YOUNG READERS EDITION

The Omnivore's Dilemma

THE SECRETS BEHIND WHAT YOU EAT

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Fat from Corn

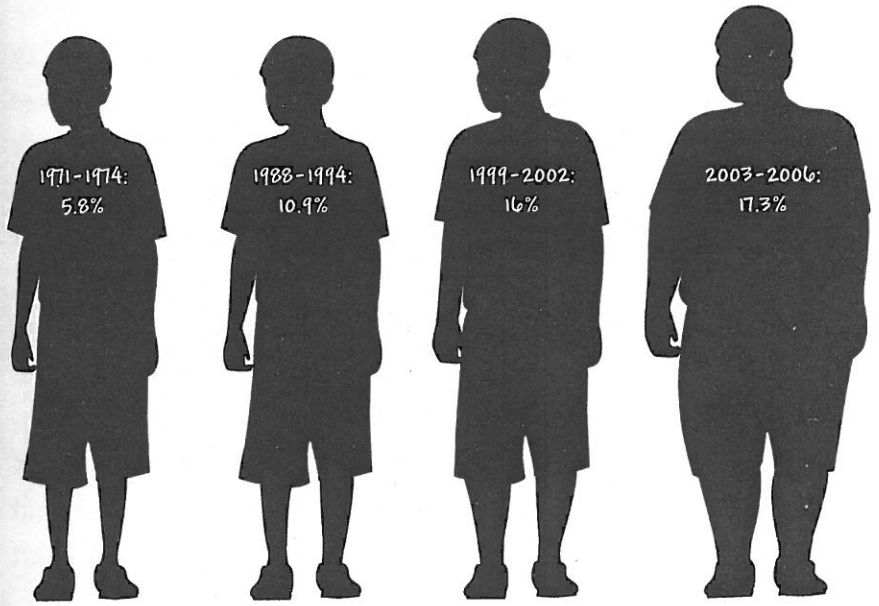
CAN YOU EAT MORE, PLEASE? PART II

So food companies have been very successful at getting us to pay more for the same food. What about their other money-making scheme, to get us to buy (and eat) more food than we need? How has that worked out? Well, let's see . . .

Three of every five Americans are overweight; one of every five is obese. Among kids, it's almost as bad. Seventeen percent of kids age six through nineteen are obese. This is a giant public health problem, costing the health care system an estimated $90 billion a year. The disease formerly known as adult-onset diabetes has had to be renamed Type II diabetes since it now occurs so frequently in children, and the Centers for Disease Control estimates that one in three American children born in 2000 will develop it. Diabetes can mean blindness, amputation, and early death. Because of diabetes and all the other health problems caused by obesity, kids in the U.S. today may turn out to be the first group of Americans with life spans that are shorter than their parents'. To put it simply, Americans are getting fatter and it's killing us.

CHILDHOOD OBESITY ON THE RISE

National Health and Nutrition Examination survey results from 1976 to 2006 show an alarming increase in the percentage of obese children ages 6–19.



Sources: Journal of the American Medical Association and the Centers for Disease Control and Prevention.

You hear plenty of explanations for our expanding waistline. We sit all day at desks in school or at work, then sit around all night watching television. We play video games instead of sports. Fast-food advertising encourages us to eat supersized meals. It is actually cheaper to eat high-calorie, fatty, processed foods than whole foods. All these explanations are true, but they don't tell the whole story.

EXTRA CALORIES

Behind our epidemic of obesity lies this simple fact: When food is abundant and cheap, people will eat more of it. Since 1977,

A LOT OF SYRUP

Every year approximately 500 million bushels of corn are turned into high-fructose corn syrup. One bushel of corn yields 33 pounds of HFCS. That makes more than 16 billion pounds of HFCS a year—about the same weight as 1.5 million elephants.

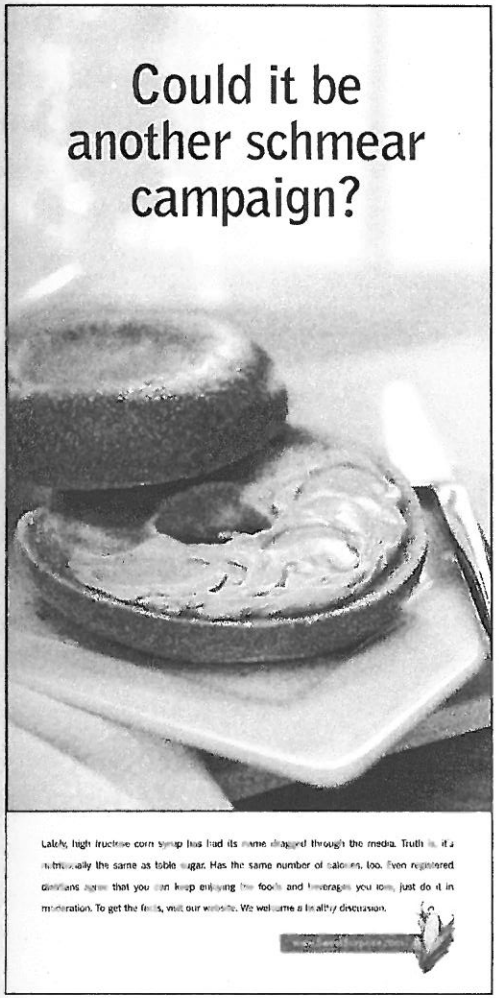
an American's average daily intake of calories has jumped by more than 10 percent. Since we aren't exercising more, the calories end up being stored away in fat cells in our bodies. Where did all those cheap calories come from? If you've read this far, you already know the answer—most of them come from cheap corn.

