CHILDREN AND PURE CANDY

Some New Opinions Concerning Theory "Sugar is Bad for Us."

SWEETS IMPORTANT PART OF FOOD

The More Sugar a Man Takes at a Meal the Less Whiskey, Beer or Wine He Generally Wants.

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Reason is always trying to play tricks upon instinct, to "teach its grandmother how to suck eggs," as the old saw runs. Instinct is as old as the hills, reason was hatched only yesterday, and has the boundless self-confidence of youth. Its favorite game is to improve upon Nature, sometimes successfully, sometimes not.

One of its latest plays is to solemnly forbid our eating candy, on the ground that "sugar is bad for us." Now, however did it reach that wondrous conclusion? Of course, like the most of us, it won't give its real reason first. We all usually make up our minds to a thing on personal grounds, then proceed to cast about for reasons why we do it which will sound pretty in public. So reason puts on an air of scientific wisdom, and announces that "sugar spoils the appetite." And here it has plenty of supporters. Until within very recent years, the one thing that most food reformers have succeeded in agreeing upon, much as they differ in everything else, is that sugar is "bad medicine" and to be avoided.

But this particular argument against sugar is little better than a sham, for the business of a good food is to spoil the appetite, temporarily at least. If it doesn't we might as well fill ourselves by snuffing up the east wind like the wild ass of scripture.

"Sugar Spoils the Appetite."

The grain of truth in the charge, apart from the property of satisfying the appetite, which it shares with all real foods, is that sugar has a peculiar cloying or satiating quality, which kills the appetite before an adequate amount of nourishment has been eaten. We "loathe the honeycomb" long before we have fuel enough under our boilers to carry us through the run to the next eating station.

But mark how instinct has adapted itself to this peculiarity. In all natural meals and menus sugar and sweets come last on the bill of fare, giving a graceful and pleasing finishing touch and filling in, as it were, the chinks between the coarser and less soluble viands preceding. Let healthy children follow their unspoiled appetites and satisfy their keenest hunger on meat, potatoes and bread and butter, and they may then eat all the sweets and candy they want with which to finish up with perfect safety and distinct benefit. Eaten like this, sugar seldom or never does harm and is a valuable and important addition to the diet. Its quickly cloying action is a safeguard against excessive indulgence.

To young Master Benson's next charge that sugar may "sour the stomach," give rise to fermentative changes, we plead guilty. But side by side with it in this plea must stand all the starches—bread, bisuit, crackers, potatoes, rice, beans, mush, cakes. All these must be looked upon with suspicion, if "liable to ferment" is to be a taboo. As a matter of fact, two-thirds of the abnormal acid fermentation which occur in the food tube are due to starches, and not to sugar at all.

Does Not Injure Digestion.

So far from being less easy of digestion than the starches, every starch taken into the mouth has to be changed to sugar before it can be assimilated. Not cane sugar, of course, but grape sugar, or glucose, an even more easily assimilated substance.

So that the charge against sugar of "souring the stomach" collapses, completely, unless we are prepared to incriminate equally all the starches and most of the fruits. All fruits, even the sourest, contain considerable quantities of sugar.

In short, it is not the sugar that sours the stomach, but the stomach that sours the sugar. Take plenty of exercise, plenty of time at your meals, plenty of sleep, live in a draft, and you can eat all the sugar you want. It will do you good, not harm.

All Fruits Contain Sugar.

The accusation that sugar causes or plays any specially important part in the production of rheumatism, gout or diabetes is not only baseless, but absurd. Its only relation to them is that like any other food, if taken in excess, it may aggravate the symptoms by upsetting the digestion. A more beautiful example of infantile logic than the naïve conclusion that the glucose in the system of the diabetic was due to his having eaten too much sugar could hardly be imagined. It has only two fatal defects in it: First, that such of it as comes from the food comes chiefly from starch. Secondly, that the important part of it doesn't come from the food at all, but from the breaking down and conversion into sugar of the patient's own tissues by this strange disease process. It is precisely inability to absorb sugar and burn it up in his body engine that kills the diabetic. He dies of sugar starvation and its consequences, not of a surfeit of sugar.

Useful Food.

To the final count that sugar is dangerously attractive to the natural man, not to say child, we plead guilty. But why? Simply because the experience of thousands of generations has proved it to be one of our most useful and important foods. That is what "tastes good" means in biological dietetics. Scientists are just beginning to wake up to its true value. A 3-year-old toddler sucking a bit of honeycomb, in the days of the cave-man, knew it already, though he couldn't have spelled it to save his little neck, let alone analyze it.

