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Michael Pollan: Don't Eat Anything That Doesn't Rot

By [Amy Goodman](#), [Democracy Now!](#). Posted [March 8, 2008](#).

Consumers are getting duped by the food industry, paying the price with their health.

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journalist Michael Pollan argues that what most Americans are consuming today is not food but "edible foodlike substances." His previous book, *The Omnivore's Dilemma: A Natural History of Four Meals*, was named one of 2006's ten best books by the *New York Times* and the *Washington Post*. His latest book is called *In Defense of Food: An Eater's Manifesto*.

Amy Goodman: "You are what to eat." Or so the saying goes. In American culture, healthy food is a national preoccupation. But then, why are Americans becoming less healthy and more overweight?

Michael Pollan joined me for a wide-ranging conversation about nutrition, food science and the current American diet. I began by asking him why he feels he has to defend food.

Michael Pollan: Food's under attack from two quarters. It's under attack from the food industry, which is taking, you know, perfectly good whole foods and tricking them up into highly processed edible foodlike substances, and from nutritional science, which has over the years convinced us that we shouldn't be paying attention to food, it's really the nutrients that matter. And they're trying to replace foods with antioxidants, you know, cholesterol, saturated fat, omega-3s, and that whole way of looking at food as a collection of nutrients, I think, is very destructive.

Goodman: Shouldn't people be concerned, for example, about cholesterol?

Pollan: No. Cholesterol in the diet is actually only very mildly related to cholesterol in the blood. It was a -- that was a scientific error, basically. We were sold a bill of goods that we should really worry about the cholesterol in our food, basically because cholesterol is one of the few things we could measure that was linked to heart

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disease, so there was this kind of obsessive focus on cholesterol. But, you know, the egg has been rehabilitated. You know, the egg is very high in cholesterol, and now we're told it's actually a perfectly good, healthy food. So there's only a very tangential relationship between the cholesterol you eat and the cholesterol levels in your blood.

Goodman: How is it that the food we eat now, it takes time to read the ingredients?

Pollan: Yeah.

Goodman: You actually have to stop and spend time and perhaps put on glasses or figure out how to pronounce words you have never heard of.

Pollan: Yeah, it's a literary scientific experience now going shopping in the supermarket, because basically the food has gotten more complex. It's -- for the food industry -- see, to understand the economics of the food industry, you can't really make money selling things like, oh, oatmeal, you know, plain rolled oats. And if you go to the store, you can buy a pound of oats, organic oats, for 79 cents. There's no money in that, because it doesn't have any brand identification. It's a commodity, and the prices of commodity are constantly falling over time.

So you make money by processing it, adding value to it. So you take those oats, and you turn them into Cheerios, and then you can charge four bucks for that 79 cents -- and actually even less than that, a few pennies of oats. And then after a few years, Cheerios become a commodity. You know, everyone's ripping off your little circles. And so, you have to move to the next thing, which are like cereal bars. And now there's cereal straws, you know, that your kids are supposed to suck milk through, and then they eat the straw. It's made out of the cereal material. It's extruded.

So, you see, every level of further complication gives you some

intellectual property, a product no one else has, and the ability to charge a whole lot more for these very cheap raw ingredients. And as you make the food more complicated, you need all these chemicals to make it last, to make it taste good, to make -- and because, you know, food really isn't designed to last a year on the shelf in a supermarket. And so, it takes a lot of chemistry to make that happen.

Goodman: I was a whole grain baker in Maine, and I would consider the coup to be to get our whole grain organic breads in the schools of Maine for the kids, but we just couldn't compete with Wonder Bread which could stay on the shelf -- I don't know if it was a year.

Pollan: That's amazing.

Goodman: Ours, after a few days, of course, would get moldy, because it was alive.

Pollan: Right. And, in fact, one of my tips is, don't eat any food that's incapable of rotting. If the food can't rot eventually, there's something wrong.

Goodman: What is nutritionism?

