

THE MODEL **HEALTH** **SHOW**

EPISODE 601

The Truth About America's Food System

With Guest Dr. Mark Hyman

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SHAWN STEVENSON: Welcome to The Model Health Show. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in with me today. On this episode, we're going to be talking about the dynamics between our environment and our health outcomes. We're going to be talking about how your zip code can be impacting your health far more in your genetics. And we have the best person in the world to do it. As a matter of fact, I went to put together this special compilation, this special conversation with somebody who's been one of the biggest influences in my health and also my ability to reach and impact others.

Back when I started on this journey about 20 years ago, being in this field now, I'm almost in my 20th anniversary working in the field of health and wellness, I was just ravenously studying everything I could get my hands on, and I came across a lecture from Dr. Mark Hyman. And he was talking about reversing the actual cause of our epidemic of type 2 diabetes rather than just treating the symptoms with more medication, with Metformin, with insulin. What's causing this epidemic to happen in the first place? Now, he's looking at rather than, again, treating the symptom, addressing the root cause, and that really spoke to me because I'd already transformed my own health from having this so-called incurable arthritic condition in my spine, my bones, and being able to turn that around.

My thought process and my awareness started to branch out to other conditions, like, "What else can we fix by addressing the root cause rather than just treating symptoms?" And so to hear somebody, a physician, an MD, to have the audacity to say that this condition could be reversed at this time was still on the fringe and listening to him more I really start to understand how it all worked and beginning to reverse engineer the condition and helping folks to get educated about how insulin actually work, how their cells work, the metabolism, how their beta cells and their pancreas were creating the insulin and how they can be damaged or deranged, or how our insulin sensitivity can get deranged, and all these different pieces, and taking these puzzle pieces and putting it together in a wonderful visual for the people that I was working with. But again, that thought process was sparked by Dr. Mark Hyman. And another paradigm-shifting realization that I got from him was a statement that food isn't just food, it's information. Food isn't just food, it's information. So, we're talking about biochemical data, so even if we break down and look at a flavor in food, what is that? That's chemistry that's creating that specific flavor, and we can isolate and identify what that compound is, or that combination of compounds and try to replicate that thing.

But that's feeding data to our system and creating a response. So we have a cause and effect, all based on chemistry, and our biochemistry is going to interact with the chemistry of that food. Our microbiome is going to interact with the microbiome of that food. We don't really

think about that very often, but we don't just have a gut microbiome, we have a microbiome of our lungs, for example, and this is far-reaching, we have a microbiome of our skin, but food itself has its own unique microbiome, microbial tapestry. If we're talking about real food, we're talking about natural food. There's not a microbiome of a snickerdoodle. That's not the same thing. But an avocado, for example, that microbiome is going to interact with ours, so it's data interacting with data. And so food instantly is telling our system which hormones to produce, which neurotransmitters need to get released, what shift should take place in our microbial activity, which shifts are taking place with our genetic expression? The list goes on, and on, and on. We have entire fields now of nutrigenetics and nutrigenomics that are looking at how each and every bite of food that we consume, even the smell of certain foods shifts what's happening with our genes.

This is such an incredible insight for us to really take on, and start to live life through this lens, and we start to understand how powerful we are to affect change within our own bodies and within our own communities. So really, really excited about this. I didn't want a single person to miss on these conversations, so I put them together in this master class interview with one of the leading experts in the field of health and wellness. Now, in speaking about the microbiome, what we most associate this with is our digestive help because the vast majority of our microbes, trillions of microbes are hanging out in our gut. Now, what most people don't realize is just how great, how expansive our epidemics of digestive issues are today. A study published in the journal, Gastroenterology, determined that approximately 70 million Americans are suffering with digestive issues at this very moment. And this was a few years ago, by the way, when that study was published. It's almost about 10 years later now, so do you think the problem has improved or gotten worse? And you already know the answer to that.

So, what are some of the simple things that we can do to address this? Obviously, removing the cause, removing the things that damage our gastrointestinal tract, that damage the tapestry of our microbiome, that damage this really, really delicate and intelligent microbial rainforest, really, that we have within our bodies. But also, there are things that we can do with our nutrition to improve our microbial diversity, to improve the health of our microbiome. Number one, a simple thing is to increase the diversity of the foods that we're eating, providing more prebiotics or microbial probiotics, so they can proliferate. But that's number one, just simply increasing the diversity of the foods that we're eating, because even if we're eating healthfully, we can get stuck in a rut and eat a lot of the same foods over, and over, and over again. I know that that's happened in my life a time or two, but in addition to that, there are some really wonderful things that just take things to another level. For example, a recent study published in the peer-reviewed journal, Nature Communications uncovered that a unique compound called Theabrownin, Theabrownin, found in the traditional fermented tea called pu-erh, has some remarkable effects on our microbiome.

The researchers found that Theabrownin positively alters our gut microbiota that directly reduces excessive liver cholesterol and liver lipogenesis, the creation of fat within the liver. Another study published in the Journal of Agricultural and Food Chemistry found that pu-erh may be able to reverse gut dysbiosis, again, this is an epidemic right now, reverse gut dysbiosis by dramatically reducing ratios of potentially harmful bacteria and increasing ratios of beneficial bacteria. So this traditional tea, it's been utilized for thousands, for thousands of years, is one of the things that's well-established now. More and more studies are coming out about pu-erh because it's so remarkable, that can help to support the health of our microbiome.

But please hear me, quality matters. The tea industry is one of the most under-regulated industries out there. There are so many nefarious things coming through in conventional teas out there, ranging from pesticides, and toxic molds, and microplastics. The list goes on and on. You want to make sure that you're getting it from a reputable place, but not just a reputable place, a place that's taking things to another level. The pu-erh that I drink is a fermented pu-erh, utilizing a patented cold extraction technology to retain the nutrients we're really looking for. And also, they're doing a triple toxin screening for one of the highest levels of purity, testing again, make sure there's no pesticides, heavy metals, toxic molds, again, that are common in teas.

And this tea is from Pique Life. Go to pikelife.com/model and use the code "MODEL" to receive an exclusive 10% off. That's P-I-Q-U-E-L-I-F-E.com/model. And again, you get 10% off their entire assortment of... Again, they have 20 delicious award-winning flavors. You get 10% off everything that they carry. Go to pikelife.com/model for 10% off. Now, let's get to the Apple Podcast review of the week.

ITUNES REVIEW: Another five-star review titled "Powerful Conversations" by Wendy Nirvana. "Thank you, these are powerful and revolutionary conversations, and the podcasts are helping me understand more and better about human biology, our body, and life. Thank you so much."

SHAWN STEVENSON: Thank you so much. That's amazing, I appreciate you so much for leaving that review over on Apple Podcast. And if you're yet to do so, please pop over to Apple Podcast and leave a review for The Model Health Show. On that note, let's get to this special compilation with the amazing Dr. Mark Hyman. Dr. Hyman is a 14-time New York Times best-selling author and the Head of Strategy and Innovation of the Cleveland Clinic, and he's also board president for Clinical Affairs with the Institute for Functional Medicine. In this first epic conversation with Dr. Hyman, you're going to hear about what's really going on behind the scenes with our food system. How are so many ultra-processed foods ending up flooding our communities? We're going to talk about the systems behind everything, and he's going to lay down fact, after fact, after fact, and it's no less than mind-blowing.

You're also going to hear about how our food system is impacting many of our broader problems that we're facing as a human species. And we're also going to talk about some of the things going on with the farming of food, and the soil, and some of the things that we need to look to, again, that are causative agents behind the situations that we're seeing right now. So a big part of transformation, a big part of achieving a goal is awareness. We need to know what we're dealing with first and foremost, and that's what this very special episode is all about. So let's jump into this special segment from the amazing Dr. Mark Hyman.