To the next allegation that it causes decay of the teeth, we set up the same defense. "Not a bit more than the starches." The only way in which either of them can harm the teeth is by souring the stomach, or by overloading the blood with the acid products of defective carbohydrate assimilation. These are at least three times as likely to be caused by starches as sugar. Its direct effect upon the teeth is good, both antiseptic and cleansing. If the teeth are not properly cleansed after sugar or candy has been eaten, as they should be after any meal, fragments of food lodged between the teeth and saturated with sugar furnish a superb culture medium for the bacilli of fermentation and dental decay. Lactic acid is the acid of dental caries serving as an advance guard for the bacteria of decay, and this is readily produced by the fermentation of starch, milk or sugar. Moral: Brush your teeth well after every meal, so as to leave nothing between them to ferment and decay.

"Bogie" About Children's Teeth.

Sugar locally has well marked anti-septic powers, as shown by its universal use in preserving fruits, vegetables and meats. It has even been used as a dressing for wounds with excellent results, except that it is decidedly irritating. That is why it burns and aches so when it gets into a hollow tooth. Indeed, this aching and the fact that the temporary, or "milk" teeth are naturally loosening and apt to decay about the time the child's appetite for sugar is keenest are the chief bases for the ridiculous superstition that "sugar makes the teeth decay." It is one of the bogies of the nursery.

It Gives Strength.

The most recent physiological researches upon muscular action show that most of the energy which moves our bodies comes from the burning of sugar in our muscle cells, and the food which will most rapidly relieve the sense of fatigue and start the body machine going again in a few lumps of pure sugar. No other food that we can take is so rapidly absorbed with so little effort or gives off its contained energy so quickly for the use of the body. We can eat and utilize sugar when we are too tired to digest anything else. As a "pick me up" it is better than alcohol and far cheaper. This is why every diet that the wit of man has devised contains sugar. Children and savages of course crave it eagerly. All animals try to get it in some form. Even wolves, foxes, bears, badgers, raccoons and wild cats will drink out of the sap troughs in sugar groves, and eat greedily of raspberries, cherries, grapes and melons in season. The hunters and trappers of our American frontier would put a box of matches, a small bag of salt and a cake of maple sugar inside their buckskin shirts and set off for a month's trip. Indian tribes would season their stews and hashes of meat with maple sugar, as we would with salt and pepper.

Today the most utterly, matter-of-fact, bolted down, unsentimental diet on the face of the earth, the German army emergency ration, after thousands of trials, contains several ounces of sugar in the form of chocolate tablets. The other ingredients are bacon and pea meal. A package of this compound small enough to be readily carried in the knapsack will keep a soldier in marching trim for four days. No other ingredients of the bulk will fill the bill.

Do Without Pie.

In short, sugar is, after meat, bread and butter, easily our next most important and necessary food. You can put the matter to a test very easily. Just leave off the pie, pudding or other deserts at your lunch or midday dinner. You'll be astonished to find how quickly you'll feel "empty" again and how "unfinished" the meal will seem. You can't get any working man to accept a dinner pail without pie in it. And he's absolutely right. The only thing that can take the place of sugar here is beer or wine. It is a significant fact that the free lunch counters run in connection with bars furnish every imaginable thing except sweets. Even the restaurants and lunch grills attached to saloons or bars often refuse to serve deserts of any sort. They know their business! The more sugar and sweets a man takes at a meal the less alcohol he wants. Conversely, nearly every drinking man will tell you that he has lost his taste for sweets. The more candy a nation consumes the less alcohol.

Uncle Sam Buys Candy.

The United States government buys pure candy by the ton and ships it to the Philippines to be sold at cost to the soldiers in the canteens. All men crave it in the tropics and the more they get of it the less "vino" and whisky they want.

In fine, the prejudice against sugar is born of puritanism and stinginess, equal parts. Whatever children cry for must be bad for them, according to the pure doctrine of original sin; besides, it costs money. I know families in the rural districts yet where the head of the family groans over every dollar's worth of sugar that comes into the house as a sinful and "unwholesome" luxury.

