the use of arsenic in deciduous molars, the escape of arsenic destroying the germ of the permanent tooth. This does not follow in all cases, but undoubtedly has in more than one that arsenic has produced necrosis. It is not safe for the vast majority of practitioners to use such a corrosive agent to destroy the pulp of a deciduous tooth. There are other means of effecting this without the risk of injury to the germ of the permanent tooth. We are often restricted in our methods by the lack of physical strength or mental stamina in children. When we are not able, for this reason, to do the thorough work we would like to do, it is better to sterilize the pulp chamber and leave the root canals open, even resorting to the

old-fashioned plan of drilling into the pulp chamber beneath the gun rather than attempt ineffectual root filling.

Dr. AMES : I would like to correct the impression that there is a discrepancy between the results with cement in the teeth and in the laboratory. No claim has been made that every cement will shrink or leak in the mouth. It is only in the dry conditions from lack of water of crystallization. In the mouth, in contact with dentine, shrinkage is overcome, because it is kept moist at all times. There are different degrees of porosity in the cements, but I think it is possible to make a cement that will not be porous. Dr. Johnson presses the cement in hard with the finger. Dr. Pearsall advocates the use of a tin matrix that can be pressed against the cement, and makes a beautiful surface. I would like some one to try chloride of gold crystals, slightly liquefied and applied to the surface of a cavity, as nitrate of silver is used.

DR. G. V. BLACK—I have limited the easy filling of children's teeth as closely as it should be limited. We must not destroy the confidence of the child, nor break down its courage, nor injure the nervous system. But to do our whole duty, we should fill permanently at the earliest possible moment, and there will not be so much to do in later life. I detest the idea of temporizing, and yet in many cases we are obliged to temporize. We should not put in a big gold filling independent of conditions, but we can endeavor to bring about the conditions that will permit the insertion of the gold filling. I have put in many for children eight years old, and I have not found that the pulps died in consequence. Pulps do not die under gold fillings in children's teeth in as great proportion as in the teeth of adults. As to the conditions of immunity, there is a whole lot we don't know yet, but we should begin to study the question earnestly and endeavor to elucidate it. It will require much time, and much thought, but by putting together a suggestion from one man, and a thought from another, we shall eventually reach something positive and definite. The fact is admitted that conditions of immunity are confronting us continually. It is only those who have something the matter with their teeth that come to us. Many go through life without decay ; with nothing wrong ; consequently they do not come to us—such are to be found in every community. Let us seek out such cases, and examine and study them. Many have diseases of the peridental membrane who have no decay. Others attain a condition of immunity after violent ravages of decay. I wish the dental profession would take up the study of the condition of immunity. It is not a subject for laboratory study and investigation. In this line clinical study must precede laboratory study. Take it home with you as a subject of thought and report your findings.

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No. 1

"THE SCIENTIFIC USE OF THE IMAGINATION."

In all domains of science there always have been, and always will be, arguments in favor of guesswork. It is better to guess than not to think. Guesswork has often been the forerunner of great truths. Some of the most notable advances in scientific progress owe their origin to the ingenuousness of a lively fancy, so that it is unreasonable to assert that "the scientific use of the imagination" is a thing to be rejected. The necessity of speculation in science is as natural as in philosophy. Among the early Greeks their physical speculations coincided in expression so closely with many modern scientific discoveries, that one can quite easily exaggerate the extent of their learning, and attribute to them knowledge they did not possess. Democritus guessed precisely what Galileo discovered. Plato vaguely guessed the demonstrations of Newton. The astrologers guessed what the astronomers proved. Alchemy preceded chemistry. The "worm" in the tooth was discovered to be a pulp. There are a score of

guesses in the aphorisms of Hippocrates and Celsus, which led modern medical science into the region of certainty. There are uncertainties in medicine existing to-day as there were in the time of Galen, and the guesswork of the present is as necessary as was that of the past. And not even as good as guessing, for the accident that led to the discovery of gravitation has had many repetitions in all branches of the exact sciences. The direct use which may frequently be made of general lay opinion or experience, may, too, illuminate obscurities which puzzle the specialist. There have been bold trespassers in fields which scientists feared to tread, and if this often led astray to unfounded conclusions, it often inspired the expert to investigations wherein truth was revealed.

But it is questionable if this is not an age when guesswork is carried into the very realms of absurdity. Every man talks and writes in our time, however ill he may be prepared to do either. Most of us have intuitions which make us accept or resent the deductions of those who are recognized experts, and possibly we are not one whit more reasonable than the ignorant clerics, who persecuted Roger Bacon for advocating the experimental method in chemistry. The thing a specialist proclaims may be narrowed in view by his specialism. All specialisms are illogical when they refuse collateral evidence. We observe a great deal of this in the diagnosis of disease, in the conclusions at times of the bacteriologist and the microscopist. Within the circumscribed scope of our own profession we are familiar with dogmatic opinions which later experience completely exploded—solemn orthodoxies of yesterday which to-day are ludicrous heterodoxies. There were logical reasons for many of the ancient germ ideas of medical and dental science. Speculation was based upon imperfect experiment and reflection; but in our time much of our speculation seems to be based upon the hunger to be original, more than the anxiety to be exact. How else can we explain the mystery of contradiction which appears in so much of our literature; the directly opposite results of experimental investigation by equally able and honest men? Every one of us can recall our own changes of conviction, from the positive of the past to the positive of the present, and no doubt those who live long enough will find much of the positive of

