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DECAY IN TEETH.

Judging from the questions constantly asked the dentist, it is no exaggeration to say few people have a clear conception of the causes which lead to decay of the teeth.

Chief among them is the fermentation of particles of food lodged between the teeth, or in their pits or depressions, during mastication. When through carelessness or indifference, these deposits are not removed under the influence of the warmth, moisture and the microbes present, fermentation, or chemical change, takes place and an acid is generated, and this dissolves the enamel and dentine leaving a cavity to grow larger and deeper.

The dentine is of a tubular structure and in these tubules the microbes which constantly exist in the mouth penetrate, where they continue their destructive effect till the tooth is completely destroyed.

Microbes are minute vegetable organisms some of the many species of which are so small that they are only visible under the microscope. They are the cause of a large class of infectious or contagious diseases, and between them and the body there is a constant struggle.

The process of fermentation is of itself but the growth of multiplication of these minute organisms, and in this process of their life history they produce the acids and other poisonous materials which make them so fatal to mankind. Their number is inconceivable.

These are the direct causes of decay of the teeth. But there also exist indirect, or contributing, causes, and these may be anything which will lower the general tone of the system, and make it less able to resist the action of deleterious agents.

Among these secondary causes producing decay may be mentioned any protracted sickness, the lack of outdoor exercise, excessive study, anxiety or worry, which undermine and weaken the system. When the body is ill, no one organ can be said to be perfectly sound.

BUTTER A CURE.

Chronic constipation in otherwise healthy children, is not a disease, but an obstruction of the intestines from too much food, an Austrian physician asserts, in most cases. This condition can be simply and effectively terminated by giving the child fresh butter, a half to a teaspoonful during the first two or three months of life until normal defecation is restored and then this dose every second day. Between third and fourth month give two or three teaspoonfuls a day, until relieved, and then every second or third day. From five months to a year one to three tablespoonfuls every two or three days. Over this age give as needed. The butter must be given unchanged; not warmed nor mixed with any substance, as this alters its composition. In an experience of six years every child has taken the butter with relish. It increases the nourishing elements of the food in small compass, and is the nearest approach to milk. A part is readily assimilated and the rest is eliminated stimulating peristalsis as it passes through the intestines. Pale, pasty children become red-cheeked and hearty, and the benefits of this butter treatment are evident up to the fifth and sixth year.

PRESERVING FRUITS.

Apples, pears, plums, apricots, &c., for preserving in sugar or pickling vinegar may be greened thus; Put vineleaves under, between and over the fruit in a preserving kettle; put small bits of alum the size of a pea, say a dozen bits to a kettle full; put enough water to cover the fruit, cover the kettle close to exclude all outer air, set it over a gentle fire, let them simmer; when they are tender drain off the water; if they are not a fine green let them become cold, then put vine leaves and a bit of saleratus or soda with them, and set them over a slow fire until they begin to simmer; a bit of soda or saleratus the size of a small nutmeg will have the desired effect; then spread them out to cool, after which finish as severally directed.

TO PRESERVE PEARS.

Take small, rich, fair fruit, as soon as the pips are black, set them over the fire in a kettle, with water to cover them; let them simmer until they will yield to the pressure of the

finger, then with a skimmer take them into cold water, pare them neatly, leaving on a little of the stem, and the blossom end; pierce them at the blossom end of the core, then make a sirup of a pound of sugar for each pound of fruit; when it is boiling hot pour it over the pears, and let it stand until the next day; when drain it off, make it boiling hot and again pour it over; after a day or two put the fruit in the sirup over the fire and boil gently until it is clear, then take it into jars or spread it on dishes, boil the sirup thick, then put it and the fruit in jars.

TO CLARIFY THE SUGAR.

Put into a preserving pan as many pounds of sugar as you wish; to each pound of sugar put half a pint of water, and the white of an egg to every four pounds; stir it together until the sugar is dissolved; then set it over a gentle fire; stir it occasionally, and take off the scum as it rises; after a few boilings up the sugar will rise so high as to run over the side of the pan; to prevent which, take it from the fire for a few minutes, when it will subside, and leave time for skimming. Repeat the skimming until a slight scum or foam only will rise; then take off the pan, lay a slightly wetted napkin over a basin, and then strain the sugar through it.

TO PRESERVE APPLES.

