



Life wasn't always  
as sweet as it is today.

BY LAUREN TARSHIS





How have attitudes about sugar changed since the 1800s?

**I**t was 1847, and for months, Oliver Chase had been tinkering with a brand-new invention that would change America—and the world.

Chase was a pharmacist; he sold medicines out of his small shop in Boston. Like most pharmacists of the time, Chase made his own **remedies**. His most popular were lozenges, small discs made of mashed-up herbs, chemicals, and other ingredients. People bought lozenges hoping to relieve their sore throats, aching heads, and runny noses—though in truth, the lozenges didn't work very well. On top of that, they tasted disgusting, like dirt mixed with grass. To make them more **palatable**, most were covered with a hard candy shell.

# 35 MILLION POUNDS

**the amount of candy corn made each year**  
(That's about 9 billion pieces—enough to circle the moon 20 times.)\*

Making lozenges was time-consuming. Each one had to be shaped by hand like a tiny cookie. So Chase invented a hand-cranked machine that would let him quickly create large batches of lozenges that were all the same size and thickness. He was thrilled with his amazing lozenge machine. But it was his next idea that would make him famous: Why not use his new invention to create lozenges that were *just* candy?

Back in the early 1800s, candy was popular in Europe but extremely expensive in America. Only a few kinds were available—clumps of tooth-busting rock candy, sticks of homemade peppermint, and sticky lemon drops—and even those were hard to find. Kids who craved sweets had to settle for dried fruits or puddings sweetened with a cheap syrup called molasses.

But Oliver Chase was about to help put candy into the mouth of

almost any American who wanted it. He named his new candies—hard, quarter-sized sugar wafers sold in stacks—Chase Lozenges. They were an immediate hit.

## Sweet Treats for All

Chase's lozenge-making machine was soon being sold across the country. For the first time, American candymakers could produce sweet treats in large quantities and sell them cheaply in stores.

Suddenly you didn't have to be rich to afford a rope of tangy red licorice or a mouthwatering buttercream. Stores sold dozens of varieties of “penny candies” displayed in glass jars.

As the decades passed, steam-powered candy machines replaced Chase's hand-cranked roller. Companies competed fiercely to introduce new flavors and textures—chewy jelly beans, waxy candy corn (known back then as “chicken feed”), gooey caramels, fluffy marshmallows. Candymakers even sent spies to Europe to steal secret candy recipes and **smuggle** them back to America.

The biggest candy breakthrough came in 1899, when a Pennsylvania candymaker named Milton Hershey figured out how to turn chalky and bitter cocoa into creamy milk chocolate bars. His Hershey's Kisses and Bars became bestsellers.

LAURA EISENBERG/GETTY IMAGES

# Candy for Dinner

**I**magine you're a kid living in America in 1920, and your parents are too busy to cook dinner. Instead, they serve you something they are sure is just as healthy as chicken and vegetables: a chocolate bar. Sounds a little crazy now, but as recently as the 1940s, many Americans believed that candy was as nutritious as an entire meal. Today, we understand that some foods are better for us than others. You probably know that the oatmeal and fruit you wisely ate for breakfast were packed with vitamins and other nutrients. You probably know as well that those chewy candies stashed in your drawer are little more than sugar. Even little kids understand that eating too much sugar is unhealthy.

Back in the early 1900s, the science of nutrition—the study of how foods affect the body—was new. People knew that food provided energy, but the

importance of vitamins was not well understood. Many scientists believed that candy was just as healthful as steak and potatoes or fish and broccoli. Candy companies wanted people to believe this too. Ads for Milky Way suggested that each bar contained a glass of milk (not true). There was even a popular candy bar called Chicken Dinner (which, thankfully, did not contain chicken).

Today, we know the dangers of eating too much sugar. We also have laws that prohibit companies from creating advertisements that lie about products. We still love candy, of course. But most of us understand it's best left for dessert. ●



## Candy Classics

By the 1920s, Americans could choose from thousands of different kinds of candies of every size, texture, and flavor. Many classic chocolate bars and candies introduced nearly a century ago are still beloved today, including Milky Way, Milk Duds, Tootsie Roll, and the world's current No. 1-selling candy bar, Snickers.