Pollan: Nutritionism is the prevailing ideology in the whole world of food. And it's not a science. It is an ideology. And like most ideologies, it is a set of assumptions about how the world works that we're totally unaware of. And nutritionism, there's a few fundamental tenets to it. One is that food is a collection of nutrients, that basically the sum of -- you know, food is the sum of the nutrients it contains. The other is that since the nutrient is the key unit and, as ordinary people, we can't see or taste or feel nutrients, we need experts to help us design our foods and tell us how to eat.

Another assumption of nutritionism is that you can measure these nutrients and you know what they're doing, that we know what cholesterol is and what it does in our body or what an antioxidant is.

And that's a dubious proposition.

And the last premise of nutritionism is that the whole point of eating is to advance your physical health and that that's what we go to the store for, that's what we're buying. And that's also a very dubious idea. If you go around the world, people eat for a great many reasons besides, you know, the medicinal reason. I mean, they eat for pleasure, they eat for community and family and identity and all these things. But we've put that aside with this obsession with nutrition.

And I basically think it's a pernicious ideology. I mean, I don't think it's really helping us. If there was a trade-off, if looking at food this way made us so much healthier, great. But in fact, since we've been looking at food this way, our health has gotten worse and worse.

Goodman: Let's talk about the diseases of Western civilization.

Pollan: The Western diseases, which -- they were named that about a hundred years ago by a medical doctor named Denis Burkitt, an Englishman, who noted that there -- after the Western diet comes to these countries where he had spent a lot of time in Africa and Asia, a series of Western diseases followed, very predictably: obesity, diabetes, heart disease and a specific set of cancers. And he said, well, they must have this common origin, because we keep seeing this pattern.

And we've known this for a hundred years, that if you eat this Western diet, which is defined basically as -- I mean, we all know what the Western diet is, but to reiterate it, it's lots of processed food, lots of refined grain and pure sugar, lots of red meat and processed meats, very little whole grains, very little fresh fruits and vegetables. That's the Western diet -- it's the fast-food diet -- that we know it leads to those diseases. About 80 percent of heart disease, at least as much Type II diabetes, 33 to 40 percent cancers all come out of eating that way, and we know this. And the odd thing is that it doesn't seem to discomfort us that much.

Goodman: Talk about coming from another culture and coming here. When you specifically talk about sugar, refined wheat, what actually happens in the body?

Pollan: Well, that's where you see it most directly. When populations that have not been exposed to this kind of food for a long time -- we've seen it with Pacific Islanders, if you go to Hawaii, we've seen it with Mexican immigrants coming to America -- these are the people who have the most trouble with this diet, and they get fat very quickly and get diabetes very quickly. You know, we hear about this epidemic of diabetes, but it's very much of a class and ethnically based phenomenon, and Hispanics have much more trouble with it. And the reason or the hypothesis is that, culturally and physically, they haven't been dealing with a lot of refined grain, whereas in Europe, we've been dealing with refined grain for a couple hundred years.

Goodman: And what does refined wheat do?

Pollan: Well, what happens is, when you -- there was a key invention around the 1860s, which is we developed these steel rollers and porcelain rollers that could grind wheat and corn and other grains really fine and eliminate the germ and the bran. And the reason we wanted to do that was we loved it as white as possible. It would last longer. The rats had less interest in it, because it had less nutrients in it. And also you get a kind of a real strong hit of glucose. I mean, basically it digests much quicker, as soon as it hits the tongue. I mean, everyone has -- you know, if you've ever tasted Wonder Bread, you know how sweet it is. The reason it's sweet is it's so highly refined that as soon as your saliva hits it, it turns to sugar.

Whole grains have a whole lot of other nutrients. You know, it once was possible to live by bread alone, because a whole grain loaf of bread has all sorts of other nutrients. It has omega-3s, it has, you know, lots of B vitamins. And we remove those when we refine grain. And it's kind of odd and maladaptive that refined grain should

be so prestigious since it's so unhealthy. But we've always liked it, and one of the reasons is it stores longer.

Goodman: "Eat food. Not too much. Mostly plants." Talk about the funding of nutrition science.