Give children plenty of pure sugar, taffy and butterscotch and they'll have little need of cod-liver oil. The only check to be imposed is to keep them from eating it at the beginning of, or as a substitute for, a meal. Like any other food, they may eat more of it than is good for them, if not watched; but they simply won't thrive without it in some form. And if the children of larger growth would "pamper their appetites" a little more, make more careful study of flavors and qualities, they'd spend far less on stimulants, narcotics and medicines. The man that keeps his boyhood taste for cakes, pies and candies isn't half so likely to crave alcohol to excess. The warden of a great penitentiary once said that if a prisoner could still relish apple pie, there was hope for him. Perchance it is the candy habit that saves women from drink.

Buy Candy for Christmas.

So don't be afraid of the Christmas and birthday candies, the fruit cake, or even the mince pie. They're readily assimilable, polysaccharid, carbohydrates of high calorific co-efficient. If they hurt you, it will be your fault, not theirs.

In the main, what has been said of sugar applies to candy, since sugar is its principal ingredient. Its position, however, differs in two respects; in that it contains other things besides sugar, and that it is eaten not only at or after meals, as a food, but also apart from meals, as a pure luxury or means of enjoyment. It is, therefore, the most generally abused form of sugar in two senses. Most of the denunciations hurled against it are utterly unfounded. It is, when pure, a readily digestible food of high nutritive value. A box of chocolates will sustain life and strength longer than almost anything else of the same weight and bulk, except pure fat. There is nothing positively injurious about it, and much that is beneficial. Its only danger of any consequence lies in its attractiveness, which allurds to excess.

Another popular impression which I believe to be largely unfounded is that candy is particularly subject to dangerous adulteration. Of course, it is often adulterated, but not a particle more frequently than any other prepared food. Nor are its adulterations, in my judgment, as apt to be as dangerous as those of such ordinary articles as butter, cheese, preserves and canned goods. In fact, candy is practically protected against adulteration in a somewhat unexpected way; namely by the necessity of its tasting sweet.

No Substitute for Sugar.

Now, there is, fortunately, no other substance which has this property in a sufficiently high degree to deceive the dullest palate except sugar. There is nothing that the wit of man has been able to invent which will even respectably imitate it. Those chemical preparation which taste sweet, like glycerine of saccharine, are instantly detected by their disagreeable burning taste, and besides, they are much more expensive. With glucose at 2½ cents a pound, it is simply absurd to attempt to adulterate candy, so far as two-thirds to nine-tenths of its bulk and all its sweetness are concerned, and in so far as candy is made of sugar, it is good and wholesome. For sugar is one of the few things which is practically never bad. It neither ferments nor spoils with keeping, nor turns moldy, nor sours on heating. In fact, it preserves itself just as it does everything else which is put into a strong solution of it, from strawberries to ham.

Substitution is Dishonest.

Almost the only adulteration possible is a substitution of glucose for cane sugar. This, of course, is dishonest, as substituting a cheaper substance for a more expensive one, and the sweetening power of glucose is not so great as that of cane sugar, nor its flavor so pleasant. It is apt to leave a scurvy taste in the mouth, which shuts it out of all but the cheaper candies, but from a hygienic point of view there is little to object to in the substitution.

Glucose, or grape sugar, is not only just as wholesome as grape sugar, but, as a matter of fact, all cane sugar taken into the body has to be converted into it by the digestive juices before it can be absorbed. As all starches, as we have already seen, have to undergo the same change (technically known as hydration; the addition of one molecule of water to the starch molecule), it can readily be seen that grape sugar is one of the chief natural foods of the body.

Beet sugar, by the way, is the same form of sugar as cane sugar (saccharose), with only a few minor differences, such as not being so intensely sweet, and crystallizing and whitening more perfectly.

Poison in Extracts.

As to the other materials that enter into candy, their name is legion, and one can deal only in the broadest generalities in regard to them. Roughly speaking, they may be divided into three classes: those that are added for their physical properties to give a certain consistency, such as cream or a paste, coloring matters and flavoring extracts.

Contrary to popular impression, it is in the first class that the danger lies. Though many of the flavoring extracts, for instance, would be poisonous if taken in large doses, they are used in such minute quantities that the danger from them is comparatively slight. A terrible bugbear has been made out of the fact that some of them are the products of the distillation of sawdust, rags, coal tar and heaven only knows what other unsavory substances. But while this is true, curiously enough, many of these ethers, esters and aldehydes are almost absolutely identical with the chemical compounds which give to fruits and flowers the flavors and odors which we prize so highly. I need not remind any practical cook that the flavors ordinarily used in the higher artistic combinations of the kitchen, such as almond, vanilla and many forms of lemon extract, are poisonous if used in excess.

