Q: What inspired you to write a book about the history of artificial sweeteners?
A: I grew up in the 1980s in a house with a lot of substitutes. We had Egg Beaters, I Can’t Believe It’s Not Butter!, No Salt, Crystal Light, and Diet Pepsi. I really don’t remember having butter, except in restaurants, until I was in college. So a big part of it is autobiographical: I wanted to know where these products came from, and how people like my mom—who was always watching her weight—had come to think of them as healthy options. And, of course, what impact this way of eating, which was entirely new really, has had on us as Americans. It is odd, when you stop and think about it, that “diet” and “low fat” became mantras for good health, especially considering that all of these products relied on chemicals made in a lab, most of which had not even existed just decades before. I thought there must be more to the story than “diet foods” make “diet people”—especially since these healthy substitutes rose in sales in a way that pretty much parallels the rise in what some people call the “obesity epidemic” that’s occurred in the last few decades in the U.S. Of course, when I actually sat down to do a history of all those substitutes, I found each history (fat, salt, egg, and sugar) extraordinarily complex, and pretty unknown. So I started with the first, and most popular substitute, artificial sweetener. After finding little about them in what’s been written about food, I decided that fifty years was long enough to wait for a history of these things, and I’d write it myself.

Q: What was the first artificial sweetener in America, and why was it created?
A: The first artificial sweetener, anywhere, was saccharin. It was created in the 1870s in the lab of Johns Hopkins University by two researchers who were working on coal tar derivatives. Its usefulness for sweetening was not discovered until one of the researchers went to smoke a cigarette and found, after touching the tip, that it was sweet. Interestingly, even as it became a substitute for sugar in the late nineteenth century, it wasn’t the low calories that manufacturers, or consumers, found attractive. In fact, consumers at first didn’t even know that there was saccharin (not sugar) in their sodas. For manufacturers there was one simple reason to prefer saccharin: it was cheaper than sugar.
Q: According to Empty Pleasures, artificial sweeteners were first viewed as dangerous additives to foods. Why did people feel that way, and what changed their minds?
A: Part of the problem was how most people were introduced to saccharin. It turned out that a number of carbonated beverage manufacturers had begun to replace sugar with saccharin in their drinks at the turn of the century. Saccharin was cheaper than sugar—it’s so much sweeter that only a little bit is needed in a drink. It was also more reliable. Saccharin was made in a lab, but sugar came from Cuba and sites in the Caribbean where its price fluctuated. When reformers during the Progressive Era brought this to people’s attention—along with the other “cheap” substitutions being used—many Americans were angry. But, they weren’t just angry because they hadn’t known about the switch, or because saccharin was cheaper. They actually wanted sugar in their drinks. It may seem strange from our perspective, but sugar was, in a lot of ways, a health food. It was inexpensive and provided a lot of carbohydrates. So, whereas sugar was seen as a positive, something you wanted in your soda, saccharin was seen only as a negative.

Q: You include a lot of illustrations from advertising campaigns in the book. What role do you think these visuals played in the adoption of artificial sweeteners?
A: Many women started to use artificial sweeteners before they were advertised—mostly as a way to find alternatives to rationed sugar during World War II. This is what I find interesting about the early history of sweeteners—artificial sweeteners had several meanings for consumers. In the 1940s and 1950s saccharin was a substitute for sugar for those who couldn’t find it, but it was also something different from sugar. For women who bore the burden of providing sugared foods for their family, saccharin offered a chance to make sweetness something that was precious, and something that emphasized themselves. Saccharin most commonly came as tablets that could be dumped from unattractive medicine bottles into jeweled containers that were meant for display. Using little tongs, women drew out the pills and placed them in coffee and tea, and passed it back and forth between themselves at social gatherings. Here was a chance to enjoy a sweet that was not meant for kids, not meant for husbands—not meant for anyone except the woman herself. This is not to say that the few calories didn’t have something to do with their attractiveness (after all, many Americans have been ‘dieting’ since at least the 1920s), but that wasn’t the whole story.