Pollan: Well, nutrition science is very compromised by industry. Organizations like the American Dietetic Association take sponsorship from companies who are eager to find -- you know, be able to make health claims. Not all nutrition science. And there are very large, important studies that are, you know, published -- that are supported by the government and are as good as any other medical studies in terms of their cleanness. But there is a lot of corporate nutrition science that's done for the express purpose of developing health claims. This science reliably finds health benefits for whatever is being studied. You take a pomegranate to one of these scientists, and they will tell you that it will cure cancer and erectile dysfunction. You take, you know, any kind of food that you want. And now, it's not surprising, because food is good for you, and that all plants have antioxidants.

Goodman: Explain what an antioxidant is.

Pollan: Well, an antioxidant is a chemical compound that plants produce, really to protect themselves from free radicals of oxygen that are generated during photosynthesis. They absorb these kind of mischievous oxygen radicals, molecules, atoms, and disarm them. And as we age, we produce a lot of these oxygen radicals, and they're implicated in aging and cancer. So antioxidants are a way to kind of quiet that response, and they have health benefits. They also help you detoxify your body.

So -- but my point is kind of, you don't need to know what an antioxidant is to have the benefit of an antioxidant. You know, we've been benefiting from them for thousands of years without really having to worry what they are. They're in whole foods, and it's one

of the reasons whole foods are good for you. And there are not that much in processed foods.

Goodman: Isn't it odd that the more you put into foods -- so that's processing fruits -- the less expensive is? The simpler you keep it, getting whole foods in this day and age in this country, it's extremely expensive.

Pollan: Yeah. Well, there are reasons of policy that that is the case. You're absolutely right. Most processed foods are made from these very cheap raw ingredients. I mean, they're basically corn, soy and wheat. And if you look at all those very-hard-to-pronounce ingredients on the back of that processed food, those are fractions of corn, and some petroleum, but a lot of corn, soy and wheat. And the industry's preferred mode of doing business is to take the cheapest raw materials and create complicated foodstuffs from them.

The reason those raw ingredients are so cheap, though, is because these are precisely the ones that the government chooses to support, the subsidies -- you know, the big \$26 billion for corn and soy and wheat and rice. So it's no accident that these should be the ones, you know, grown abundantly and cheap, and that's one of the reasons the industry moved down this path. There was such a surfeit of cheap corn and soy that the food scientists got to work turning it into --

Goodman: In fact, getting away totally from sugar to corn syrup.

Pollan: Yeah, that's right. And we don't -- yeah, there's very little sugar in our processed food. It's all high-fructose corn syrup, which, in effect, the government is subsidizing.

Goodman: Cottonseed oil, is it regulated by the FDA? Is it considered a food, even though it's in so many of the processed foods we eat? I was wondering, because -- to do with the pesticide that is in it that if it's considered -- if it's done for cotton, it doesn't matter how much pesticide there is. But if it's for food, it does

matter. And it's in so much to keep it right, stable for so long on the shelf.

Pollan: That's right. And it's a food I would avoid. I mean, you know, humans have not been eating cotton for most of their history. They've been wearing it. And now we're eating it. And you're right, it receives an enormous amount of pesticide as a crop. How many residues are in the oil? I don't really know the answer, but it has been approved by the FDA as a foodstuff. And -- but it's one of these novel oils that I'm inclined to stay away with. I mean, my basic philosophy of eating is, you know, if your great-grandmother wasn't familiar with it, you probably want to stay away from it.

Goodman: Talk about -- well, you started with a *New York Times* piece called "Unhappy Meals," and in it -- and you expand on this in *In Defense of Food* -- you talk about the McGovern report, 1977, what, 20 years ago.

Pollan: Well, that's really, I think, one of the red letter days in the rise of nutritionism as a way of thinking about food. It was a very interesting moment. McGovern convened this set of hearings to look at the American diet, and there was a great deal of concern about heart disease at the time. We had -- we were having -- you know, after a falloff during the war in heart disease, there was a big spike in the '50s and '60s, and scientists were busy trying to figure out what was going on and very worried about it. McGovern convened these hearings, took a lot of testimony, and then came out with a set of guidelines. And he said -- he implicated red meat, basically, in this problem. And he said we're getting -- we're eating too much red meat, and the advice of the government became -- the official advice -- eat less red meat. And he said as much. Now, that was a very controversial message. The meat industry, in fact the whole food industry, went crazy, and they came down on him like a ton of bricks. You can't tell people to eat less of anything.