Since 1970, farmers in the United States have managed to produce 500 additional calories per person every day. (The average person needs about 2,000 calories a day, but that number varies greatly depending on your age, size, and amount of exercise.) Where are those extra calories going? Some are sold overseas. Some are turned into ethanol for our cars. But a lot of them are going into us.

An awful lot of those extra corn calories are being eaten as high-fructose corn syrup. Not surprisingly, HFCS is the leading source of sweetness in our diet.

A SWEET DEAL

In 1985, the average American consumed 45 pounds of HFCS a year. In 2006, it was 58 pounds. You might think that it has replaced other sweeteners in the American diet, but that isn't so. In addition to the extra HFCS, Americans are eating more old-fashioned cane sugar too. In fact, since 1985 our consumption of all sugars—cane, beet, HFCS, glucose, honey, maple syrup, whatever—has climbed from 126 pounds to 139 pounds per person. That's what makes HFCS such a



Lately the companies that make HFCS have been fighting back. Their trade group, the Corn Refiners Association, has been running ads on television and in newspaper suggesting that corn syrup has been unfairly criticized, and that it is no worse for us than sugar. They may be right about that, but the problem with HFCS is not that it is worse for us than sugar, but that it is everywhere in the food supply—in products that never used to be sweetened at all.

"sweet deal" for the food industry since we like sweet things, adding it to our food increases the amount we eat.

Read the food labels in your kitchen and you'll find that HFCS is everywhere. It's not just in our soft drinks and snack foods, but in the ketchup and mustard, the breads and cereals, the relishes and crackers, the hot dogs and hams.

But it is in soft drinks that we consume most of our fifty-eight pounds of high-fructose corn syrup. We can trace this back to

the year 1980—an important year in the history of corn. That was the year corn first became an ingredient in Coca-Cola. By 1984, Coca-Cola and Pepsi had switched over entirely from sugar to high-fructose corn syrup. Why? Because HFCS was a few cents cheaper than sugar and consumers couldn't taste the difference.

The soft drink makers could have just switched one sugar for another. That would not have led us to drink more. But that wasn't all they did. They began to increase the size of a bottle of soda.

HFCS was so cheap that Pepsi and Coke could have cut the price of each bottle they sold. But they had a much better idea: They would supersize their sodas. Since corn sweetener was now so cheap, why not get people to pay just a few pennies more for a bigger bottle? Drop the price per ounce, but sell a lot more ounces.

Did you ever see an old-fashioned Coke bottle, from around 1950? It looks tiny, because it only held eight ounces. Today the standard size of a Coke or Pepsi is twenty ounces.

SUPERSIZE!

Soda makers don't deserve credit for the invention of supersizing. That belongs to a man named David Wallerstein. In the 1950s Wallerstein worked for a chain of movie theaters in Texas. Movie theaters make most of their profits from their snack counters, not from ticket sales. It was Wallerstein's job to figure out how to sell more soda and popcorn. Wallerstein tried everything he could think of but found he simply could not get customers to buy more than one soda and one bag of popcorn. He thought he knew why: Going for seconds makes people feel piggish.

Wallerstein discovered that people would buy more popcorn and soda—a lot more—as long as it came in a single giant serving. Thus was born the two-quart bucket of popcorn and the sixty-four-ounce Big Gulp. In 1968, Wallerstein went to work for McDonald's, but try as he might, he couldn't convince Ray Kroc, the company's founder, to try supersizing.

"If people want more fries," Kroc told him, "they can buy two bags." Wallerstein explained that McDonald's customers wanted more but didn't want to buy a second bag. "They don't want to look like gluttons."

Finally Kroc gave in and approved supersized portions, and what followed was a dramatic rise in sales. People had been holding back

SUPERSIZED SERVINGS*

Calories in a serving of McDonald's french fries

1960—**200**

1970—**320**

Mid-1990s—**450**

Late 1990s—**540**

2001—**610**

2009—**500**

Although McDonald's ceased to call their servings "supersized" in 2004, a large soda is still at a hefty 32 oz.—that's about 310 calories, 16 percent of an average person's recommended daily calories. 7-Eleven convenience stores still offer a 64-oz. Double Gulp, which weighs in at an incredible 800 calories. So after two and half Double Gulps, you've consumed a entire day's worth of calories in sweet, liquefied corn.