DR. MARK HYMAN: People need to understand that our food system is the biggest driver of most of the problems on the planet, that is driving challenges for most of the things that matter most to us. Our health, our economic ability to thrive, the climate change that's happening, environmental destruction, poverty, violence, depression, poor academic performance, national security, they're all connected by food, and no one's told the story. Not only do people not understand that it's all one problem, but they don't understand that there is elegant simple solutions that could fix all of it. So while it's kind of depressing to think about it, it's also extremely hopeful because we have the power to change this by leveraging policy change, grassroots movements, business innovations, citizen action, all of it is so critical for our future.

It's an existential threat, and when you lay it all out and tell the story as one story, it all makes sense. So we think of things as separate, we think our economy is one thing, health is another thing, climate's another thing, social justice's another thing, kid's academic performance is another thing. The thing that ties them all together, and obviously this isn't the only reason for the problems, but is the major reason, is our food system.

SHAWN STEVENSON: Yeah, we tend to compartmentalize things, period. Even when it comes to our health and our bodies, you got somebody for this thing, got somebody for that thing, like we're separate, and you pointed out...

DR. MARK HYMAN: There's functional medicine for everything.

SHAWN STEVENSON: Right, exactly.

DR. MARK HYMAN: How to connect the systems view or... It's the systems view.

SHAWN STEVENSON: Yeah. I think one of the most eye-opening things about the book and about what you're putting out for everybody is the fact that we know now today that food is the number one cause of death in our world today. It's crazy.

DR. MARK HYMAN: It is crazy. It happens so fast. In 1960, 5% of our population was obese. Now, in most states, it's 40%. That's staggering. You know, that's an eightfold change, an eight...

SHAWN STEVENSON: That's obese, not even overweight.

DR. MARK HYMAN: Yeah, that's not... Yeah, that's obese, that's not just a little overweight. And over the last 40 years it's happened, and we've seen staggering rates of disease, obesity, diabetes, and all the related complications. And people just had it coming out of nowhere. And we're not really equipped to deal with it. So the reason this book is so important, it sort of says, Wait a minute, we need to catch up. We need to stop, take a look around, see the big problems we're facing and come up with real models to solve it. I mean, 11 million people die every year from eating bad food. I think that's an underestimate. You're not eating enough good food. Six out of 10 Americans are sick with a chronic illness.

SHAWN STEVENSON: It's a true epidemic.

DR. MARK HYMAN: One out of two are pre-diabetes or Type 2 diabetes. 75% are overweight. This is all caused by food. Food is the biggest cause. It's also the biggest cure for our problems.

SHAWN STEVENSON: Yeah, yeah. And this is a global epidemic. Yeah. And you talk about that too.

DR. MARK HYMAN: Global. And 80% of the world's diabetics are in the developing world. That's just crazy. And they're suffering from malnutrition and obesity and all the problems of this double burden of obesity and malnutrition.

SHAWN STEVENSON: Yeah, let's talk about that specifically, because that's really fascinating that we live at a time where there are so many people who are hungry, they're going to bed hungry, but then we have more people than ever who are overweight at the same time.

DR. MARK HYMAN: Yeah, we have over two, probably 2.3 billion people who go to bed overweight, and about 800 million, which is a lot, who go to bed hungry. And yet we have more than of calories to feed 10 billion people on the planet, even today, even though we have 7 billion, because we throw out 40% of our food. [chuckle] We waste it. And the right food isn't getting to the right people in the right places. And too much is getting to the people who don't need it. And you're getting this sort of incredible uneven problem where the amount of calories you produce is probably an extra 300 calories for every man, woman and child on the planet a day than they need. But yet there's still these disparities.

And there's a lot of reasons for it. But we have to solve this problem, because never before... I remember seeing a picture of Woodstock recently and looked around the entire picture, thousands of people, there wasn't one person that was overweight. I saw the Aretha Franklin movie *Amazing Grace*, and looked at this African-American church, and I think it was in Oakland, 1970, there wasn't one person who was overweight. And today, 80% of African-American women are overweight. And the diabetes rates are twice out of Whites. Their amputation rates are four times. Sorry, their kidney failure is four times that of Whites. And their amputation rates are three and a half times. So these enormous health disparities are affecting these populations, and we just didn't see this a generation ago. And it's like a Tsunami that came so fast and everybody was asleep, and now it's like, Whoa, wait a minute. And people still haven't woken up to it.

SHAWN STEVENSON: Yeah. And I want to talk more about the disparity in a moment, but I don't want to go past... You mentioned food waste. Can you talk more about that? Because it's really eye-opening.

DR. MARK HYMAN: Yeah. And if you'll even think about it, nobody's for food waste. People are against different things, whether we should be using more GMO or not. But nobody's for food waste. And we waste 40% of the food that we grow. And it would be... We would need the entire land mass of China to grow that food every year. It's \$2 trillion food waste, about 1800 a person in America for every person in America we waste. And it's about a pound a day per person. And that... What happens that way is, first of all, all the inputs that go into it, growing it, the seeds, the energy, the water, the labor, the processing, distributing, marketing, selling, all that is wasted, refrigeration, everything. And on top of that, when we throw it out, it goes into landfills. Now, people don't realize this, but... And even if you're a vegan and you're throwing out your scraps and your leftovers, that's going to a landfill, and it's bringing a massive contribution to climate change. I mean, if food waste were a country, it would be the third largest emitter of greenhouse gases after the US and China. It's a massive problem.

SHAWN STEVENSON: Unbelievable.

DR. MARK HYMAN: And it's really... It basically rots and releases methane, which is 25 times more potent a greenhouse gas than carbon dioxide. So we must solve this food waste problem. And the thing is, we all can do something about it. In San Francisco, when Gavin Newsom was the mayor, he put in a mandatory composting law. So it's mandatory now. You can't throw out your food waste. It has to go into compost buckets, just like there's recycling, there's trash and there's compost. And in the airport, there's compost buckets. And it's fantastic. And the same thing they did in the Massachusetts, they eliminated any ability of a company to throw out their garbage if their food wasted was more than a ton a week. So places like Whole Foods and grocery stores and food service companies can't just throw it all out. So they're forced to do

something with it, and they... And there's a been a great innovation around it. This is what's so exciting to me about America, you get great innovation. So dairy farmers were not making much money. They realized that they can get this food waste, which they can get for free, basically, they build these anaerobic digesters where they put in the food waste and some manure like the dairy poop, which is a big contributor, again, greenhouse gases, in this big digester that actually produces electricity for 1500 homes.

SHAWN STEVENSON: Come on.

DR. MARK HYMAN: And makes him an extra \$100,000 a year, and those farmers are struggling making less than 1800... Minus \$1800 a year. So it's a win, win, win, win. And they're doing this in Europe. There's 17,000 of these anaerobic digesters in Europe. We don't do that. But we could be producing electricity, dealing with food waste, climate change, manure. I mean it's a sort of a win-win. And we need to do that on our individual basis with compost. Even if you live in an apartment, you can have a little compost unit that you can actually buy on Amazon for a few bucks and actually throw your scraps in there, it turns into soil. You can give it away to somebody who's got a garden or you can... Local compost facilities. And it's just a powerful, simple thing that we can do to end food waste. But it's one of the biggest problems we have. And thankfully, the EPA, the FDA and the USDA have banded together under the Trump administration, one of the few things they've done that's really awesome, and created an initiative around food waste because, again, whether you're a Republican or Democrat, nobody's for throwing out more food and creating all these problems.

SHAWN STEVENSON: Yeah, it's so important. And I love that we give these very actionable items for everybody throughout the book. So composting, this is something that I didn't even really think about. I see it out different places, and also it's addressing one of the other big issues to talk about, is our soil and our deficit of soil. Talk about that.

DR. MARK HYMAN: Okay. So most people think, Oh, how do we grow our food, where do you get it from? It doesn't matter, right? But it turns out that how we grow our food determines, one, the quality of the food we eat, the nutrients in it, whether it's full of chemicals, pesticides, herbicides, glyphosates and fertilizer stuff, but also the soil is the biggest carbon sink on the planet. It literally can hold three times the amount of carbon that's been released into the environment, over a trillion tons of carbon.