Goodman: As Oprah learned when she said she won't eat hamburgers.

Pollan: Exactly. This is just a taboo topic in America. So McGovern had to beat this hasty retreat, and he rewrote the guidelines to say, choose meats that will lessen your saturated fat intake, something nobody understood at all and was much to the -- and that was acceptable. But you see the transition. It's very interesting. We've been talking about whole food -- eat less red meat, which probably was good advice -- to this very complicated construct -- eat meats that have less of this nutrient. It's still an affirmative message -- eat more, which is fine with industry, just eat a little differently. And suddenly, the focus was on saturated fat, as if we knew that that was the nutrient in the red meat that was the problem. And in fact, it may not be. I mean, there are other things going on in red meat, we're learning, that may be the problem.

Goodman: Like?

Pollan: Well, some people think it's the protein in red meat. Some people think it's the nitrosamines, these various compounds that are produced when you cook red meat. We see a correlation between high red meat consumption and higher rates of cancer and heart disease. But, again, we don't know exactly what the cause is, but it may not be saturated fat.

Goodman: And then the political economy of, for example, eating meat?

Pollan: Well, that -- because of that -- I mean, that's why McGovern lost in 1980. I mean, the beef lobby went after him, and they tossed him out. And so -- but from then on, anyone who would pronounce on the American diet understood you had to speak in this very obscure language of nutrients. You could talk about saturated fat, you could talk about antioxidants, but you cannot talk about whole foods. So that is the kind of official language in which we discuss nutrition.

Conveniently, it's very confusing to the average consumer.

Conveniently to the industry, they love talk about nutrients, because they can always -- with processed foods, unlike whole foods, you can redesign it. You can just reduce the saturated fat, you know, up the antioxidants. You can jiggle it in a way you can't change broccoli. You know, broccoli is going to be broccoli. But a processed food can always have more of the good stuff and less of the bad stuff. So the industry loves nutritionism for that reason.

Goodman: So, for people who don't have much money, how do they eat? I mean, when you're talking about whole foods, they have to be prepared, and if you don't have much time, as well, processed foods are cheaper and they're faster.

Pollan: Well, processed foods -- you know, fast food seems cheap. I mean, if you have the time and the inclination to cook, you can eat more cheaply. But you do -- as you say, you do need the time, and you do need the skills to cook. There is no way around the fact that given the way our food policies are set up, such that whole foods are expensive and getting more expensive and processed foods tend to be cheaper -- I mean, if you go into the supermarket, the cheapest calories are added fat and added sugar from processed food, and the more expensive calories are over in the produce section. And we have to change policy in order to adjust that.

Goodman: How do you do that?

Pollan: You need a farm bill that basically evens the playing field and is not driving down the price of high-fructose corn syrup, so that, you know, real fruit juice can compete with it. You need a farm bill that makes carrots competitive with Wonder Bread. And we don't have that, and we didn't get it this time around.

Goodman: Do you feel like any candidates are addressing this issue?

Pollan: No, because they all pass through Iowa, and they all bow down before conventional agricultural policy. In office, I think that, you know, there have been -- Hillary Clinton has had some very

positive food policies, basically because she has this big farm constituency upstate, and she's very interested in school lunch and farm-to-school programs and things like that. John Edwards has said some progressive things about feedlot agriculture and what's wrong with that, while he was in Iowa.

Goodman: Explain feedlots.

Pollan: Feedlots are where we grow our meat, in these huge factory farms that have become really the scourge of landscapes in places like Iowa and Missouri, I mean these giant pig confinement operations that basically collect manure in huge lagoons that leak when it rains and smell for miles around. I mean, they're just, you know, miserable places. And they're becoming a political issue in the Midwest. And I think they will become a political issue nationally, because people are very concerned about the status of the animals in these places. My worry is, though, that when we start regulating these feedlots, they'll move to Mexico.

Goodman: [What is the] "Omnivore's Dilemma?"