In the 1950s and 1960s we saw the rise of the first mass-marketed saccharin (and now cyclamate) sweetened foods. Diet fruit companies were the first to market, followed by diet soda and desserts. By the late 1960s there was even Weight Watchers Magazine where consumers could learn about all kinds of sweet foods that could simultaneously bring pleasure and cut calories (thereby eliminating weight). Here, advertisements were critical—whether they were pretty pictures of calorie-free desserts in women’s sections of newspapers, grocery store shelf displays showing thin women on cans of peaches or the full glossy pages of Weight Watchers—these images helped Americans equate these sweeteners with glamour and thinness. The fact that little scientific data actually bore out
any long term connection between sweetener consumption and weight loss and maintenance did little to slow the proliferation of the “diet” ads aimed specifically at women that were everywhere—especially with the arrival of the better-tasting aspartame (Nutrasweet) in the early 1980s.

Q: People tend to think of women when they think of dieters and consumers of low-calorie foods. Have women been the main consumers of these goods? What role have men played in the history of low-calorie foods?
A: Women have been the main, but by no means exclusive, consumers of artificially sweetened foods. Some of this has to do with the way products first came to market: in the 1950s and 1960s it was, primarily, women—and mainly white women, in fact—who purchased diet products in the U.S. Later, especially with the arrival of NutraSweet and the proliferation of “great tasting” low-calorie products (as they were promoted), artificial sweetener was marketed to men more heavily as well. Today’s most popular artificial sweetener, sucralose (Splenda), markets specifically to children even by featuring healthy “family recipes” and promoting its capacity to be used in baking.

On the other hand, men had a huge role in the development and marketing of sweeteners. It was men—chemists and salesmen within pharmaceutical companies and technologists within food and beverage companies—that first developed artificially sweetened foods before there was a clear and consistent market demand. The first two artificial sweeteners, saccharin and cyclamates, were developed by accident (in the 1870s and 1930s). This meant that men had to find something to do with them. This sparked innovation within the chemical/pharmaceutical companies and encouraged the men who worked there to develop new partnerships with men in food and beverage companies in order to get this low-calorie sweetener into foods that consumers could, and would, buy on the supermarket shelves (and that would be allowed by government regulators). These partnerships offered prestige to men within both industries, especially within fruit canning where this level of innovation was not normally a part of day-to-day operations. However, they also exposed many of the men to tremendous business risks considering that these were uncertain chemicals that the FDA often threatened to regulate or ban altogether. Without these early innovating men, it is unlikely that artificial sweeteners would have gone from being “bad chemicals” to “healthy foods” so quickly in the minds of American consumers in the twentieth century.

Q: How did artificial sweeteners change the way people approached healthy eating and weight loss during the 20th century?
A: Before artificial sweeteners there was no way to eat sweet foods without taking in calories. This may sound obvious, but the arrival of artificial sweeteners and the “low-calorie” dessert or soda was, in fact, a revolution. If you look at diets in the 1930s, for instance, they mostly focused on calorie reduction and doing without. Even as late as the early 1960s, after artificial sweeteners were on the market, diet promotors urged women who wanted to lose weight to eat asparagus, or grapefruits, or other such “reducing” foods.

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Artificial sweetener as a product changed the equation between restraint and calorie intake. Because they had few calories—and eventually no calories—there was no reason to do without sweets. One could lose weight—so the argument went—by consuming. Weight Watchers took this to another level in the 1970s by creating a full line of foods sweetened by saccharin, along with other substitutions, that were then declared “legal” for eating by adherents. In a lot of ways this was a good thing; it made dieting easier for people, and offered a technique for losing and maintaining lower weights while still eating the kids of foods that the industry was increasingly producing faster, cheaper, and sweeter. Yet, at the same time, the rise of an artificial sweetener industry that depended on the continued sale of artificially sweetened foods actually provided a reason to ensure that more and more Americans were on diets—continuously. Women’s magazines and diet clubs increasingly featured ads for “diet” desserts and “indulgent” sodas that told women they could not control their ingestive urges and so had to eat and drink “diet” to be satisfied (and thin). At the same time, the Calorie Control Council (CCC) a group of artificial sweetener manufacturers and users, advocated for positive media coverage of sweeteners and assisted in promoting the scientific studies—typically paid for by artificial sweetener companies—that showed that sweeteners were good, and sugar, of course bad. The sugar industry did the same. All of this produced a host of conflicting data in the 1970s and 1980s (that continues today) about what sweets are good and what are bad. It’s easy to find legions of people who believe that artificial sweetener poses serious health risks, and it’s easy to find others who say the same about sugar. At the same time, thanks to the CCC, people opened up women’s and family magazines to find regular spreads on “healthy, low-calorie” eating options (often produced and provided by the artificial sweetener industry). Within this environment it was, and is, difficult to know what healthy choices are, and perhaps easy to follow the lead of these very powerful industries who urge us to believe that thinness (and health) can be achieved by the continued consumption of products that contain sweeteners.

