

WHY GOOD TEETH MEAN A LONG LIFE By Dr. Woodst-Hutchinson



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FEW things go on to their logical conclusions. Very few prophecies ever come true, and these few by the simple process of predicting a dozen assorted kinds of luck both good and bad, and then claiming whatever happens as a fulfillment of the "slab" that came nearest to it.

This is particularly true of prophecies concerning the future comfort and destiny of humanity, ranging from "ends of the world" without number indefinitely postponed, to the "some bad end" so confidently prophesied for the small rebel of the neighborhood or Sunday school, who fulfills it by becoming a millionaire, a missionary or a Congressman.

At one time we were quite sure that we should gradually be drawn nearer and nearer to the sun, until our elements should be consumed with fervent heat. At another and somewhat soberer period, we were equally confident that, from the steady dissipation of energy and heat already under way, our globe would gradually become colder and colder, until we all froze to death. Barely a decade ago, some of our most beetle-browed scientists were in a state of melancholy certainty that we were wasting our nitrogen, washing it down our rivers and out to sea at such a rate that the raw material of our bread and our beef would soon be gone, and we should all perish by nitrogen starvation. Hitherto, however, just as the relentless laws of our logical and inevitable conclusion were to close upon us, some Deus ex machina, some Perseus or St. George, has suddenly appeared to rescue us from our self-constructed and mathematically proven dragon.

The Wonders Disclosed by Radium.

The marvelous vistas opened up by the discovery of radium gave the sun a new hundred million-year lease of life, and electric methods of getting nitrogen out of the air indefinitely postponed our wheat famine.

Just at present, the dread which, in

the language of the street, is "biting us," is the general decay of human vigor and vitality under the stresses and changed conditions of civilization. While, perhaps, we are most seriously concerned with the alleged grave and fundamental degenerations and crumbings in our internal organs, our "works," so to speak, such as heart, arteries, nervous system, liver and kidneys—yet we give many an anxious thought to the terrible and increasing disrepair of our overhead and surface equipment, such as our thatch and our grinders.

And, upon the fact of it at least, there is no denying that we have real and abundant cause for uneasiness as to the future of these important places on our "map," and as to how it is going to be possible, in Oriental phrase, to save our faces much longer. Moreover, although some of this uneasiness may perhaps prove to be groundless, we do well to be concerned, and it is abundantly worth our time to worry a good deal over the state of our incisors, canines and bicuspidae. Because, not only are they exceedingly important parts of our structure and of vital importance to our health and vigor, to say nothing of our looks, but there is probably no part of the human body at present where greater improvement can be wrought, more important gain in both control and health won, and more returns on the investment reaped, than our teeth and gums.

Whatever be our views as to their natural tendency to decay and disturbance, there is nothing in our body-germ which we have more direct control over, and which we can more choose to make it in point of vigor, purity and wholesomeness, than our mouths and teeth. It is literally and in every sense true that in this twentieth century a man is known by the teeth that he keeps. But what can we do to arrest this terrible decline and fall-out of our ivories, which we are sure is in full career and which threatens

us with reversion to first principles, in the shape of a return to the toothless gums of infancy, with a corresponding died of "apoon victuals."

Can a man by taking thought add a decade to the life of his teeth? In the first place, are we sure that our teeth are going to the bad at such a tremendous rate, hobnobbing down the incline toward the "Pull set \$7.50" bottomless, or rather, toothless pit? Up goes instantly a roar of indignant protest. "Don't I know it? Can't I feel it in my mouth, and see it going on every time I grin at myself in the glass? Did our grandfathers and great-grandfathers ever have such mouthfuls of snags and decay? Not they. They kept every tooth in their heads until they were 90 years old, and often had a second crop at 70!" The evidence for the swiftly progressive decay of our teeth is as convincing and incontestable as that for the brilliancy of the country lawyer whose position and pre-eminence in his profession was being warmly attested by a friend, who, after citing one proof after another, triumphantly wound up with:

Alarming Reports Not So Bad After All

"Why, of course he's the smartest man in the county. He admits it himself!"

When we come, however, to look into the evidence for this rapid and uncheckable crumbling away of our grinders, we find the situation not half as bad as is usually supposed. The supposed inferior condition of our modern teeth is usually based upon several kinds of evidence. First, the superior vigor and beauty of the teeth of the American and savage, second, the sounder and more perfect condition of the teeth in ancient or primitive skulls dug up from various sources. It may be said in passing that one great fallacy underlies all three of these groups of evidence.