Pollan: "The Omnivore's Dilemma" is, if you're a creature like us that can eat almost anything -- I mean, unlike cows that only eat grass or koala bears that only eat eucalyptus leaves -- we can eat a great many different things, and meat and vegetables, but it's complicated. We don't have instincts to tell us exactly what to eat, so we have -- we need a lot of other cognitive equipment to navigate what is a very treacherous food landscape, because there -- as there was in the jungle and in nature, there are poisons out there that could kill us. So we had to learn what was safe and what wasn't, and we had this thing called culture that told us, like that mushroom there, somebody ate it last week and they died, so let's call it the "death cap," and that way we'll remember that that's one to stay away from. And, you know, so culture is how we navigate this.

We are once again in a treacherous food landscape, when there are

many things in the supermarket that are not good for you. How do we learn now to navigate that landscape? And that's what this book was an effort to do, was come up with some rules of thumb. And so, you know, I say eat food, which sounds really simple, but of course there's a lot of edible food-like substances in the supermarket that aren't really food. So how do you tell them apart?

Goodman: You talk about shopping the periphery of the supermarket?

Pollan: Yeah. Well, that was one rule that I found really helpful. And if you look at the layout of the average supermarket, the fresh whole foods are always on the edge. So you get produce and meat and fish and dairy products. And those are the foods that, you know, your grandmother would recognize as foods. They haven't changed that much. All the processed foods, the really bad stuff that is going to get you in trouble with all the refined grain and the additives and the high-fructose corn syrup, those are all in the middle. And so, if you stay out of the middle and get most of your food on the edges, you're going to do a lot better.

Goodman: What is the localvore movement?

Pollan: The localvore movement is a real new emphasis on eating locally, eating food from what's called your foodshed. It's a metaphor based on a watershed. You know, a certain -- draw a circle of a hundred miles around your community and try to eat everything from there. It's an interesting movement, and I'm very supportive of local food. I think that it's verging on the ridiculous right now -- I mean, you know, because, frankly, there's no wheat produced in a hundred miles of New York. You know, do you want to give up bread? I'm not willing to give up bread. So people get a little extremist about it.

But the basic idea of when products are available locally, eating them and eating food in season, is a very powerful and important idea. It supports a great many values. The fact is that food that's

produced locally is going to be fresher. It's going to be more nutritious because it's fresher. You're going to support the farmers in your community. You're going to check sprawl. I mean, you'll keep that farmland in business. You are going to keep basically, you know, some autonomy in our food system. I mean, make no mistake: The basic trend of food in this country is to globalize it, and there will come a day when America doesn't produce its own food. In California, the Central Valley is losing, you know, hundreds of acres of farmland every day, and the projections there are that we will no longer produce produce in California by the end of the century. I don't want to live in that world. I -- you know, we lost control over our energy destiny, and we don't want to lose control over our food destiny.

Goodman: What are the environmental effects of transporting food across the globe?

Pollan: Well, the biggest is energy. I mean, it's a -- people don't really think about food in terms of climate change, but in fact the food system contributes about a fifth of greenhouse gases. It is as important as the transportation sector, in terms of contributing to greenhouse gas. It's a very energy-intensive situation. What we did with the industrialization of food, essentially, is take food off of a solar system -- it was basically based on photosynthesis and the sun -- and put it on a fossil fuel system. We learned how to grow food with lots of synthetic fertilizers made from natural gas, pesticides made from petroleum, and then started moving it around the world. So now we take about ten calories of fossil fuel to produce one calorie of food energy. Very unsustainable system.

Goodman: And what about the argument of efficiency, and if you want to feed the planet? You have sugar growing in Cuba. You have grapes and meat in Argentina and Uruguay and Chile.

Pollan: Well, that's the argument. There are a lot of problems with it. First, it does depend on cheap fossil fuel, and we are not going to have cheap fossil fuel, so that if Uruguay loses its ability to produce

anything else, they're going to be hungry. It's very important that you have local self-sufficiency in food -- some self-sufficiency, not complete -- before you start exporting. If you put all your eggs in the basket of, say, coffee, when the international market shifts, as it inevitably does, because it will always go to whatever country is willing to produce it a little more cheaply, you will decimate your industry.

Goodman: What if you only consume coffee and nothing else?