Pare and core and cut the apples in halves or quarters. Take as many pounds of the best brown sugar; put a teacup of water to each pound. When it is dissolved set it over the fire, and when boiling hot put in the fruit and sirup will be thick. Take the fruit with a skimmer to flat dishes; spread it to cool; then place in pots or jars, and pour the jelly over and seal the jar. Lemons boiled tender in water and sliced thin may be boiled with the apples.

TO CAN PEACHES.

Take small under-ripe peaches, pare them neatly and put them into a kettle with water nearly to cover them, and set them over a gentle fire to each quart of peaches put half a pound of sugar; let them stew until the sirup is rich. Serve for tea or desert, or seal them in jars while hot.

TO COLOR FRUIT YELLOW.

Boil the fruit with fresh skin lemons in water to cover them until it is tender; then take it up, spread it on dishes to cool, and finish as may be directed.

CURIOUS BURIAL CEREMONIES.

Strange and impressive are the ceremonies attending the burial of Spanish kings. The pantheon, or royal tomb, is at the palace of the Escorial, situated three thousand feet above the level of the sea, and some distance from the capital. Only kings, queens and mothers of kings are buried there, the coffins of the kings lying on one side, those of the queens on the other. After lying in state for several days in the throne room in Madrid, a procession is formed to accompany the body to the Escorial. A halt is made on the way, and the corpse rests there for one night. In the morning the lord high chamberlain stands at the side of the coffin and says in loud tones, "Is your majesty pleased to proceed on your journey?" After a short silence the procession moves on, and winds up to the grand portal of the palace. These doors are never opened except to admit a royal personage, dead or alive. When the casket containing the remains is at last placed in the vault, the chamberlain unlocks it, and, kneeling down, calls with a loud voice, "Senor! Senor! Senor!" After a solemn pause, he cries again, "His Majesty does not reply. Then it is true, the king is dead!" He then locks the coffin, gives the key to the prior, the pulce of the Escorial contains also a large monastery and church, and taking his staff of office, breaks it in pieces and flings them at the casket. The booming of the guns and the tolling of bells announces to the nation that the king has gone to his final resting place.

ARCHERY IN FRANCE.

Word comes from Paris that French women have suddenly taken up archery, and that courts are being laid out at all of the country clubs where there are women members. One of the chief attractions of this sport is that it demands pretty costumes, dainty, elaborate ones, in place of the severe tailor-made affairs.

WORTH A GUINEA A SMELL.

Roses at £30 Apice and Cryanthemums at £36 a Dozen.

The costliest of all flowers produced of late years is the "Rothsay" rose, a strange-looking, flesh-coloured bloom, with an absolutely heavenly perfume.

It is of an extraordinary colour—velvety, and just like the cheek of a healthy baby in tint. Not really beautiful as a flower, but unique in appearance. Every petal is wrinkled like the "goffering" of a girl's dress, and the entire bloom is very closely set, and weighs as much as six ordinary roses of the same kind. A single flower is worth £30, and will fetch that price readily.

It cannot be depended upon, but is a species which occurs now and then when several roses have been crossed, and many experiments tried upon a rose-tree. It grows only under glass, and was first produced ten years ago, accidentally, by a wealthy amateur. Since then many flower-growers have racked their brains to produce it, but only a few more examples have appeared, and for four years not one was produced, till last summer a small rose-culturer in Bedford grew three, by accident. He sold them a few days later for a hundred guineas, but he has none this year.

The prize of £200 offered in Holland for a black tulip has never been claimed, but five jet-black hyacinths have been known to grow in the last twenty years. The cheapest fetched £20, and the dearest £90—almost a record price for a bulb. Only one of the five reached a second generation, and now there has not been a black hyacinth for three years. One black crocus was grown four years ago by an amateur enthusiast of Glasgow, and, though he was offered a cool hundred for it he refused to sell.

Orchids fetch the highest of all prices among flowers, though one may buy a tolerable orchid button-hole for a shilling. But £50 is a common price for a good plant of a rare variety like the purple Emperor, and common or garden fry, such as any well-to-do man's conservatory can show, cost from £5 to £20. The "Sunset" orchid, a lovely flower of deep yellow and carmine and flaming crimson, which cost many a life before it was first brought home from the virgin forests of the Amazon, could not be bought for less than £300 a plant when it arrived in England. Only three out of forty-five "Sunsets" were alive on arrival. The cheapest went for £300, the dearest for £370, and the third was kept for purposes of cultivation by the agents who employed the collector. To-day you may buy a good "Sunset" orchid plant for £60, and a single flower for £3 10s.