There is, in fact, still no definitive research to let us know if sweeteners do facilitate long-term weight loss. Or if they are somehow—perhaps through the heightened exposure to sweetness they facilitate—responsible for weight gain.

As a cultural historian, it’s not really my place to assess the physiological impact of sweeteners. What I can say, definitely, is that sweeteners have allowed us to de-couple restraint from “diet,” dramatically, in a very short period of time. What used to mean, literally, doing without, now means a certain kind of food or beverage that I am going to consume. This allows us to pursue health while moving vast amounts of food and beverage through our bodies. But it is a change that Americans of a century ago would have found odd, indeed.

Q: Can you talk a bit about the concept of “indulgent restraint”?
A: For me, indulgent restraint is what we partake in when we order Diet Coke instead of regular because we want to be healthy. Artificial sweeteners are everywhere now. Take a
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look, next time you are in the store, at the “no sugar” or “low-calorie” salad dressings, puddings, and yogurts. You’ll undoubtedly find sucralose or aspartame in 90% of them. We’ve created this entirely new category of foods that promise to allow us to intake food and drink “just for the taste of it”—without actually generating usable energy for our bodies. Not only can we now eat and drink when we don’t need to—so, explicitly not to take in calories—with impunity, but such products are offered as a leading means of taking weight off our bodies. We ingest in order to lose. This is a very different relationship to sweetness than nature intended.

This practice of indulgent restraint is necessary, in fact, to support the massive food industry we created in the twentieth century. When the American middle class dramatically expanded its consumption of stuff after World War II, it took in more food—along with the houses, furniture, clothes, toys, electronics and private automobiles. When you look closely at the experience of affluent Americans after World War II, you can see their struggle to stay thin in the midst of ubiquitous food. One marketer in the 1960s even had a name for this: “prosperity stomach.” Artificially sweetened products allowed consumers to negotiate these competing demands of health and consumption, and it allowed marketers and producers to move even more food into American shopping carts and off grocery shelves (Coke becomes Diet Coke too). In this sense, artificially sweetened foods functioned as a kind of eating credit—one could consume more, in material, than one could actually “buy” through physical absorption.

Q: In your book you discuss a series of sugar substitutes, like saccharin, cyclamates, and NutraSweet. Is there a pattern in the way that artificial sweetener brands go in and out of favor?
A: Some people, even today, swear that saccharin is the best artificial sweetener. And Tab has a cult following (and is now even on the shelves again in many grocery stores). There are also many people who swear that cyclamates were the best artificial sweeteners, and get them through the Internet or on trips outside of the U.S. (they were banned in 1969). So it’s not possible to say that everyone always likes the newest artificial sweetener the best. But the majority of people do use the latest sweetener, in this case sucralose (Splenda). In the 1980s it was aspartame (NutraSweet) that was all the rage.

Some of this can be explained simply: artificial sweeteners have gotten better. You can bake easily with sucralose, a major improvement over saccharin and aspartame, the two other main options on the market. Aspartame had very little bitter aftertaste, unlike saccharin which has a taste that some describe as metallic. As a result, aspartame and sucralose can sweeten foods and beverages without added sugars—so this also makes those sweeteners capable of creating “calorie free” products whereas saccharin-sweetened products are usually low (but not zero) calories.