And the truth is the way we grow food, industrial monocrops, commodity, soy, wheat, corn, has depleted our soil through over-tilling, soil erosion, intensive chemical use which destroys the organic matter, the life of the soil and turn it to dirt which is lifeless. And the soil that we've lost is one-third of all our topsoil in the last 150 years, and...

SHAWN STEVENSON: Something that took millions of years to make.

DR. MARK HYMAN: Million, billion, I don't know, million... It's just a natural process, it takes about, I think, 1000 years to create like 3 centimeters of topsoil, so it's like a slow process. With animals, we can actually do it much faster, but when you think about it, 30% to 40% of all greenhouse gases up in the environment that are causing climate change are the result of damage to our soils. That's staggering. We think it's fossil fuels, we think it's cars and planes. No, it's dirt. And we actually know that we can solve this problem by fixing soil. Soil is the biggest carbon sink on the planet, and we can use this incredible carbon capture technology, that works better than any technology currently invented, that's available everywhere in the world. It's free, it drives huge amounts of carbon capture, more than all the rain forests on the planet and all the trees on the planet, and it's called photosynthesis. And essentially just ancient technology where plants breathe carbon dioxide, they release oxygen in the atmosphere, which is what we breathe, but they actually...

In this beautiful cycle, it's like a beautiful symbiotic cycle, they breathe in carbon dioxide, it goes into the plants, into the roots, into the soil, and puts all this organic matter in the soil, feeds the fungi, feeds the bacteria, creates this incredibly rich nutrient-dense soil, allows the plants to extract the nutrients from the soil, because if you have dead soil, and you throw in the fertilizer, it can't extract the nutrients, or even your best organic broccoli, if it's not grown in rich organic soil, it's actually got 50% less nutrients than it did 50 years ago. So you could be eating whole foods, plant-based foods, they're not full of zinc and selenium and iron and magnesium and all the nutrients that come from the soil because the... The microbiology of the soil would help to extract those nutrients, so the plants can consume them, and we can eat them. But if there's no organic matter, we can't do that. And the other thing is, when you do that, you can literally draw down enough carbon to save us from climate change.

The UN estimated that if we just spend 300 billion dollars over the next few years, which is about the 60-day spend on military spending globally, just two months of military spending, we could slow down climate change and give us 20 more years to figure it out, because it draws down that much carbon. If we took just 5 million of the 5 million degraded hectares around the world and turn it into regenerative agriculture, which I can explain more. But regenerative agriculture essentially is a way of building soil.

SHAWN STEVENSON: Yeah, soil is the solution.

DR. MARK HYMAN: It is, soil not oil. It's unbelievable, and it means we need to use less chemicals or none. It actually makes its own fertilizer, it holds water. So we're seeing all these droughts and floods and flooded farmlands, and why is that? Because the soil is so crappy, it can't hold water. But if you have organic matter in the soil, it can hold 27000 gallons per acre for every

1% organic matter, which means that if you build up a lot of organic matter, you can literally prevent damage from floods and droughts and all these problems that we're seeing all over the world that are actually threatening our food supply.

SHAWN STEVENSON: Yeah, I want to talk more about it because I think that there was two really important words, there's a difference between dirt and soil.

DR. MARK HYMAN: Soil, yes.

SHAWN STEVENSON: The soil is that complex entity that you just described. But the question is, how did we get here? How did we lose so much of the soil? And one of the things you highlight, I've talked about this a couple of times, but you know the monocropping, just there's been such a loss of our diversity of food.

DR. MARK HYMAN: Yeah, so what's happened is that we had good intentions, we needed to grow more food, feed hungry people. So we got really good at industrial production of starchy calories, wheat, corn, soy, and so forth. And that's industrial monocrop, and chemical intensive agriculture. So we had big tractors... We just didn't know the consequences of that. When we started, it was all based on good intentions. And now it's actually killing us, and the monocrop... Basically, the way these farms work is the methods they use, the tilling, which turns over the soil, causes soil erosion, disrupts the organic matter in the soil, disrupts all the complex life in the soil, kills it, essentially, is a huge contributor. Not using cover crops, so leaving ground bare and fallow also causes more soil erosion and doesn't allow nutrients to be put back in the soil. Crop rotations are important to actually feed the soil, different things. So different plants, for example, certain plants like the nitrogen-fixing plants, like the legumes and so forth, they'll put nitrogen back in the soil, so you don't need nitrogen fertilizer and other plants put other nutrients in the soil.

And you use... So crop rotations, cover crops, no tilling methods, and then animals. Now, whether you're vegan or eat meat, it doesn't matter, you absolutely need animals to restore soil. How we got 50 feet of topsoil in America was we had literally tens of millions of ruminants, buffalo, elk, antelope, deer grazing around and pooping and peeing and digging up, and they built up 50 feet of topsoil. They weren't causing climate change, there were way more ruminants than there are factory farm cows now, it's the way we're doing it, right? So we're growing all this food for these animals, we're destroying the soil, and we're ending up with incredibly lifeless soil. And when you need... Have lifeless soil, you need way more inputs. So we've killed the soil so much that we need... The fertilizers are two-thirds as effective, and we have been using seven times more fertilizer to get the same results, because it's like beating...

Trying to get blood out of a stone. And dirt doesn't hold water, it doesn't provide a rich microbial life that actually helps the plants become more nutritious. It doesn't hold carbon, which means it contributes to climate change. So, while damage to the soil is one of the biggest contributors to climate change, it also can suck out the carbon from the environment better than anything else. And there's so much degraded land, 5 million hectares of degraded land around the world that we can convert into regenerative lands. Lands that can't be used to grow vegetables. Even if you're a vegan, you can't grow plants on certain land. And the animals up-cycle the nutrients and produce incredibly nutrient-dense food and help restore climate and fix the soil. And I know there's a great example of this. There's a guy named Gabe Brown from North Dakota, was a farmer whose farm was destroyed by hail and bad weather and...

He was going to go bankrupt, and he started reading about these principles, and so he was going to try it. And since he's tried on his 5000 acres in North Dakota, he's created a complex ecosystem on his farm. Not a monocrop, single plant, or one or two plants like corn and soy. He says he's built 29 inches of soil. He uses no inputs... He actually makes his own fertilizer. He produces better quality food. He's more resilient to climate stress and weather... Floods and droughts and so forth, 'cause the soil is so rich, it can hold so much water. And he says he makes 20 times a profit of his neighbor.

SHAWN STEVENSON: Unbelievable.

DR. MARK HYMAN: Which is staggering. So it's good for him, good for the planet. And there's businesses that are faring this out. It's not a hippie fad, and it can be scaled. It's estimated that we can literally produce twice as many cattle that way as we can through factory farms right now. And there's private equity companies like Farmland LP, which essentially buys up conventional farms, converts them to regenerative farms and takes them from single digit profits to double digit profits. Their first fund had a 67% return. I'd like to invest in that.

SHAWN STEVENSON: Yeah, that's nerve wrecking.

DR. MARK HYMAN: That's like a crazy amount of return. And there's something called ecosystem services. So humans are really good at using up national capital, natural resources. And we use about \$125 trillion a year of natural resources from the earth. We basically steal it. And we don't give it back. And we destroy the soil, we destroy the water, we take down the trees, all that stuff. The way farming or regenerative farming, which will fix the quality of the food, the obesity, the chronic disease, the economic issues, the climate issues, the environmental biodiversity loss, all of it gets fixed by that, it actually adds 21... In this one little small bunch of farms, they've added \$21 million of ecosystem benefit or services to the environment. Whereas, the conventional farms cost \$8 million.

And there are now countries like Costa Rica that are paying farmers to put carbon in the soil to conserve water, to actually increase biodiversity. And I think that's what's going to have to happen in this country. We're going to have to incentivized farmers to do the right thing.

SHAWN STEVENSON: Yeah.