Far fewer kinds of candy are sold today than were sold during candy's “golden age” in the 1920s and 1930s. But Americans still devour

\$33.6 billion worth a year.

Candymakers have continued to dream up new kinds of candies to surprise and delight us. In the early 1980s, the first gummy bears invaded America from Germany. Around the same time, candy scientists combined sugar with malic acid to create super-sour, mouth-puckering candies like Warheads. Today, chocolates are mixed with exotic flavors, like cayenne pepper and açai [ah-sah-EE] berry.

And Chase Lozenges?



Oliver Chase and his candymaking machine. His creations eventually became known as Necco Wafers.



America's first machine-made candies survive, though their name was changed to Necco Wafers. They are still made in Boston, at a factory not far from the pharmacy where they were invented. In 2009, the makers of Necco Wafers decided to make them healthier. They removed the chemical flavorings and colors.

Big mistake! Loyal customers were furious. Sales dropped 35 percent, and the company decided to return to the original formula. So today, if you bite into a crunchy Necco Wafer, you are tasting candy history. ●

Turn to read a shocking sugar story!

# This Cupcake Is Trying to Hurt You

You may never look at sweets the same way again.

By Kristin Lewis and Lauren Tarshis



**I** imagine that you are a cupcake—an enormous cupcake, as big as a softball with a gooey crown of sweet frosting and, for good measure, a crunchy crust of crumbled Oreos.

You are *delicious*.

Now imagine that you are about to be eaten by a kid. Let's call him Sam. (Don't be scared. It won't hurt.) Sam is very nice. He deserves a treat.

Too bad you are going to wreck Sam's day.

Even worse, when Sam gets a little older, you are going to play a role in making him very sick.

Sam *should* be running away from you as fast as he can, but right now, you seem very . . . sweet. So Sam sinks his teeth into you, flavor exploding on his tongue.

He gobbles you up and brushes the crumbs from his T-shirt.

Yum!

At first, Sam feels amazing. Then it comes: the sugar rush. Suddenly Sam is running around his house with a crazed grin on his face. Stop, Sam! You'll break something! Calm down!

And Sam does calm down. He calms way, way, waaaaay down. Now he looks like a deflated balloon, collapsed on the couch in the midst of a sugar crash.

Poor Sam. Look what you did to him!

What you just witnessed in your brief time as a cupcake is how sugar affects the human body: a complex biological process involving at least six organs

plus an army of chemicals that the body has to pump out to manage large doses of sugar.

Now, eating a big fat cupcake every once in a while isn't going to hurt anyone. But having too many cupcakes—and cans of soda and bottles of sports drinks and cartons of sugary yogurt and many other sugary foods—leads to problems far worse than a sugar crash. Large quantities of sugar have a powerful and damaging impact on the body. And today's kids and teens are consuming *very* large quantities of the sweet stuff—a staggering 19 teaspoons of added sugar a day, on average. That's about three times too much, experts say. (Ideally, a teen should consume no more than 6 teaspoons per day.)

So why is sugar so bad?

## Terrifying Diseases

When you chug down a huge bottle of soda or demolish a bag of candy, you send a giant dose of fructose straight to your liver. (Fructose is a form of sugar found in almost any sweetener, including white sugar, honey, and high-fructose corn syrup.) Some of that fructose gets converted to fat, which can **accumulate** in your liver. "Over the long term, sugar can cause scarring and cirrhosis, a liver disease that never goes away," says Robert Lustig, a pediatrician at the University of California, San Francisco.

New studies have linked high-sugar diets to a host of other health issues—cancer, heart disease, Type 2 diabetes, obesity, high blood pressure, and stroke. Sugar may also contribute to depression, tiredness, and learning and memory issues (not so great on the day of a big test). Decades ago, these were diseases that affected mostly adults. Now, they are striking an increasing number of adolescents and even children.

## Why You Have a Sweet Tooth

If sugar is so dangerous, why do we crave it?