"The heart knoweth its own bitterness," and the mouth its own toothaches; and while each one of us is viv-

idly aware and has the keenest of recollections of our own gumblots and "jumping" pulps, we naturally have never been antmata, nor mound-builders, nor Egyptians of the days of the Pharaohs, and know nothing about the griefs that they endured, or the humdrum of thousands of cases that perished in childhood and young adult life from had teeth in famine times, and the infections that spread from them.

Wild Animals Have Better Teeth.

The average condition of teeth in wild animals is probably somewhat better than in those domesticated or kept in captivity, for the simple reason that their teeth are their life, and the moment that their biting efficiency falls more than 10 or 15 per cent below its normal level they go down into a living tomb, which is always lying in wait for them just around the corner. When a wolf or a lion has lost or loosened enough teeth so that he can no longer hold his own in a fight, or hang on to a plunging deer, or an antelope or a buffalo after he has seized it, he is not long for this world. And the same certain and inescapable penalty falls upon the peaceable eaters of grass and roots and nuts, whenever their grinders and coppers and gnawers begin to lose their edge and their grinding power. The average wild animal carries a pretty good and well-sharpened kit of teeth, for the stern and sufficient reason adduced by the hunter why a fox climbed a tree, "because he had to."

Much of the same state of affairs exists when we come to an actual showdown on the much-rhapsodized-over "gleaming ivories" and superb rows of pearly millstones of savages. Probably as a matter of fact, the average adult savage, as we find him, has a stronger and handsomer set of teeth than the average civilized man. Partly because most savages, particularly those belonging to the negroid, American Indian and lower Mongolian races, are of what the anthropologists term the Macrodont, or large-

toothed type, while the civilized race-fall for the most part in the Microdont, or small-toothed group; that is, savages have larger, stronger and more heavily enameled teeth, and longer, heavier jaws, in proportion to the rest of the skull, to correspond, so they make a more imposing tooth display. But the chief reason for the fine condition and appearance of savage teeth is the one already explained in the case of the animals—and that is the necessity of possessing strong and efficient sets of teeth, in order to survive upon a diet of roots, bark, snakes, old caribou, walrus blid, dog harness, animal soles and delicacies of that description, which have to be negotiated in times of famine, which is, under savage economic conditions, at least every other year.

The moment these strong, huge-looking savage teeth are submitted to an endurance test, a large share of their superiority over civilized grinders promptly disappears. For it is the unanimous testimony of army doctors, agency physicians, medical missionaries and all who have established hospitals or dispensaries among the savage tribes, where dental treatment could be given, that there is an abundance of every sort of caries, root abscesses, ulcerations and loose teeth to be found among the finest and healthiest savages, and that after the age of 30 or 35 years their huge ivory crushers erode away and break down even more rapidly than those of civilized races.

Prehistoric Evidence Not Convincing.

The evidence for the decline of modern teeth, which is furnished by an examination of ancient or prehistoric skulls dug up or uncovered in chance excavations, is at first sight rather discouraging. The great majority of those "Alas, poor Yoricks" are remarkably well stocked with teeth in a very fair state of repair. The percentage of missing and defective teeth, on the whole, surprisingly small, ranging from 15 to 25 per cent to as low as 2 per cent. And dental

experts who have examined large collections of these skulls declare that hollow teeth or signs of dental abscesses are less than half as common as they would be in a similar body of adults in a dental clinic today. But the first thing that strikes us about these ancient skulls is that the overwhelming majority of them are of men, and of men in the prime of young adult life; at that—very few women's skulls, and practically no children's skulls at all. This used to be explained on the ground that they were from soldiers killed in some great battle, even though no record or legend had survived of a battle at that spot. But so constant is the overwhelming preponderance of young male skulls in all large collections dug up in the open earth that we are beginning to strongly suspect that we are dealing with a survival of only the strongest and boldest skulls, which would naturally be those of young men. And as the foundation and solidest part of the skull is its jaws, and the jaws depend entirely upon the teeth and waste away when the teeth are lost, the skull which would have the best chance of surviving would be, first of all, the young male adult; second, the young male adult skull which had the best and most perfect set of teeth.