DR. MARK HYMAN: So it makes it more profitable and everybody wins.

SHAWN STEVENSON: Yeah, I love that. And you talk about... Because for business sake, it's going to look at what's the bottom line, moving profits.

DR. MARK HYMAN: This is an economic issue.

SHAWN STEVENSON: And you pointed out so many times in the book and how people can make money, but one of the things that's...

DR. MARK HYMAN: That's true.

SHAWN STEVENSON: One of the things that's really important that I want everybody to really imbibe is this biodiversity... Because we go to the grocery store, and it looks like there's all these different foods, but it's really...

DR. MARK HYMAN: A lot of the same.

SHAWN STEVENSON: Right now, 90% of the stuff on store shelves is made from the same 12 foods.

DR. MARK HYMAN: Yes. Exactly.

SHAWN STEVENSON: So we got like... The same 12 plants and five animal species, whereas... I think we've lost so much over the last 100 years of biodiversity.

DR. MARK HYMAN: And we used to eat 800 species of plants. At the turn of the century there were hundreds and hundreds of apple varieties, complex, different grains, many, many different complex livestock heirloom breeds. Now, we've lost 90% of our animal plant species, half of all our livestock species, and 75% of pollinators like butterflies and bees, which we can't grow food if we don't have that. Einstein said, "If we lose our bees, we have four years left to live," which is pretty scary.

And why is that happening? Well, a lot of reasons because of the consolidation of seed production, of seed monopoly companies like Bayer, and Monsanto, ChemChina, Syngenta and so on, BASF. But also because we are destroying the biodiversity through how we grow food. The chemical intensive agriculture destroys the soil microbiology, it actually leads to loss of pollinators, 'cause the pesticides aren't selective. They'll kill insects of all kinds. And we've hybridized animals, so these really productive breeds. Like cows, for example. I mean, look, if you have an heirloom grass-finished cow, regeneratively-raised cow, which is how they all were, this is how it used to be, it's actually got a different form of nutrients in it that are much better for you, like CLA, which is a great anti-inflammatory, anti-cancer, metabolism-boosting fat. It has more antioxidants, more minerals, more nutrients, less bad fats. But also the dairy, for example, we used to have A2 casein cows, which were these heirloom cows. You travel around the world, you see all these funny-looking cows. We have the same looking cow. Every cow looks the same here. They're all white and black Holstein cows that produce the same kind of milk. But it's inflammatory, it's been hybridized in a way that creates a lot of problems for people.

And so we aren't eating things in a way that are the best quality. These have been bred for stability, transport, not for taste, not for nutrient density. My friend Dan Barber is an incredible chef. And he was like, "Why can't we breed plants for flavor?" 'Cause nobody's bred... They're bred for yield, they're bred for pest resistance, they're bred for shipping. They're bred... But nobody's like, "How about for nutrients?" When there's flavor, that's where the nutrients are, 'cause that's where...

SHAWN STEVENSON: It's the indicator of the nutrients.

DR. MARK HYMAN: It's the indicator, the phytochemicals and all. And so you created like honeynut squash, for example, which is sort of a... A sort of soggy mostly water butternut squash. It's like incredibly flavorful rich thing. And so... We actually can start to bring back some of these plants.

SHAWN STEVENSON: I love that. I love that.

DR. MARK HYMAN: And there's a whole... There's seed vaults where we can resurrect these things that are more location and climate-specific. And a friend of mine discovered by accident, he wanted to get some new kind of crops growing, he was working with Farmer, and the USDA sent him, by accident, this packet of seeds. And he's like, "What are these seeds?" Is like 42136, whatever, whatever. And he was like, "Oh yeah, these are the Himalayan buckwheat. They're incredibly strong plants, but they're among the most nutrient-dense food on the planet. They're very low in starch, high in protein, full of phytochemicals, vitamins and minerals. They grow in incredibly tough conditions. I mean, these are the kinds of things we should be eating.

SHAWN STEVENSON: Yeah, and that diversity in the soil is also indicator number one, like you mentioned, of the nutrients that we get. But I think it's a good parallel to the microbiome diversity for ourselves that we're not getting.

DR. MARK HYMAN: Yeah, in fact, there's amazing research on how our own microbiome and the microbiome of the soil are connected and dependent on each other. There's this... People write this book called Eat Dirt. For example, it's like, yeah, I think we used to have much more intimate contact with our natural environment, living outside, have fingers when we ate. There wasn't Purell everywhere.

SHAWN STEVENSON: Right. Walking out of any door.

DR. MARK HYMAN: Yeah, and it's like... And I think it's so important, and it's... Screw up our immune system. And so there's so much incredible potential for getting a better health for ourselves through taking care of the soil. It's all one system. In fact, there's a great book I read when I was like 19 called The Soil and Health, written by Sir Albert Howard, who was the father of organic agriculture in 1947. And he says the whole problem of health in plant, animal, soil and humans is one great subject. It's all one problem, right?

SHAWN STEVENSON: My question always goes to, How did this happen? Why is this allowed? We know that many pesticides, insecticides, these are estrogenic, neurogenic, these are things that are proven to have problems...

DR. MARK HYMAN: Yeah, for sure.

SHAWN STEVENSON: Once we consume them, and also missing on the diversity in our foods, the processed foods that we have. Why is it that the...

DR. MARK HYMAN: How'd this happen?

SHAWN STEVENSON: Our protection, or the FDA, why is it that the FDA has allowed this to happen?

DR. MARK HYMAN: Well, like I said, a lot of these were started out as good intentions and had great effects. They reduced hunger, they reduced starvation, they produced a lot of calorie dense starchy foods, but produced them in a way that's had all these bad consequences. And what happened then is these companies that's so big. There used to be like a hundred seed companies, now there's four that control 60% of our seeds.

SHAWN STEVENSON: Problem.

DR. MARK HYMAN: There used to be like a hundred food companies, now there's like nine that own all the other ones. And there used to be lots of fertilizer companies, now there's like half a dozen that control all the 400 billion pounds of fertilizer made every year. So there's a big consolidation, and they have enormous power, it's a \$15 trillion industry, it's the number one business sector in the world. It's about 17% of our global economy and it's controlled by a few dozen CEOs that are committed to protecting their shareholder value and selling more stuff. I mean, the way Coca-Cola makes more money is selling more coke. [chuckle]

SHAWN STEVENSON: Yeah.

DR. MARK HYMAN: Maybe they're selling more water and trying to diversify their products and all that's great, but it's a problem. And so there's an enormous amount of lobbying and influence... And the way the food company controls the narrative is through multiple strategies that I outline in the book. One, they corrupt science, so they fund 12 times as much science as funded by the government. And it's like, "Gatorade, Oh, it's good for you," and it's funded by Pepsi. And, "Coca-Cola doesn't cause obesity," funded by Coca-Cola. "Sugar's not a problem," funded by the coalition of big food companies. It co-opts scientists in different ways by funding their professional associations, the American Heart Association, the American Diabetes Association, Academy Nutrition Dietetics, all are funded, in part, by the food industry and by the ag industry.

DR. MARK HYMAN: And so they're not actually completely independent, they shouldn't be making guidelines or recommendations. And then you have front groups that they create to confuse the public, like the American Council on Science and Health, which essentially says that GMO is fine, that pesticides are not harmful, that smoking is okay, and corn syrup is good for you. I mean, it's kind of almost ridiculous. But they present themselves as this independent group, when you look at who's funding them, it's all big food. So you have all these front groups, and then the co-op social groups, like the NAACP and Hispanic Federation are funded, in part, by the food industry. Which is why those groups, who are the most targeted and affected by the food industry and the soda and processed food are the ones who are opposing soda taxes and opposing food reforms because of how they're funded.

SHAWN STEVENSON: Yeah.

DR. MARK HYMAN: I spoke once... I was with Bernice King, Martin King's daughter in Atlanta, and I wanted to present this movie, Fed Up, at The King Center, which is all about how sugar and food was causing all these obesity in kids and stuff, and she was all into it. She's, "Non-

violence means non-violence to ourselves." And few days later, I got a call, we can't show the film. I'm Like, "Why?" She's, "Well, because Coca-Cola funds The King Center in Atlanta."