Pollan: Oh, you have all sorts of problems we don't even want to get into. You cannot live on coffee alone. It's not like bread.

So globalizing food has certain advantages of efficiency, but it also has very high risks. And, you know, efficiency is an important value, but resilience is even more important, and we know this from biology, that the resilience of natural systems and economic systems is something we have to focus more on. This globalized food system is very brittle. When you have a breakdown anywhere, when the prices of fuel escalates, people lose the ability to feed themselves.

What's happening with Mexico and NAFTA and corn, you know, they opened their borders to our corn, and it put one-and-a-half million farmers there out of business. They all came to the cities, where you would think, OK, now the price of tortillas should go down, but it didn't go down, even with the cheap corn, because there was an oligopoly controlling tortillas. Tortilla prices didn't go down. And so, a lot of these former Mexican farmers became serfs on California farms, and this was the effect of dumping lots of cheap corn.

Goodman: And now they're the target of main politicians all over the country to -- "We send our food down, and you send immigrants back who are coming here."

Pollan: Yeah, "And we don't want your immigrants." And, you know, we don't understand that these things are connected, that we make a decision in Washington and that this is what leads to an

immigration problem. And -- but the dumping of our corn on Mexico is a big part of the immigration problem.

Goodman: Do you know anything about cloned livestock? The *Wall Street Journal* says cloned livestock are poised to receive FDA clearance.

Pollan: Yeah, well, the FDA has been looking at this. There are techniques now to clone livestock, usually for breeding purposes. If you have a really champion bull, the semen of that bull is very valuable. So, gee, if you could turn that bull into five bulls, wouldn't that be great? Actually, it won't be great. It's the rareness that makes the semen so valuable.

Goodman: What do you mean?

Pollan: Well, if you -- you know, if you multiply your champion bull, the supply will go up and the demand will go down. So -- but, anyway, so the FDA needs approval so that once they're done using these animals for breeding purposes, they can just drop them into the food system as hamburger. And there is some controversy over whether we should be eating cloned livestock. I'm not, you know, familiar with the risks. I'm a skeptic on genetically modifying food. But the specific risk of cloning livestock, I don't know. I don't want to be eating them.

Goodman: You have the French farmer, Jose Bove, who has just gone on a hunger strike to promote a ban on genetically modified crops in France.

Pollan: Yeah, I hadn't known that. The Europeans have reacted much more strongly to genetically modified crops than we have.

Goodman: Why do you think it's so different?

Pollan: A couple reasons. We have a misplaced faith in our FDA, that they've vetted everything and they've taken care of it and they

know what's in the food and that they know the genetically modified crops have been fully tested, which, in fact, they have not, whereas the Europeans, after mad cow disease, are very skeptical of their regulators. And when their regulators tell them, "Oh, this stuff is fine," they're like, "Oh, wait. You said that about the beef." So they're much more skeptical. They also perceive it as an American imposition, as part of a cultural imperialism. Even though a lot of the GMO companies are European, the perception is it's Monsanto. And for some reason, the European countries have managed to get under the radar on this issue.

Goodman: Does it also have something to do with our media sponsored by food companies?

Pollan: Yeah, it does. And we -- and the fact that our -- we have not labeled it, so nobody knows whether you're eating it or not. I mean, that's been a huge fight. You know, Dennis Kucinich has tried to get labeling. Very simple. You know, he's not saying ban the stuff; he's saying just tell us if we're eating it, which seems like a very reasonable position.

Goodman: And Monsanto fought this.

Pollan: Viciously.

Goodman: They said that if you say it does not have GMO genetically modified organisms in it that that suggests there's something wrong with it, so when Ben & Jerry's tried to do that they weren't allowed.

Pollan: That's right. There's a lot of litigation over that still in Vermont and other states, in California, as well. Now, why is the industry so intent on not having this product regulated -- labeled? Well, they think, rightly, that people wouldn't buy it. And the reason they wouldn't buy it is it offers the consumer nothing, no benefit. Now, if you could -- Americans will eat all sorts of strange things, if

there was a benefit. If you could say, well, this genetically modified soy oil will make you skinny, we would buy it, we would eat it. But so far, the traits that they've managed to get into these crops benefit farmers, arguably, and not consumers.