Scientists have a multitude of theories to explain

why humans have a sweet tooth. One theory is that people like sweet things because the first thing most of us taste—our mother's milk—is sweet. Another theory is that a fondness for sweetness helped early humans: Sweet-tasting foods like berries, plums, and grapes provided them with the energy they needed to survive.

It wasn't until the late 1800s, however, that most humans were able to satisfy their craving for sweetness with pure sugar. Before then, sugar was a **luxury** that only the very rich could afford to bake into their cakes or spoon into their tea.

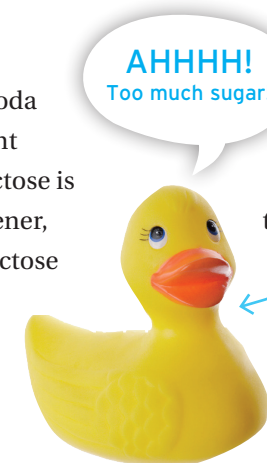
In 1801, the average American was eating roughly 8 pounds of sugar a year. Today, the average American eats about 130 pounds of sugar a year, according to some estimates. That's enough to fill a giant bathtub!

## A Nation of Soda Guzzlers

The roots of today's sugar crisis go back to around 1980, when some experts decided that the major threat to our health was not sugar but fat. Food companies responded by introducing fat-free and low-fat versions of a **plethora** of foods, from cookies and cakes to cheeses and yogurts. But removing fat from food robs it of flavor and texture (think: cookies that taste like wet cardboard). Adding sugar improves the taste—and that's why a low-fat food typically has more sugar than the regular version.

But perhaps more troubling than our embrace of low-fat, high-sugar foods is the amount of soda Americans guzzle. We drink twice as much as we did in 1970. Dozens more kinds of sodas—as well as sugary juices and sports drinks—are available today than when your parents were your age.

Most of these drinks contain more sugar than you should get in an entire day. For example, a 20-ounce soda contains a whopping 13 teaspoons of sugar. And sugary drinks are said to contribute to 25,000 deaths a year in the United States.



ROBERT CLARK/INSTITUTE

SHUTTERSTOCK



# WHERE DOES THE SUGAR HIDE?

Inside the foods we eat

9

TEASPOONS

Blueberry Muffin



+

10

TEASPOONS

Orange Juice



+

13

TEASPOONS

Soda



1.5

TEASPOONS

Granola Bar



+

4

TEASPOONS

PB&J Sandwich



+

5

TEASPOONS

Flavored Yogurt



5

TEASPOONS

Sports Drink



+

1.5

TEASPOONS

Hamburger



+

1

TEASPOON

Salad with Fat-Free Dressing



**TOTAL: 50 teaspoons of sugar!**

AMOUNTS ARE BASED ON THE SUGAR CONTENT OF POPULAR BRANDS. SOME VARIETIES MAY HAVE MORE OR LESS SUGAR. ALWAYS CHECK INGREDIENT LABELS.

## So Now What?

The good news is that the solution to the sugar crisis is simple: We all need to eat less sugar. But cutting out sugar isn't exactly easy. Studies suggest that sugar can be addictive. What's more, sugar is often "hidden" in foods. (See above.) Take a look at that cup of apple sauce in your backpack. You may not see "sugar" on the list of ingredients. But what about high-fructose corn syrup? Sucrose? Glucose? Anything else that ends

in -ose? Those are all forms of sugar.

To cut down on how much sugar you eat, experts say, start with small changes. Choose water over soda, an orange over an orange-flavored drink. Look at nutrition labels to see how many grams of sugar foods contain per serving. (Four grams equals one teaspoon.) Make enough of these smart decisions, and over time, you may find yourself sleeping better, concentrating more in school, and feeling more energetic. Sweet! ●

## WRITING CONTEST

How have our ideas about sweets changed since the days of Chase's lozenges? Answer this question in a short essay. Support your ideas with information from "When Candy Conquered America" and "This Cupcake Is Trying to Hurt You." You may also draw on photos, captions, and sidebars. Send your essay to **SUGAR CONTEST**. Five winners will each get *Sugar* by Jewell Parker Rhodes. See page 2 for details.

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ACTIVITY  
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