SHAWN STEVENSON: Oh my God.

DR. MARK HYMAN: They give a million dollars to these people to create free admission to the social justice human rights, civil rights museum in Atlanta. They know what they're doing. And then on top of that, there's 187 lobbyists for every member of Congress. So they control science, they control public health groups, they control social groups, they fund research and they control politics. So 187 lobbyists from every member of Congress, just on the GMO labeling law, they fought that. And it was \$192 million in one year that these companies spent to oppose that one piece of legislation. They spent \$500 million on the Farm Bill, 600 lobby groups. I mean, they have so much power. And I remember sitting on a boat with a senator in the summer, in a sailboat and we had two hours to just chat. And I started laying all this out for him, and he was like... His jaw was open, he just didn't understand this because he doesn't get educated by people like me, he gets educated by the food industry.

SHAWN STEVENSON: Right. Of course.

DR. MARK HYMAN: It's like pharma companies, they educate doctors on, I call it continuing pharmaceutical education instead of medical education. So this is why we have this problem, and then we have policies that are so contradictory, we have food stamps where we're basically providing 75% of the food stamps, which is a lot of money, about 75 billion a year, is for junk food. And 10% of that is for soda, about 7 billion a year, about 30 billion servings to the poor, every year of soda. We have dietary guidelines that are corrupted because now the Trump administration says we can't look at any research on ultra-processed foods, we can't actually look at research before 2000, we can't look at research from independent scientists, only the USDA. I mean, put all these crazy restrictions on what you can look at, which kind of waters down the guidelines. We have school lunch program. Obama tried to improve school lunches, and he did through the Healthy, Hunger-Free Kids Act but then Trump has just rolled it all back, and now kids can have... Pizza's a vegetable, French fries is a vegetable, ketchup is a vegetable. It's terrible.

SHAWN STEVENSON: Well, we're talking about a subject matter that matters a lot to me, and we're talking about our kids. And how the food system is really preying on kids and how they're... One of the things that you highlight is how they're getting into the food system in itself, and I just want to share this from your book, you noted that about 80% of our schools have contracts with soda companies.

DR. MARK HYMAN: Yup.

SHAWN STEVENSON: What?

DR. MARK HYMAN: And 50% have brand name junk food, fast food in their cafeteria. So it's... It's McDonald's Monday and Taco Bell Tuesday, and Wendy's Wednesday, and it's like, it's bad, and these kids are struggling in this country. We see 40% of kids overweight, we see one in 10 kids with ADD, we see behavioral issues. The amount of medications that are prescribed to children today is just frightening. And when... When I was growing up, I'm 6 years old, there was that one troubled kid in the class, there was that one girl who was a little overweight, and that was it. And now it's the norm.

SHAWN STEVENSON: Uniform, yeah.

DR. MARK HYMAN: And what's happened is the food has changed so much that it's affecting kids cognitive development and their performance. We know that kids who are low socioeconomic groups with poor diets, their brains are 10% smaller, their IQs are seven points lower, which is a lot. And they're not functioning well in school. We see academic achievement gaps, there's something called the achievement gap, which is that kids who have struggles with health, or diet, or food, they do poorly, they earn less money when they grow up, they're less likely to go to college.

I just went to one of them really underserved areas in Cleveland the other day and met with the school superintendent and we went through the school, it was a big school, and there was mostly African-American, Hispanic kids. And 1%, he told me, 1% of these kids are eligible to go college when they graduate high school. 40% absenteeism rate, the obesity rate's staggering. I walked down the hall, there's... They have a white girl walking down the hall with... Double-fisting it, one giant 32 ounce slushy, another 32 ounce soda, and it was just the norm there. I went into the kitchen, and I pointed out to them, "Where can you cook food here? There's deep fryers, there's reheating ovens, microwaves, that's it. So how do you actually have real food?"

And what's great about what's happening in America today is there's innovation all over around this, there's mothers and activists and people who are changing the school system, there's groups like Conscious Kitchen that create templates for schools to transform their schools to make food that tastes good designed by top chefs within the nutrition school guidelines, within the budget, so it doesn't have to be expensive and kids will eat it. And I think that's what's really exciting there, we don't have to have this. And when you change diets for kids, they do better in school, there's less behavioral issues, less violence, less aggression, less conflict, less likely to go to jail. [chuckle]

SHAWN STEVENSON: Yeah, yeah, and that's the thing we don't think about, we have this... We have this very strong approach of victim-blaming in our culture, which you know, instead of looking at the structure around things, how did this get created? And you talk about this in the book very eloquently, and we talked before the show that I'm doing something or working on a project.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: It's very big, along the same lines. And when you outlined this one particular study in the book, you noted that only about 5% of African Americans are getting adequate nutrition.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: And it just like... I had to hold back the tears. I had to just sit there for a moment with that and just realize that there's this structure, this concept that you're bringing to light called...

DR. MARK HYMAN: Structural violence.

SHAWN STEVENSON: Structural violence.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: Structural violence. Talk about that.

DR. MARK HYMAN: So Shawn, when I saw the earthquake happen in Haiti I... I had just finished reading this book called Mountains Beyond Mountains by a guy named Paul Farmer, who was in Haiti for 30 years after medical school as a doctor. And everybody had given up on this country because it was so corrupt, there was so much poverty, and there was so much disease, and there was TB and AIDS were rampant in Haiti. And all the public health groups said, "It's too hard to deal with these people, they don't... They can't take these medications on time on their schedule." And he... So he went down and he fixed it, and he said, "It's not about these people having a medical problem, it's about the social economic and political conditions that drive disease." He called that structural violence. So what is the environment in which they live? Why are they so poor? How do we help them? So he basically created a model where he addressed this by creating community health workers, neighbors who helped each other take the drugs, make sure they got their health stuff done. And he was able to solve TB and AIDS in one of the worst places on the planet.

It's the second poorest country in the world, and the worst in the Western Hemisphere, where people, most half the country, live on less than a dollar a day. He was able to deal with some of these structural issues, the social environment issues. And we know, we call these social determinants of health in this country. And your zip code is more important determinant of your health than your genetic code. In low socioeconomic areas, your life expectancy may be 20 years less or 30 years less. If you're poor, African-American, living in a tough area, your health is at risk, your life expectancy is dramatically lower. It's like the developing world here in the United States, and your zip code is a bigger determinant of your health, and it's all the factors that drive that, whether you have access to food, whether... What your education is, whether you can walk in the streets or not 'cause it's dangerous, all these things play a huge role. Your lack of education about what's healthy to eat or not.

SHAWN STEVENSON: Just to play the... The objective, kind of devil's advocate.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: When people see that, because if I'm just looking at it from a outside perspective, it's just like, "Well, why don't you move?"

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: Or why don't you guys clean up your community?" And not understanding that I grew up... So a good example is, when I met my wife, I was living in Ferguson, Missouri. I go out my door of the apartment complex, there's a liquor store immediately right across the street, and then as I go down the street half a block, there's another liquor store, there's a Chinese food restaurant, not the good kind.

DR. MARK HYMAN: Yeah, the bad.

SHAWN STEVENSON: It's like the bulletproof glass kind.

DR. MARK HYMAN: Yeah, yeah, right.

SHAWN STEVENSON: And then there's Papa John's, Domino's...

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: Dairy Queen.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: And then I go down one other block, Krispy Kreme, McDonald's...

DR. MARK HYMAN: Yeah, yeah, yeah.

SHAWN STEVENSON: Burger King, another Chinese food place, another liquor store.

DR. MARK HYMAN: Not on accident, you look at the concentration of these...

SHAWN STEVENSON: But here's the thing, I didn't know that there was a difference.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: I just thought it was food. I didn't know that healthy food was a thing.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: It was a lack of exposure.