the present modified by the positive of the future. In all ancient scientific investigation results were reached which modern science flatters itself it can easily explain ; but it is not so easy to explain the comparative uncertainty of our own modern investigation, unless we admit that in spite of our wider liberty for research, and our wiser methods, we are carried away by the same guesswork which Cicero and Plato used, when they foreshadowed the modern doctrine of the rotundity of the earth. And, yet, in spite of it all, we must recognize the value of conjecture.

How positive we were, when younger practitioners, of the direct value of the administration of phosphates in the treatment of the caries of children, and the caries of pregnancy. How positive we were of the coincident abstraction of lime from the teeth and the general system, and the demand for special alimentation. Looking back upon our firm faith in the benefit in depraved nutrition of the use during pregnancy and gestation of chemical foods, as well as of the foods of nature containing lime, we see that the pendulum of opinion has swung to the other extreme, when it may be true that truth lies midway. The bacteriologist revealed the futility of dependence alone upon the pharmacist, and in discovering the etiology of caries, gave us clearer light as to proper treatment. And, yet, the guesswork of the past had analogies in the animal and vegetable kingdoms which seemed to assure us in the belief that lime, in such forms as would be easily digested and assimilated, would contribute to perfection of tooth tissue. Everybody quoted the facts that if lime is kept from fowls they will have eggs without shells ; that wheat planted in earth deprived of phosphates, will die soon after it germinates ; that we cannot get flowers or peas which are sown in soil containing no phosphates. Proof of the loss of weight, appetite and activity in animals from whom phosphates were kept, were quoted as " positive " proof.

And how " positive " were the expert critics of amalgam fifty years ago, when leading chemists gave to the profession their analysis of its composition, and declared that the discoloration on the surface was a sulphuret of mercury, and therefore injurious, when now we know that it was only a sulphuret of silver, and therefore harmless. One could keep his memory and his pen busy relating many such guesses, even among those who were

recognized experts. In the diagnosis and treatment of the diseases of the teeth; in the relations of oral to general diseases, we are met every day with the purely speculative guesswork of dentists and physicians.

QUESTIONABLE TREATMENT.

We were led to the above reflections, by a fairly wide survey of our own and of other's "positive" knowledge with reference to the treatment of pyorrhea alveolaris. They have been intensely confirmed by several widely diverse expressions, and specially by one recent paper, brimful of ideas, and containing much that general experience has proved invaluable, yet strewn with statements as facts, which general, and even the average expert opinion, feels compelled to reject as somewhat fanciful. These statements are based, not upon valid results at all, but upon speculation and some "positive" assertions which are as impossible as the revival of the dead. A suggestion, for instance, is made that a stubbornly loose tooth can be tightened by the devitalization and removal of the pulp; that this treatment "will in all cases aid in the cure of pyorrhea in the advanced stages." Apart from the claims that an acid introduced into the pulp canal, which the author asserts "renders the root somewhat tough and springy" (!)—whatever that is intended to mean—it is said that "the removal of the pulp alone will aid to a great extent in curing the disease." But we are not told how or why "the softening of the bony tissues by the acid stimulates to a renewed vital action," though the writer admits that "just what effect the acid has within the canal, also without, I do not know, except that it induces a connection between the gum and the tooth, and binds the tooth more firmly in its socket."

"Sometimes, when all else fails," the writer continues, "the tooth is extracted and operated on outside the mouth and replaced," reads rather inconsistent with the former statement that "in all cases, devitalization and removal of the pulp alone will aid to a great extent in curing the disease." If extraction and replantation have been proved a failure, or at best a speculative success in favorable cases where the socket, gum and pericementum are not in the pathological condition of pyorrhea alveolaris, surely it is

a pure guess to affirm that even this treatment will be at all satisfactory.

Referring to the operation of excising certain teeth level with the gums, and crowning the root, the author argues that "the natural crown and that portion of the roots draws on the vitality of the little pericementum still remaining, to some extent. If this is all cut off even with the gum and replaced by an artificial crown, the vitality is all confined to that part of the root which is left, the roots become much firmer under this condition than when the natural crown is left" (1). We seriously doubt the value of such guesswork which adds little to our exact knowledge, and seems to ignore elementary principles of physiology without which our pathology is purely empirical.

DENTISTS AND GENERAL ANESTHESIA.