Custards and Creams Impure.

Candies are not a particle more dangerous than custards, puddings or creams. These artificial extracts are so exceedingly cheap that they may be used in a larger amount than necessary—for good measure, so to speak—but this can easily be avoided by the exercise of a little common sense, especially that commonest but most important sense, the sense of smell, and letting rank-flavored candies alone.

High flavors in both candies and cookery are danger signals and should raise a suspicion of what they may conceal in the way of offensive odors from poor or spoiled materials. A few cheap candies that are made with spoiled eggs, poor gelatine of rancid butter are "doped" with these pungent flavors to conceal the fact.

The same may be said of the coloring matters. These, in the better class of candies, are usually harmless animal or vegetable matters, the component of which are cochineal, derived from an insect which grows upon the wild fig, and saffron. All shades of red, brown and yellow can be derived from these, but blues and greens cannot, which accounts for the much greater rarity of these latter colors in candy.

Colors Used on Candy.

Infusions of green vegetables like spinach or lettuce were once used, but coloring extracts manufactured by firms making a specialty of their production are now almost exclusively relied upon.

Horrifying as it may sound, aniline dyes are extensively used, especially in the production of those patriotic stripes which rejoice the youthful eye, but expert chemist after chemist has analyzed this "peluted" candy, buying the samples at random in the open market, only to find the dyes present in such infinitesimal amounts as to be entirely devoid of danger. This brings us to the one inherent source of danger in candies—namely, the materials used to give body to it. These are chiefly white of egg, cream or milk, gelatine, starch, butter and natural gums, like those of the mallow or tragacanth, or the pulp of quince seeds.

Most of these are in themselves, not only entirely harmless, but digestible, and even add to the nutritiousness of the compound, such as the butter or taffy in butterscotch, and the milk or white of eggs in cream. The only objection to these is the fact that unless they are well mixed with sugar they are likely to spoil, and in fact, it is the rancid butter and cream, or spoiled eggs chemically treated, or poor quality of gelatine, which are used in cream paste or caramels by some unscrupulous makers that are the chief danger of eating candy.

Other Materials Used.

The better the cream or caramel, however, the less of these extraneous materials of any quality are used. An expert candy cook can produce almost any desired consistency with pure sugar, by regulating the temperature, the length of boiling and the amount of water. Occasionally small amounts of cream of tartar or glucose are added to "break the grain" and prevent "setting" or hardening.

Here, however, it is a question of the honesty of the maker and knowing the brand of the candy that you are eating. The better known makers of candy are usually scrupulously particular in this regard, and here, as everywhere else in the food market, it never pays to buy cheap stuff. If you do you are exceedingly liable to be cheated or to be ptomaine poisoned. The risks run are not a particle greater than those braved by eating pies, puddings, cakes, or any other articles of food whose pedigree you are not absolutely sure of.

At its worst, candy is not half so dangerous as hash, soup out of a stock pot, bread pudding, or any other of the sacred mysteries wrought out of stale and decaying odds and ends, which are worshiped by many model housekeepers. The substitution of starch for butter or cream to give body to the cheaper creams and pastes, while very disagreeable, is absolutely harmless, and like the use of rancid butter, or even cheaper fats, such as suet and lard, will promptly reveal itself to the unblunted palate. In fact, candy is peculiarly protected from many adulterations and dangers by the very delicacy and purity of the flavor demanded of it.

All Dangers Passed.

At one time arsenic was said to be used to give the green color to the cheaper grades of candy, but it was never common, and has passed out of use entirely since the introduction of aniline dyes.

To sum up, candy when eaten in moderate amounts and toward the close, or shortly after, a meal, is a harmless and often beneficial addition to our diet. The risks from its adulterations are small, probably less than in any other elaborately prepared food. Its danger lies in its attractiveness and power to kill the appetite before a sufficient amount of itself or other food has been absorbed.

While a liking for it is perfectly natural and wholesome, an excessive craving is generally a sign of disease. Those young ladies who are said to live chiefly upon candy and pickles do not owe their pallor to the candy they eat, but to some definite morbid condition, most generally based upon a lack of proper exercise in the open air or of sufficient sleep. This should be corrected by proper hygienic or medical means, and then their normal appetite for more substantial foods will return. Failing this, it is perfectly idle to try to cut off their supply of candy. They had better eat that than nothing, which will be their choice until their normal condition is restored.

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