DR. MARK HYMAN: Yeah, I think people are often judgmental and they go, "Well, people just know what to do, they're not doing it. They want... They don't really want to, they're lazy. Why don't they just get themselves together?" It's just not like that. I think people just don't know about the basics of nutrition, they're not taught in schools, they have no education. And the worst part about it is they're targeted, they're micro-targeted by food industry.

SHAWN STEVENSON: How so?

DR. MARK HYMAN: When you look, for example, at the targeting of ads.

SHAWN STEVENSON: Yeah.

DR. MARK HYMAN: They're targeted to African-Americans, they're targeted to Hispanics, they're advertising for, for example, soda on the day that food stamps come out in these poor neighborhoods is much higher. They put more of these junk food places and fast places in poor neighborhoods. It's not an accident, it's actually by design. And they hire celebrities, Latino, African American celebrities to promote all this junk. I mean, you think LeBron James drinks Sprite?

SHAWN STEVENSON: Right.

DR. MARK HYMAN: I don't think so. I don't think so.

SHAWN STEVENSON: At half time, "Let me get that Sprite."

DR. MARK HYMAN: No, and I know, I'm ... Like if they put Gatorade in their stuff, they actually don't drink it. They have the Gatorade bucket filled with another liquid. And I know this for a fact because I have friends who own sports teams and they tell me that's what they do. They have contracts with Pepsi and they have to put this out there so they can see it on TV, but it's actually not what's in the bucket. So I think, we see African-American kids drink twice as much soda as white kids because they're targeted and the advertising, they see far more advertising for this on their media channels. And it's...

SHAWN STEVENSON: Yeah. You note it in the book that black teens viewed 119% more junk food-related ads, mostly for soda and candy than white teens.

DR. MARK HYMAN: Yeah. I mean, the health disparities are not an accident. And I think like, again, the co-op social groups like Black and Hispanic groups and other groups, and they're so deliberate about it. And unfortunately, it's this perpetual cycle that happens. And then it's tough for these family. I remember a girl in Cleveland I met, she was going to the Cuyahoga County Community Health College there. And they were studying food and cooking, and they wanted to pull themselves up. They were from really tough neighborhoods. She and her mother, I mean, her relatives were all having amputations, they had diabetes they were just really struggling. And she literally had to have her mother take two different buses to go for an hour, to go get... An hour each way to go get vegetables for the family, if she want to eat vegetables. Meanwhile, they had all the processed food they want, the little Debbie's, the sodas, the drinks. They don't even have like soda, it's like colored water. I mean, it's like neon-green, neon-blue, neon-red sugary liquid that they buy in these plastic containers full of phthalates that are pennies for a drink, and it's killing them.

SHAWN STEVENSON: And being in this situation, even just growing up, having food stamps and now the SNAP program, but we also had WIC as well.

DR. MARK HYMAN: Women, infants and children.

SHAWN STEVENSON: Yep. And so we'd get the like skim milk.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: And we'd get King Vitamin cereal, not like the stuff we really wanted, but white bread, we'd get some of these kind of basics, but we were just being continuing with the

malnutrition. And that's one of the things that you highlight as well, because there are people who are... And most of my family's obese or overweight. But yet, they're also at the same time malnourished. So how is that even possible?

DR. MARK HYMAN: Yeah. Well, we have too many calories and too few nutrients in our food. Right? I mean, Coca-Cola has a lot of calories, but no nutrients, right? Broccoli has a lot of nutrients but no calories. Right? So we are eating a nutrient-poor diet, and unfortunately, those abundance of nutrient-poor calories leads to malnutrition. When you look at obesity, these patients are the most nutrient-deficient. They're low in vitamin D. They're low in magnesium. They're low in zinc. [chuckle] They're low in folate. They're low in so many nutrients that we depend on for every biochemical reaction in our body. People don't understand that you can be obese and malnourished and then people want to eat more. There's a medical condition called pica, which is where kids will eat dirt if they're iron-deficient, right? We look for nutrients 'cause we're starving and our bodies crave those things. So we keep eating more and more food, trying to get more and more nutrients, but they're not there. So we just keep eating more food and get fatter and fatter and fatter.

SHAWN STEVENSON: Again, the first step in fixing these issues is awareness. That's the first domino. Now, with that said, what do we do to start to address this? We need to, number one, vote with our dollars. We vote every time for the food system we're going to have when we make a purchase for food. And so investing in quality, investing in real food, it starts to shift the dynamic of what food manufacturers are going to be providing for us. So voting with our dollars, but also voting with our votes. So we're talking about demanding changes in legislation. None of this stuff could happen without friendly policies from government regulations that allow food manufacturers, ultra-processed food manufacturers, to flood our communities with processed foods, for them to basically run all these experiments with all these artificial foods with human brains and human bodies. And also the malicious marketing mainly aimed at our children.

These are all issues that are enabled by government regulations. A lot of these things that are happening through our television, through our media, with processed food advertising doesn't happen in other countries. All right? And this is one of the crazy things about living here in the United States. That freedom of speech can be utilized in very manipulative ways, right? So we want to maintain our freedom of speech, but at the same time, have honesty and integrity behind that, especially if it's getting top billing and for many people, in many instances, it's the only billing, it's the only information that they're getting access to. So to change that, we have to demand it. When you vote for the next person, whether it's a city council, whether it's a mayor, whether it's a governor, whatever the case might be, ask them, demand what are they going to do about food and feeding our communities, right?

What changes are they going to make to reduce the amount of access that processed food companies have to our children, right? So, these are things that, again, we have to vote for, we have to demand the issue because a lot of these times, these are not people that are just altruistic and wanting to change the world. These are popularity contests, and they're going to do what's popular in the minds of their constituents, in the mind of the people in the community that they're trying to get the votes for. If we say food is important, if we say reducing access of processed food to our children is a must, then they'll fall in line, period, end of story. So, we have to vote with our dollars and vote with our votes. But also, we have to understand that change starts within our own homes. That's where we have the most power over right now. So, making sure that we are investing in high quality food to the best of our ability, finding deals where we can especially if we're operating on a budget, going to farmers markets, being able to utilize co-ops, maybe even growing some of our own food, there's so many different options that we can engage in.

But also supporting companies that are doing things the right way and being able to leverage that. And so, a couple of companies that I'm getting a lot of my family's food from is Wild Pastures, and they're giving away right now 20% off of every box of food that they carry for a lifetime. It's a lifetime deal, and you get an additional \$15 off right now as well. It's a limited time deal, so definitely check them out at Wild Pastures. And they are providing from farms that are truly utilizing regenerative farming practices. That is the bare minimum, that's the bar that is set for what you're getting from Wild Pastures. Like grass-fed, pasture-raised, but also regenerative farming practices is the mandate.

And so go to wildpastures.com/model, again, you get 20% off of every box that they carry. You want to check out these incredible boxes. 20% off for a lifetime right now at wildpastures.com/model. Plus, again, a \$15 off your purchase limited time special. Go to wildpastures.com/model, that's W-I-L-D-P-A-S-T-U-R-E-S.com/model. And also, coupled with their sister company, their brother from another mother company, Paleo Valley. This is where I get a lot of my supplements from no binders, no fillers, organic-processed, prepared and formulated the right way. I love their essential C complex that features three of the most dense sources of Vitamin C ever discovered, Camu Camu Berry, Amla Berry and Acerola cherry, and also their Turmeric Complex as well. Absolutely love those.

And even here at my studio, my team, we've got their bars, the meat sticks here at the studio all the time. Go to paleovalley.com/model, get 15% off everything that they carry over there. So, two wonderful resources, two companies that are proactively stepping up and putting their money and their mission where their mouth is, and investing in regenerative farming practices, investing in community wellness. All right? So that's what it's all about, voting with our dollar, but also change starts within our own household. Next up, in another powerful conversation that I have with Dr. Mark Hyman, you're going to be hearing about some of the

freaky deaky ways that processed food companies are manipulating our taste buds. Again, freaky deaky with our taste buds and not in the way that you want, and you're also going to hear with all of this information that we're getting, what the heck should we eat? All right? So, let's jump into this next conversation with the amazing Dr. Mark Hyman.