The average dentist has no more business to give a general anesthetic for the extraction of teeth, than to prescribe for constitutional derangements, even if they had their origin in the teeth, or to operate upon a case of syphilitic necrosis, because the alveolar processes and the teeth are involved. The line is not difficult to draw. The temerity with which some ignorant dentists will undertake the full control of serious general conditions arising from diseased teeth, would put to the blush even those who have enjoyed a thorough medical and surgical education, and who feel that as practising dentists, they should defer to their confreres who practise medicine and surgery only. The presumption that a course of lectures and clinics in a dental school justifies a dentist in administering general anesthetics to the patients of the family physician, is not creditable either to one's sense of ethics or common sense. The surgeon dentist has quite enough to do to confine his attention to his operation, and certainly has no right to the assumption that he can manage alone cases in which the general surgeon would hesitate. Altogether too much of the free-and-easy faith in the safety of ether is inculcated among dental students, and while experience may have given confidence to some of the older dentists, it is never wise or safe to take the risk of life which the administration compels

OUR "MEDICAL DEPARTMENT."

We have received many letters testifying to the interest which our readers take in the Medical Department. Several have been led to realize that the diseases of the teeth may lead to local and constitutional conditions, where the functions of the dentist should cease, and the cases transferred to regular medical practitioners and surgeons; while, on the other hand, a lively interest has been awakened among our medical exchanges, and more attention is paid to the importance of the early care of the teeth. We are pleased to reprint the valuable addition to this line of thought from the *Montreal Medical Journal*. The two professions cannot ignore each other in this connection. The medical man is really the first one who can educate the parents on the functional value of the deciduous as well as the early permanent teeth of the child. The dentist could do much more for the preservation of the child's teeth, if the family physician would impress upon parents the importance of early examination.

Editorial Notes.

It has been observed by a number of our readers, that upon every occasion, with an exception or two, which was justified from personal experience, when the praise of a proprietary compound was mentioned, we expunged the name of the article. Upon two occasions we treated Phillips' Milk of Magnesia in this way, simply because we knew nothing about it personally, and took the most of what we heard, with a large quantity of suspicion. The following extract from Dr. E. C. Kirk, editor of the *Cosmos*, expresses changes of opinion of our own and many others we know: "A method for locally counteracting the injurious action of acid secretions, especially in erosin cases, and which has given me greater satisfaction than any other means which I have hitherto employed, is by the use of a preparation known to the drug trade as Phillips' Milk of Magnesia, which consists of a precipitated magnesium hydrate held in suspension in water. It is to be applied in the same way that lime-water or precipitated chalk is used for the

purpose of bringing about an alkaline condition of the oral fluids, by neutralizing the excess of acids present. A teaspoonful of the preparation taken into the mouth and allowed to float around over the teeth, coats them with a slight film of alkaline magnesium hydrate, which is sufficiently adherent to protect the tooth-surface from the acid action for a number of hours. I have tested the reaction of the saliva three hours subsequent to the application, and found it still markedly alkaline. It is probably sufficient to prescribe its use three times daily, after meals, though when used night and morning the action is markedly beneficial in retarding erosion. Its advantage over soda bicarbonate, chalk, or lime-water is because of its continued action over a considerable time and the film-like alkaline coating which it forms upon the surfaces of the teeth."

We should like to ask our exchange if it is true, as stated in an advertisement in a London (Eng.) paper that Mr. Labouchere, M.P. the editor of *Truth* wrote a puff of a "One Guinea Dentist," saying that this genius "had one of the largest practices in the world and that he can do everything that science and experience suggest to satisfy every customer?" If it is true that *Truth* in this case belied its name, we are not at all surprised, knowing the erratic reputation of the Laboucheres and Steads and their ilk. We have reason to be grateful that so far the Dominion of Canada has not, in this direction, yet produced a public man so ready to show himself an unmitigated ass.

WE acknowledge the receipt of the Antikamnia Calendar for 1900. There are human faces that are almost expressionless; but the artist has here actually put the shadow of smiles and sorrow on the very skull. The conceptions are clever enough to reconcile a fellow to his skeleton. It is not all unbecoming.

WE shall have an interesting announcement to make in the next issue.

Correspondence

"OFFICE RIGHTS" FOR FORMULÆ.

To the Editor of DOMINION DENTAL JOURNAL.

SIR,—Certain parties are travelling through Ontario selling office rights for the use of several formulæ, to be used in so-called "painless dentistry." Having read these over carefully, we believe they contain toxic amounts of certain ingredients, and having once had a somewhat serious case myself in this line, would advise brother dentists to exercise great care in purchasing of strangers.

L.D.S.

Reviews

The Medical Digest; or, Busy Practitioners' Vade-Mecum Appendix, including the years 1891 to 1899. By Rich. Neale, M.D., London London: John Bale, Sons & Danielsson, 83 Great Litchfield St., Oxford St. W. 15s 6d net.

A laboured and accurate reference work to the literature of medical and somewhat to dental journalism. Useful for teachers and contributors to journalism especially.

Obituary

As we go to press we learn of the death of the estimable wife of Dr. D. V. Beacock, of Brockville. The troubles which so keenly touch one's confreres, should waken our sympathy, and we are sure that the many friends of the doctor in the profession will join us in sincere expressions of regret.