*based on calories in

because they didn't want to seem greedy. Now Wallerstein and McDonald's had figured out a way to make them feel okay about eating more. After all, it was still just one serving, even if it was twice the size. They had discovered the secret to expanding the (supposedly) fixed human stomach.

One might think that people would stop eating and drinking these huge portions as soon as they felt full, but it turns out hunger doesn't work that way. Researchers have found that people (and animals) will eat up to 30 percent more if they are given larger portions. Our eating habits were formed over millions of years of evolution. Early humans, who lived by hunting and gathering, didn't always have enough food. Our bodies tell us to eat more when we have the chance, because hunger might be just around the corner. The problem is that with the mountain of cheap corn, hunger never comes (at least not for most Americans).

In the same way, our built-in instincts tell us to eat lots of sugar and fat. Humans, like most other warm-blooded creatures, have a built-in sweet tooth. The taste of sweet or fat tells our body we're eating an energy-rich food. Our instinct is to eat as much as we can, in case we can't find food tomorrow. Yet in nature we would never find a fruit with anywhere near the amount of fructose in a soda. We would never find a piece of animal flesh with as much fat as a chicken nugget.

You begin to see why processing foods is such a good way of getting people to eat more. The fast-food chains have been able to build foods that push our evolutionary buttons. Huge amounts of sweets and fats fool our instincts and we wind up eating much more than we should. Animal experiments prove this is so. Rats presented with solutions of pure sugar or tubs of pure lard will gorge themselves sick.

CHEAP FAT

Surprisingly, the health problems of eating too much hit poor people hardest. That's because if you count the calories, foods loaded with sugar and fat are the cheapest foods in the market. A recent study showed this was true. In a typical supermarket, one dollar could buy 1,200 calories of potato chips and cookies. The same dollar could only buy 250 calories of carrots and other whole vegetables.

On the beverage aisle, you can buy 875 calories of soda for a dollar. But a dollar will only buy you 170 calories of fruit juice from concentrate. These numbers show why people with limited money to spend on food spend it on the cheapest calories they can find. It makes even more sense when you realize that those cheap calories reward our instincts for fat and sugar.

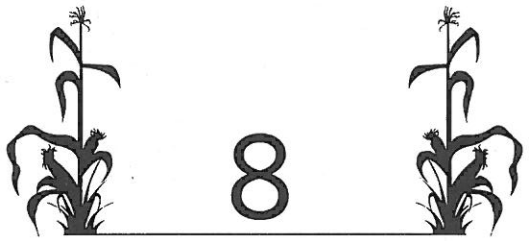
King Corn shoved the other plants and animals off the farm. Now it is winning out in the supermarket too. It is so cheap and comes in so many different forms, the other foods just can't compete.

As we have seen, it has had a lot of help. The U.S. government (spending taxpayer dollars) helps pay farmers to grow corn and soybeans, but not to grow carrots. That means the government helped pay for your soft drink or cookies, but it won't help pay for green vegetables. One part of the government puts out food pyramids telling you to eat more fruits and vegetables and fewer sweets. Meanwhile another part of the government is making it cheaper for you to eat more sweets. The government says it wants you to eat healthy, then it makes sure that the cheapest calories in the supermarket are the unhealthiest. Talk about mixed messages!

The processed food industry has brought us corn in a thou-

sand different forms. It's given us cheap corn sweeteners and hundreds of extra calories a day. It's managed to confuse our instincts, to get us to eat more food than we need. All of this is part of a bigger problem, and not a new problem either. It's the problem of figuring out what we should and shouldn't eat.

It boils down to this: As creatures who can eat many different things, how do we know what's good to eat and what's not? That's the omnivore's dilemma and it's growing bigger every day.



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The Omnivore's Dilemma

IS THAT FOOD?

For some animals, there is no dilemma at dinnertime. The koala eats eucalyptus leaves. Period. To the koala, eucalyptus leaves=food. The monarch butterfly only eats milkweed. There's no choice to make. Everything else in nature is not food.

The koala gets all the nutrients it needs from eucalyptus leaves. The monarch gets everything it needs from milkweed leaves. But, unlike koalas and monarch butterflies, omnivores not only can eat different foods, we *need* to eat a variety of foods to stay healthy. For example,

OMNIVORE, CARNIVORE, HERBIVORE

Human beings are omnivores. *Omne* in Latin means all or everything. *Vore* comes from the Latin *vorare*, which means to eat or devour.

Carnivores, like lions and sharks, eat only meat. *Carne* is Latin for meat.

Herbivores, like cows, eat only plants. *Herbe* in Latin means grass or green plant.