You mentioned in the book that a top executive at Pepsi told you how excited he was that they had learned how to grow and harvest human taste buds in a lab.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: First of all, why did Pepsi let you in? I thought they know who you are. Second of all, what's up with this? This is kind of like some creepy futuristic stuff here.

DR. MARK HYMAN: Yeah. Well, Pepsi has a home meme, they go, "Well, there's food that's good for you, and there's food that's fun for you." Now, what they mean by fun is literally fun in the sense of an addictive party drug. 'Cause the foods that they produce are designed to create addiction and to hijack your brain chemistry and your metabolism and your taste buds. In fact, I met with the vice chair of Pepsi, nice guy, smart guy, he was the head of the Mayo Clinic Endocrinology, which is no shabby job before he got the job at Pepsi. He's also a diabetic. And [chuckle] he was sitting at dinner with me, and he was eating pasta, bread, desserts, sugar. And I'm like, "What are you doing? You're diabetic." He says, "No, if I take my medications, and I run and I jog, I'm fine." And I'm like, "Well, let me get this straight, is 1800 calories of Pepsi the same as 1800 calories of Almonds or Broccoli?" He goes, "Yes." And I'm like, "Well, how does that make sense even intuitively?" Right?

We know now that all calories are not the same. So they have a very clear view that all calories are the same, so it doesn't matter if they are Coca-Cola, or Pepsi calories, or Dorito calories, as long as you don't eat too many and you exercise, you lose weight. And that is one of the biggest miss out there, eat less, exercise more, because weight loss is just simply wrong. It's the quality of the food, not how much you eat that matters. And then he said, "Mark, guess what, we got this Westchester lab, we harvest the taste buds. We're actually going to create a model where we can stimulate those taste buds and see how to maximize, sort of create pleasure." And it's like, I'm like, "Wow, you don't want to be telling me that, this is confidential."

I'm like, "Yeah, there's something called social media. You don't want me to advertising this stuff for you." And I was like... And he was really sincere about it, and he really felt this is a good thing, but when we look at the data on this, it's frightening. There's a guy named Michael Moss who wrote a book called Salt Sugar and Fat about the food industry. And he interviewed 300 food industry executives and scientists and people who worked for the food industry, and he found that internally. They have things called taste institutes where they hire craving experts.

These are scientists designed to create addiction, that know how to use chemicals to alter your brain chemistry to create what they call the bliss point of food, and then they talk about heavy users.

They want to create heavy users. So rather than getting someone like me to drink soda, they're going to go to the people who are already using and get them to use more. Instead of drinking a liter of soda, they want them to drink two liters of soda a day. And they target the poor, the minorities, and they seem like good actors and corporate social responsibility, but it's all a big charade to sell more products and privatize the profits and socialize the cost by all the fallout from consuming those foods on health, on our economy, on our agriculture. So it's really kind of a mess. And I think people don't understand the implications of the food they're eating, and it's not just a personal choice, you're having... With every bite of the food they're taking, they're impacting our soil, our water, our environment, climate change, their health, the economy, our social structures, poverty, violence, everything is connected to the food we eat.

SHAWN STEVENSON: This is... First of all, this is messed up, but also it's kind of inspiring at the same time. You know, Mark, it was probably 10 years ago. I was listening to a lecture that you did, and I didn't share this with you before, but you're the first person I heard use this term, and it struck me, like it literally just...

DR. MARK HYMAN: What did I say?

SHAWN STEVENSON: No, this is incredible. And I've shared this statement many times, is that food isn't just food, it's information, right?

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: Food isn't just food, it's information. And so we've got scientists who are world class, some of the smartest people around, who are working on finding a way that when you bring in this particular data from a processed food, from soda and things like that, to maximize the response and the addictive response in the body to get you to eat more of this food and like be masterful because it's not even real, that's the thing. It's not even real food. So I want to talk now about, you mentioned earlier that, you know, calories are not created equal, you know, and what we're looking at here is what is this calorie? Let's take the comparison of broccoli and Doritos, right?

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: This is going to impact your body very differently, if it's 300 calories of each. And why is that? What is the main component behind the scenes? Why are they different in how they affect us?

DR. MARK HYMAN: Well, what we now know is that every time you take a bite of food, it affects your hormones, your brain chemistry, your metabolism, your gut flora, your gene expression, your immune system, right? And it's not the calories that do that per se. It's the quality of the information in the food.

SHAWN STEVENSON: Right.

DR. MARK HYMAN: So you can turn on all the signals for health and disease by eating a Dorito, same calories you're going to eat. You're going to turn on all those signals for health and healing, eating, let's say broccoli or almonds. And it's a very different effect. For example, let's just take like a great example of like a big gulp, right? A big gulp is 750 calories. It's got 46. Oh no, it's got, I think, I don't know, ridiculous amounts of sugar, like 70 something grams of sugar. It has no fiber. When you consume it, it causes your liver to become inflamed, it causes your triglycerides to go up, your HDLs to go down your body to produce insulin.

It stores belly fat. It lowers your testosterone, and it makes you hungry, it causes you to lose muscle, it increases stress hormones. All these things are happening dynamically when you consume a big gulp. If you have 750 calories of broccoli, that's 21 cups of broccoli. I mean, good luck if you can eat 21 cups of broccoli. It's got, you know, 35 grams of fiber. It's got no sugar. It doesn't affect your body in the same way. It doesn't turn on insulin. It doesn't make you have a fatty liver. It doesn't screw up your cholesterol. It doesn't lower your hormones. It actually increases detoxification, prevents cancer, helps you detox metals, helps increase your healthy gut flora. Exactly the same calories, profoundly different effects on the body.

SHAWN STEVENSON: That's so powerful. Just for us to really kind of take a second and like let that sink in, that the whole thing with this calorie myth, that all calories are created equal, this is long been banished. And you even have research in your book indicating how, you know, particular foods, you know, if somebody eats, maybe a higher ratio of healthy dietary fats, that they'll actually lose more weight over the same amount of time, not doing any more exercise compared to people who are eating a higher carbohydrate diet with same calories.

DR. MARK HYMAN: Yeah, exactly. So exactly. So what we now know is that certain calories raise insulin. Carbohydrates predominantly, mostly grains or flour, particularly, and sugar or anything that turns to sugar and that fat doesn't raise insulin. So if you take, for example, a type 1 diabetic, this is an easy example for people to understand, they don't make insulin. Their pancreas shut down. These people are eating 10,000 calories a day. They're not gaining a

pound. They're losing weight, eating 10,000 calories a day, right? Because they have no insulin and insulins are required to store the fat, and they're eating carbs, they're eating sugar, they're eating fat, whatever, they're eating, whatever, but they still can't gain weight, 'cause they have no insulin. When you eat carbohydrates, you spike insulin and it stores fat. It slows your metabolism, it locks the fat in the fat cells, it makes you hungry.

When you eat fat, you don't produce insulin. So if you reduce carbs dramatically and you increase fat, you can't combine them, 'cause that's deadly. I call that sweet fat. You actually will increase your metabolism by about 3-400 calories a day. That's like running an hour a day without getting off the couch, even if you're eating the same amount of calories. And this study has been done. In fact last week in the Journal of the American Medical Association, there was an amazing article about ketogenic diets and type 2 diabetes and weight loss, showing that when you dramatically increased fat in the diet, you correct all the cardiovascular risk factors, you increase the speed of your metabolism. You 'cause far more weight loss. In type 2 diabetics, you get them off insulin, off their medications, and their blood sugars are better than when they were on medication.