Marvellous prices are sometimes paid for orchid buttonholes by wealthy men, and among them Lord Lansdowne, the Secretary of State for War, often pays £5 for one. But a certain very well-known Minister, who is very fastidious about his dress and appearance, will only wear a certain species of orchid of a peculiar shade, which shade, he says, is the only one that thoroughly suits his complexion. He frequently pays £10 or £12 for a flower of this orchid, and recently bought a couple of the plants themselves at £280 each, both of which died a fortnight later.

Another Minister who adores orchids is Joseph Chamberlain, and everyone knows he is seldom seen without one in his buttonhole. He grows them himself, however, and seldom buys one.

The record price paid for an orchid lately is £420, for a plant of a new species called the "Canopus," from the interior of Brazil. It has a most lovely bloom, each flower eight inches across, streaked white and purple.

A blue peony seems to be as likely a thing to encounter as a blue horse. However, a light and washed-out-looking, but distinctly blue, specimen grew in the hothouse of a Manchester flower-culturer. It created a great deal of stir in the flower-fancying world, and after many offers was bought by a very wealthy amateur for £200.

Finally, you can pay as much as £8 a blossom for some varieties of the chrysanthemum, and a peagreen flower of this species, which is occasionally to be had, will fetch double that amount.

Telegraph wires get tired; this is one of the most recent observations of scientists. They work better on Monday than on Saturday, and an expert declares that each wire ought to have one whole day's rest every three weeks.

HOW YOUR BRAIN GETS TIRED.

Small Goblets Which Are Drained by the Demands of Mind and Body.

The cells of the brain, when quite fresh and vigorous, may be likened to small balloons inflated ready for an ascent. They are round and full, and when seen under the microscope, they give evidence of being distended. The cells of the tired brain, on the other hand, are seen to be shrunken, as an air-ball or toy balloon from which most of the air or gas has escaped.

When our brains begin to work after a refreshing rest or sleep, they are full of nerve fluid which the absorbents of the body and brain have stored up there like bees fill their comb. So soon as work begins, this vital force is sapped to meet the demands upon the brain, and the process that goes on during the whole time it is working may be described in the following way: Imagine that these cells are small goblets filled with liquid, and that they have a tiny stem, through which runs a tube or opening; the liquid in the goblet is drained by the demands of mind and body, and slowly trickles through the opening, drop by drop, until either the work ceases or the goblet is exhausted.

This latter condition is not often reached, for the simple reason that the owner of the brain is very much more likely to collapse. When the sell has yielded half its vital fluid, you begin to experience a feeling of fatigue, and if you go on drawing the contents of the cells, you are doing yourself injury in a proportionate degree, and Nature will make you pay for it in some way or other.

But all the cells are not involved in any kind of mental work, which means that one part of the brain may be very actively at work while the other is resting and storing up nerve fluid. Thus it is that a man suffering from brain fog, may leave his books and go golfing or cycling, and feel that he is really resting; other cells are being called upon for work now, while the tired ones—those required for mental activity—are enjoying repose.

But it follows that the part of the brain which is called into activity for bodily exercise is now getting tired, while the other part of the brain is still at work to some extent, and so the whole of our brain cells become fatigued, and total rest in the shape of sleep is absolutely essential.

HERE AND THERE.

Items That Will Interest From All Corners of the World.

4,000 tourists arrived in Europe during the last season.

During 1899 Spain bought sixty-seven vessels in England.

Germany has one doctor for every 1,957 inhabitants.

There are 256 railway-stations within a six-mile radius of St. Paul's Cathedral, London.

The strength of a lion has been shown to average only 69 per cent. of the strength of a tiger.

The thirty-three largest towns of England and Wales have a total population of nearly 12,000,000.

The longest plant in the world is a species of subtropical seaweed, which grows to 600 ft. in length.

Coloured globes in the windows of chemists' shops were first displayed by the Moorish druggists of Arabia and Spain.

Among the Chilians a belief prevails that the juice of onions is a sure cure for typhoid fever if given in its early stages.

On Brazilian railways no baggage is transported free, and a passenger is allowed to take into the carriage a small handbag only.

Emigration in Hungary has assumed unusual dimensions lately. During one month 15,591 passes were issued to emigrants.

The costliest paintings of modern times are Meissonier's "1814" and Millet's "The Angelus," £32,000 was given for "1814" and £30,000 for "The Angelus."