But, not all of it is due to simple taste preference. It also matters that companies that
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develop artificial sweetener make substantial investments in studies that prove their superiority to previous forms of sweetening (be it sugar or artificial sweeteners). Advertisements for sweeteners have often pitted the new version favorably against the old. In the mid 1980s, for instance, Diet Pepsi launched a major campaign against Diet Coke by highlighting, in advertisements, the Diet Coke label that said they used saccharin while touting their own inclusion of 100% NutraSweet. This was, of course, encouraged by the NutraSweet company and a major part of their branding strategy. By painting the old sweetener (saccharin) in an unfavorable light, and thereby those who used it as well, they drew more manufacturers over to NutraSweet. So we have a long history of preferring the latest sweetener, and even being somewhat uneasy about the “old” sweetener as somehow inferior or even unsafe. But a lot of this may be more due to clever marketing than an actual improvement in either product taste or safety.

Q: How did the development of artificial sweeteners relate to other technological or scientific advances in the 20th century?
A: Artificial sweeteners emerged in that same era when it seemed that there was no limit to the modern conveniences that technology could bring to American lives. Along with plastics, cleaning products, disposable diapers, and frozen foods, artificial sweeteners were part of an array of new innovations that promised we could have more and do less. Early artificial sweetener advertisements often stressed that these were scientific innovations and tools for “modern” eating.

Q: What was the most surprising thing you discovered about the development of the artificial sweetener industry in America?
A: The most surprising thing I found was that millions of Americans fought to keep saccharin-sweetened products on the market in 1977. I knew something about this, but had no idea of the scope of this event that I call “the saccharin rebellion” in the book. One veteran congresswoman, in fact, said it was the single-most protested issue in her decades-long career in congress. I find that fascinating, especially since her career spanned Civil Rights legislation, the Vietnam conflict, and Watergate. When I went through the letters that people sent to the Food and Drug Administration, it was clear that they wanted the right to face the minor risk that saccharin might pose because it was worth it. Many make comparisons between their polluted water, cigarette smoke in the air, and even the drunk drivers who threaten their lives on the highways. Some share their struggles with weight, with health, and with life. I hadn’t realized that saccharin was a means for people to get recognition, and to challenge the government. For many of these people with limited political power, fighting for saccharin was a way to fight for their values, and sometimes even their bodies, to be visible to lawmakers. I have to imagine that when they eventually won, and saccharin stayed on the market, that must have created tremendous product loyalty for artificial sweetener uses.

Q: What do you think is the future of artificial sweeteners in America?
A: They’re not going to go away. Nor do I think they should, necessarily. But I do think [more]

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that artificial sweeteners will change, dramatically, in the next ten years. I would guess that they will become less artificial, in general. Studies show that a high percentage of Americans think that artificial sweeteners are not healthy—they may not know why they think this (much of it, in fact, is based on unproven claims about cancer risks), but they do. So there’s an opportunity for sweeteners to emerge, as Stevia has, that aren’t calorie-free, but are in fact “from nature” (Stevia is made from a root). It also may be that with today’s consumers, being calorie-free isn’t the most important thing—perhaps sustainability, taste, and even local production might be more important than the removal of every last calorie from our sweet treats.

I also think artificial sweeteners will have to be more honest. I talk in the conclusion of the book about how these companies have been suing each other for years over competing claims that their products are “natural” or “just like nature.” Many people do think that sucralose, for instance, is what is left over when you remove the calories from sugar. This isn’t true. Because information is so easy to find now through social media, and because younger people, especially, tend to care more about local ingredients and real foods than did people a generation ago, low calorie sweeteners may change quite a bit in form, and marketing, in the coming years.

That said, I don’t think we’re going to ever get rid of low-calorie foods and beverages. As I argue in the book, these things are necessary in order to counterbalance our culture where we are swimming in messages to buy, eat, drink, and be happy. It’s just not possible to dispose of all the food we produce and market as a society without forms of “dietary credit” like artificial sweeteners. And to produce less of that food would take a major revolution in our food system. Not that it couldn’t happen, but it would certainly take a huge push back from consumers.

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