The other reason, I understand, that they resist labeling is that if there were labels, there would be ways to trace outbreaks of allergy. Any kind of health problems associated with GMOs you could tie to a particular food. Right now, if there are any allergies that are tied to a GMO food, you can't prove it. And so, one of the reasons the industry has fought it is that they're vulnerable to that.

When the GMO industry was starting transgenic crops, they made a decision not to seek any limits on liability from the Congress, as the nuclear industry did, and they decided that would not look good to ask for that, so they just took a chance. And this is, in the view of many activists, their great vulnerability, is product liability. And so, labeling is a way to help prevent that eventuality. So they fought it, you know, ferociously and successfully.

Goodman: What were you most surprised by in writing this book, *In Defense of Food*?

Pollan: I was most surprised by two things. One was that the science on nutrition that we all traffic in every day -- we read these articles on the front page, we talk about antioxidants and cholesterol and all this kind of stuff -- it's really sketchy that nutritional science is still a very young science. And food is very complicated, as is the human digestive system. There's a great mystery on both ends of the food chain, and science has not yet sorted it out. Nutrition science is where surgery was in about 1650, you know, really interesting and promising, but would you want to have them operate on you yet? I don't think so. I don't think we want to change our eating decisions based on nutritional science.

But what I also was surprised at is how many opportunities we now have. If we have -- if we're willing to put the money and the time

into it to get off the Western diet and find another way of eating without actually having to leave civilization or, you know, grow all your own food or anything -- although I do think we should grow whatever food we can -- that it is such a hopeful time and that there's some very simple things we can all do to eat well without being cowed by the scientists.

Goodman: The healthiest cuisines, what do you feel they are?

Pollan: Well, the interesting thing is that most traditional cuisines are very healthy, that people -- that the human body has done very well on the Mediterranean diet, on the Japanese diet, on the peasant South American diet. It's really interesting how many different foods we can do well on. The one diet we seem poorly adapted to happens to be the one we're eating, the Western diet. So whatever traditional diet suits you -- you like eating that way -- you know, follow it. And that -- you know, that's a good rule of thumb.

There's an enormous amount of wisdom contained in a cuisine. And, you know, we privilege scientific information and authority in this country, but, of course, there's cultural authority and information, too. And whoever figured out that olive oil and tomatoes was a really great combination was actually, we're now learning, onto something scientifically. If you want to use that nutrient vocabulary, the lycopene in the tomato, which we think is the good thing, is basically made available to your body through the olive oil. So there was a wisdom in those combinations. And you see it throughout.

Goodman: The whole push for hydrogenated oils? I grew up on margarine. "You should never eat butter! Only margarine!"

Pollan: Yeah, I know. I did, too. And that was a huge mistake. That was a mistake.

Goodman: Can we go back in time?

Pollan: Yeah, we can. Yeah, the butter, fortunately, is still here.

Goodman: Where did it come from?

Pollan: Well, margarine was cheaper. Again, take a cheap raw material, which was to say they had developed these technologies for getting oil out of cottonseed and soy and all this kind of stuff, and there then was this health concern about saturated fat, the great evil. I mean, one of the -- another hallmark of nutritionism is that there's always the evil nutrient and the blessed nutrient, but it's always changing. So the evil nutrient for a long time has been saturated fat, and the good nutrient was polyunsaturated fat. So people thought, well, let's take the polyunsaturated fats, and we'll figure out a way to make them hard at room temperature, which involved the hydrogenation process. You basically fire hydrogen at it. And then you had something that looked like butter.

It was very controversial, though. People -- actually, in the late 1900s, several states passed laws saying you had to dye your butter pink so people wouldn't be confused and would know that that's an imitation food. And then the Supreme Court -- the industry got the Supreme Court to throw this out. So butter was elevated as the more modern, more healthy food. And it turned out that we replaced this possibly mildly unhealthy fat called saturated fat with now a demonstrably lethal one called hydrogenated oil.

Goodman: How is it demonstrably lethal?

Pollan: Well, they have since proven to, you know, pretty high standard that trans fats are implicated both in heart disease and cancer.

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