The Rhine has enjoyed a novel sensation from the visit of a flotilla of German torpedo-boats, which the Kaiser sent up the river, in order to show the islanders a sample of the new navy that is costing them such a pretty penny.

Formosa now controls the camphor product of the world. The Japanese annual production has dwindled to 300,000 pounds; the Chinese has never exceeded 220,000 pounds, while the Formosan supply averages 6,000,000 pounds a year.

The body of a Viking, in a wonderful state of preservation, has been dug up in a peat bog at Domendorf, in Schleswig, and placed in the Kiel museum. The hair is red; it is clothed in coarse woollen material, with sandals on the feet. Kiel experts think it was buried 1,500 years ago.

MODERN MISERS.

Men Who Have Become Wealthy Through Soliciting Alms.

A well known millionaire of Vienna is probably the last of the race of champion mean men. He, as the present writer happens to know, spent the best part of his life in storing up sovereigns, and living in one small room, where, to save expense in lighting and feeding, he ate nothing but bread and cheese, without a fire and only a small candle. During the earlier part of his life he stored up his money in old tin-cans, and his sole amusement was to gloat over his hoard of glittering gold.

His parents were professional beggars, and they sent him, before he was ten years old, into the streets to solicit alms. Before he was forty years of age he had accumulated over £12,000 by begging alone. He afterwards opened offices in Vienna as a house and estate speculator, and managed to increase his fortune in five years to £30,000 in cash, and £69,000 in real estate property in Trieste. He then took to speculating on the Stock Exchange, and quadrupled his wealth in a very short time.

His miserliness led him into very serious trouble. Not many years ago he became enamoured of a young widow, and promised to marry her, but broke off the engagement solely to avoid incurring the expense of a wedding. The jilted lady, through her solicitors, threatened to proceed against him for breach of promise, but the wily mean man stayed the proceedings by signing an agreement promising to pay her 3s. 6d. a week. He failed to keep to his agreement, however, and he was summoned for arrears. In the trial of the case he swore on oath that he had never seen the plaintiff before, he had never promised to marry her or any other woman, and had never paid her 3s. 6d. a week. It was proved, however, that all he said was false, and the judge sentenced him to seven years' hard labour for perjury.

Mr. McDonigall, of Islington, who died not very long ago, leaving £35,000, was a genuine miser, and lived like a beggar for the best part of half a century. He spent his summer in the country, sleeping out in the open, and living on wild fruit and whatever he managed to obtain from kind cooks in the country houses. On the approach of winter he returned to his own house in Islington, and lived on bread and cheese till the next spring.

McDonigall never had a fire, and when the weather was bitterly cold he would run up and down the streets to procure warmth for his body. On one occasion he took a ride on a City bus and gave the conductor a half-crown in the belief that it was a penny. He found out his mistake when he counted out his money the same night, and the loss of 2s. 5d. so annoyed him that it is said he actually gave up riding for the rest of his life.

Another champion mean man, residing in Surrey, has been kept by his friends for the past twenty years who have a notion that he will leave them a part of his fortune, which is known to exceed £40,000. One of his most intimate acquaintances discovered to his chagrin, after he had supplied the old miser with gifts of game, meat, groceries, fruit and clothes for five years, that all the goods that were left at his house were disposed of, as soon as they were received, to various dealers, at a good discount off their original prices.

Mr. W—, of Chicago, is perhaps the meanest man alive. Although he is worth £25,000 he lives in an attic, for which he pays 1s. 6d. a week rent, and keeps his body alive by eating mouldy crusts and tainted meat, which he picks up in the streets. His clothing consists of a greasy old coat, a pair of trousers and a cap. He wears no underlinen and his feet are entirely unprotected. Strange to say, his wife is one of the most popular ladies in American society, whose autumn and winter invitations to her colossal mansion are highly prized by the aristocracy. Her husband, during the first years of their marriage, never mixed with his guests, and when entertainments were in progress he shut himself up in the butler's pantry, where, as a set-off to expense, he dined on the servants' food. One day he became so alarmed at his wife's extravagance that he left his house for ever, swearing to live like a beggar for the rest of his days.

A FOOLISH ADMISSION.

Pa, that mean ol' dentist asked me 'f he wuz a-hurtin' me.
Well, sonny, that was kind of him. - Yes, pa, but when I told him "no" he took some bigger nipers an' most pulled m' head off.