At all events we are entitled to the consolation of knowing that even in this probably highly selected class of skulls, the overwhelming majority of which in any case are adult males in the prime of life, those who have survived the perils of childhood and adolescence and have not yet been decayed by the degeneration of advancing years—even among this group of "champion" skulls, there are to be found every type of dental defect, of abscess, of pulp abscess, of indications showing that the teeth were lost by pyorrhoea, of malpositions and irregularities of the teeth, and of failures of the jaws to grip and grind firmly and evenly on upon the other—technically known as malocclusion—which are known to civilized dentistry. So the difference between ancient and modern teeth shipwreck at best is only one of degree, not of kind.

"But surely," says someone, "what- ever historic conditions may have been, there could be no question that human teeth have been breaking down and decaying at a tremendous rate within the last fifty years." Indeed, that our modern teeth are undergoing such a "galloping consumption" is one of the commonest convictions, not merely of the Mass in the Street, but also of a considerable proportion of dental and medical doctors. But, like a good many other

convictions, the amount of evidence is in almost inverse ratio to the confidence of the conviction. As a matter of fact, we have not sufficient data upon which to base a positive statement, either the one way or the other. We are, not unnaturally, shocked and alarmed to discover that from 50 to 90 per cent of our school children examined show one or more carious teeth, and that from 30 to 50 per cent of our recruits are rejected by the army medical officers on account of lost or decaying teeth.

But, when we lament that things were never half so bad as this in our father's or our grandfather's days, we are going beyond our evidence, because no such examinations were ever made then. The teeth of school children only began to be systematically examined about fifteen or twenty years ago, and until about twenty-five or thirty years ago, no recruiting surgeon's clerk looked at a volunteer's teeth, except just to see that he had enough front teeth to tear open his old-fashioned paper cartridge with. Incidentally, it may be remarked that the great importance now attached to the condition of the teeth in recruits accounts for nine-tenths of the difference between the large number of rejections today and the smaller number fifty years ago.

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Trouble in a Library.

"Teacher! I want a library called 'Bride of Lemon Hill!'" demanded a small citizen just there. "The school teacher, she says I must to have it!" Phyllis thought hard. But she had to search the pinned-up list of required reading for schools for three solid minutes before she bestowed "The Bride of Lammermoor" on a 12-year-old daughter of Hungary.

"This is it, isn't it, honey?" she asked with the flashing smile for which her children, among other things, adored her.

"Yes, ma'am, thank you, teacher," said the 12-year-old gratefully; and went off to a corner, where she sat till closing time, entranced over her own happy choice, "The Adventures of Peter Rabbit," with colored pictures dotting it satisfactorily. The library teacher knew that it was her duty to go over and hypnotize the child into reading something which would lead more directly to Browning and Strindberg. But she didn't.

"Poor little wop!" she thought un- academically, "let her be happy in her own way!"—The Rose Garden Husband.

BRITONS CAMP LE LUXE A Contrast With American Simplicity

IT is always interesting to play the other fellow's game his way and then, in light of experience, to see wherein our way and his way modify each other.

"The above proposition here refers to camping," writes Stewart Edward White in an appendix to his recent book, "The Land of Footprints," published by Doubleday, Page & Co. "We do considerable of it in our country, especially in our North and West. After we have been at it for some time we evolve a method of our own. The basis of that method is to do without; to go light. At first even the best philosophy and rain storms, trials and trails will bring us to an irreducible minimum. A party of three will get along with two pack horses, say; on a harder trip each will carry the necessities on his own back.

"With the ideal deeply ingrained by the test of experience the American camper is appalled by the caravan his British cousins consider necessary for a trip into the African back country. His said friend has, perhaps, very kindly offered to have his outfit ready for him when he arrives. He does arrive to find from 100 to 150 men gathered at his personal attendants.

"Great Scott!" he cries. "I want to go camping; I don't want to invade anybody's territory. Why the army?"

"He discovers that these are porters to carry his effects.

"What effects?" he demands, bewildered. As far as he knows he has two guns, some ammunition, a black tin box, bought in London and half filled with extra clothes, a few medicines, a

thermometer and some little personal knick-knacks.

"I know this seems foolish to you," he says, "but you must remember you are under the equator and you must do things differently here. As long as you keep fit you are safe, but if you get run down a bit you'll go. You've got to do yourself well down here—rather better than you have to in any other climate. You need all the comfort you can get and you want to save yourself all you can."

"This has a reasonable sound, and the American does not yet know the game. Recovering from his first shock, he begins to look things over. There is a double tent, a folding camp chair, folding easy chair, folding table, wash basin, bathtub, cot, mosquito curtains, clothes hangers, there are all carriers, two loads of mysterious cooking utensils and cook camp stuff; there is an open fly, which his friend explains is his dining tent, and there are from a dozen to 20 boxes standing in a row, each with its padlock. I didn't go in for luxury," apologizes the English friend. "Of course we can easily add anything you want, but I remember that you wrote you wanted to travel light."

"What are those?" our American inquires, pointing to the locked boxes.

"He learns that they are chop boxes, containing food and supplies. At this he rises on his hind legs and paws the air.

"Food!" he shrieks. "Why, man alive, I'm alone, and I'm only going to be out three months! I can carry all I'll eat in three months in one of those boxes."

"But the Englishman patiently explains: "You cannot live on 'bacon and

beans' in this country, so to speak. You must do yourself rather well, you know, in bed condition. And you cannot pack food in bags; it must be tinned. And then, of course, such things as your siphons and lime juice require careful packing—and your champagne. 'Champagne!' breathes the American in awe-stricken tones.

"Exactly, dear boy, an absolute necessity. After a touch of sun there's nothing picks you up better than a mouthful of fizz. It's used as a medicine, not a drink, you understand."

"The American reflects again that this is the other fellow's game and that the other fellow has been playing it for some time and he ought to know. But he cannot yet see why 150 men. Again the Englishman explains. There is the headman to run the show. Correct; we need him. Then there are four askaris. What are they? Native soldiers. No, you won't be fighting anything; but they keep the men going and act as sort of sub-foramen in bossing the complicated work. Next is your cook and your valet and that of your horse. Also your two gunbearers.

"Hold on!" cries our friend. "I have only two guns, and I'm going to carry one myself."

"But this, he learns, is quite impossible. It is never done. It is absolutely necessary, in this climate, to avoid all work.

"That makes how many? Ten already; and there seem to be three tent loads, one bed load, one chair and table load, two miscellaneous loads, two cook loads, one personal box and 18 chop

boxes—total 38, plus the staff, as above, 25. Why all the rest of the army? "Very simple; these 38 men have, according to regulation, seven tents and certain personal effects, and they must have 'pottie' or a ration of one-half pound per diem. These things must be carried by mule men.

"I see," murmurs the American, crushed, "and these more men have more tents and more pottie, which must also be carried. It's like the house that Jack built."

"So our American concludes still once again that the other fellow knows his game, and starts out. He learns he has what is called a 'modest safari,' and spares a fleeting wonder as to what a really elaborate safari must be. The procession takes the field. He soon sees the value of the four askaris—the necessity of whom he has secretly doubted. Without their vigorous seconding the headman would have a hard time indeed. Also, when he observes the labor of tent-making, packing, washing and general service performed by his tentboys, he abandons the notion that that individual could just as well take care of a horse, especially as the horse has to have all his grass cut and brought to him. At evening our friend has a hot bath, a long, cool, fizzy drink of lime juice and soda; he puts on the clean clothes laid out for him, assumes soft mosquito boots and sits down to dinner. This is served to him in courses and on enamel ware. Each course has its proper sliced plate and cutlery. He starts with soup, goes down through tinned white cut or other fish, an entree, a roast, perhaps a curry, a sweet



Exciting Moments With the Army's Hules.

and small coffee. He is certainly being 'done well' and he enjoys the comfort of it."

COST OF A SUBMARINE.

Although actual figures, for obvious reasons, are not available, one would be under-estimating rather than over-estimating the cost of the German submarine U-25, which the British Admiralty reports to have been sunk, at \$200,000. This total is based on the fact that, according to a certain official publication, the E-4 of our submarine fleet, which was completed in 1912, cost

\$197,791; and the E class is neither the largest nor the most expensive type of submarine in the fleet today.

According to the admiralty statement, the cost of the "hull, fittings and equipment" of the E-4 was \$26,787. \$79,105 being spent on her propelling and other machinery. In addition to this outlay, there was an item of \$1399 for "incidental charges," which relate to the proportionate costs incurred while the vessel was in the hands of the dockyard authorities being finished off.

When it is remembered that the U-25 was one of the very latest types of submarines, armed with two 14-pounder

guns and two small anti-aircraft guns, with oil engines of about 2000 horsepower, giving her a nominal speed on the surface of 17 to 18 knots, while her radius with oil in the double skin with which she was fitted is believed to have been over 3000 miles, and perhaps as much as 4000, it will readily be understood that the cost of her construction must have been very much more than that of the E-4.—London Times.

By installing electric saws and bolting machinery a Massachusetts ice company eliminated the services of 25 two-horse teams and 40 men formerly used in harvesting its product.