And I see this all the time, where in Cleveland Clinic, where we've run pilots where we've taken the most treatment-resistant diabetics, we've run tons of meds on insulin, we get 'em off all of that in eight weeks, and their blood sugars are far better and almost normal compared to the ones when they were on the drugs. So we have the ability to actually show how this is working. And there's a big study going on now at Harvard, where it's a \$12 million study funded independently by a philanthropist who wants to show this. And it's... They're locking people in a resort. They're feeding them either very high fat diet, very low carb or the opposite, low, low fat, high carb. And they're measuring what happens on the same amount of calories. And they're seeing what they take in, what their metabolism is. And the data is just so compelling. And yet the truth is, Shawn, that every doctor, nutritionist, public health association, government, food industry, all still say the mantra, eat less, exercise more. It's based on outdated science, and it's harmful for people 'cause it blames the victim. It's your fault you're fat, just eat less, exercise more. Well, if your brain's hijacked, willpower is a fiction, you know, you can't. Right.

SHAWN STEVENSON: Right. You know, there is... Well, first of all, I'm thinking about even the American Diabetic Association, the recommendations for nutrition, and they're literally telling people to eat foods that can spike insulin.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: And the reality is this... And so, by the way, this is going to... We're going to have a little controversy here today.

DR. MARK HYMAN: Okay.

SHAWN STEVENSON: Because there's films out there like "What The Health, right?" Well, there is a...

DR. MARK HYMAN: Oh yeah, that was a great propaganda movie.

SHAWN STEVENSON: There is a licensed physician saying, you know what, diabetes is not caused by sugar, it's caused by fat intake, right. So before... I see you're like Aaaaah, let me... All right, so here's the thing. Listen, guys, this is what I want you to do. Make sure to pick up Dr. Hyman's new book, Food: What the Heck Should I Eat? Because let me tell you this, all of us, everybody listening, all of us, our family, we understand there's a lot of conflicting information out there, and there's a lot of different choices. And there are a lot of things that are right, and there are also some things that are pretty dangerous that are considered to be right. And so what he's doing is taking the best of each of these fields, whether it's vegetarian food, whether it's Paleo food, whether it's a ketogenic approach, and he's looking at...

Let's actually look at the data, let's have a talk about it and also use our rational common sense in the mix. Before we get to the controversy, I want to know what inspired you personally to write this... I know for me, this is one of the things we work on here with the show, is drilling down and getting to the heart of the matter, so what was the inspiration for you?

DR. MARK HYMAN: Well, the inspiration is. I've been studying nutrition for 40 years, I've read tens and thousands of papers, I've treated tens of thousands of patients. And the question that always comes up is, What should I eat? People just are confused, they don't know, they don't understand, and they're making bad choices, not because they don't want to do the right thing, because they just don't know, and I think there's so much conflicting information out there. One day eggs are good, bad, then they're good. One day steak is bad, then it's good. One day butter's bad, then it's good. One day oatmeal is good, then it's bad. It's like enough to make anybody crazy and just say the heck with it, I give up and I'm going to eat whatever I want. The truth is, we know a lot. And when you combine the full body of scientific literature, not just cherry-picking studies to support your point of view, and you look at the clinical picture, which I have a rare opportunity 'cause I've been testing metabolic rates and nutritional status and blood tests and cholesterol and cardiovascular factors for 30 years, and using diet and food to manipulate those numbers and to affect the quality of people's health.

So I've seen this. It's not just some crazy idea I have that I read in a book. It's actually based on experience, plus common sense, plus sort of a sense of our evolutionary biology and what makes sense. Does it make sense for us to consume a thousand times more refined vegetable

oils than we did 100 years ago? Probably not. Does it make sense for us to consume 150 pounds of sugar when we maybe had 22 teaspoons of sugar a year when we were out hunting and gathering? Probably not. These are just common sense things. You combine all those things, and I really felt like people needed to get a book where they could go one-stop shopping and look at each category of the foods we eat, meat, poultry, fish, dairy, vegetables, fruit, nuts, seeds, beans, grains, sweeteners, sugars, beverages, and know what to choose in each of those categories based on, one, what's the science, what it does to your body, the effects on the planet, on human rights, and on our greater society. So you can make an educated choice about eating food that's good for you, good for the planet, and good for the world. And I think that's really the goal of this book, it's very simple, very clear, addressing all the key topics of controversy, so if you've ever said, "What about Blop?" It's in the book.

'cause I've always been asked these questions so many times, so I know the questions that people have, and I've sifted through the science and made it really simple and clear, so by the end, you have resources of where to go. Let's say you want to find the cheap grass-fed beef online, where do you go? Let's say you want to know which vegetable should you eat organic or not and what matters? Well, here's where you go to find out. And I go through all that in the book, and it's hopefully a guide that people can use forever. You can keep it in your kitchen, you can keep it whether you want to go to the grocery store, you can share with your friends and family. It's really, for me, I feel like my favorite book I've ever written because it gives people a holistic view of food and nutrition, and it also includes some of the political, social environmental aspects as well.

SHAWN STEVENSON: Right, exactly. Yeah and that was very enlightening to see as well. So, that's what I want to talk about, is let's jump back now and look at this controversy. When we have a physician out there who's sharing this propaganda, something that is like, this is totally against human physiology, saying that it's fat that's causing diabetes. So let's talk about that. You have a section in here talking about fats and oils, so where did this insane information... By the way, let's start with the coconut thing, coconut was slammed in the media a little while ago, was everywhere, people were posting me, Shawn, what do you think about this? So let's talk about saturated fat and the truth about whether or not it's fat that's really bad for you, or whether it's this issue with insulin.

DR. MARK HYMAN: Yeah, well, that's a great question. Yeah, [laughter] it's such a controversy, and I think what you said in that movie, What The Health was, a guy in a white coat who seems like an intelligent man who's a trained physician with a license says sugar and carbohydrates have nothing to do with diabetes or obesity. And another guy in the movie says... Garth Davis says, carbohydrates can't be stored, only fat can be stored. Now, this is just a basic biochemistry, and maybe they missed their biochemistry class, and the reason they believe this is not based on science, it's based on dogma. So you can't let your beliefs and your dogma

overtake science and disrupt your point of view. I don't have a particular belief, I've been in a vegetarian, a vegan, I've been paleo, I've been everything in between, and I'm trying to understand what works. I mean, I'm curious about what really works. Now, what's interesting about fat, you know, you see... I wrote a whole book called Eat Fat, Get Thin, where I address this in detail. But the issue is really how do we understand what happens when you eat fat and sugar? We touched on it, but if you eat fat, it seems logical that fat makes you fat. It's the same word, it looks the same when you cut it open, and it seems like if you... It has more calories, and carbs, and protein, so logically, if you eat less fat you're going to lose weight.

Problem is biology is not so simple. And when you eat fat, you actually stimulate metabolism, you cut your hunger, you release fat from the fat cells. It's called lipolysis. You actually stimulate your metabolism to burn 300 calories more a day. Whereas, if you eat carbs, and sugar, and starch, even a lot of grains, you raise your insulin, and insulin is the key hormone that's driving almost all chronic disease, from cancer to heart disease to diabetes, to Alzheimer's, and even things like depression. So we have to understand that as long as we have high insulin levels, we're going to be struggling to lose weight and to feel healthy and reverse disease.

So that's why this whole movement towards higher fat diets is happening. In fact, even the Dietary Guidelines Committee removed any upper limit on fat, and they said cholesterol is not an issue anymore. They're still restricting saturated fat. And here's the problem, you asked about coconut oil. I did a Facebook Live on coconut oil. There was like over a million and a half views, and I'm like, "Holy cow, people are so confused." And then you've got the American Heart Association, which by the way, gets most of its money from the food industry and the pharma industry, as well as the American Diabetic Association. The American Nutrition Dietetic Association gets 40% of its funding from the processed food industry.

I mean, they're the ones giving us nutritional advice. So, when the American Heart Association put out this report, they said, "Coconut oil is bad because it has saturated fat." Now, here's the problem with that logic. There's never been a single study that's ever proved that coconut oil causes heart disease, it's guilt by association. So this all came back 50 years ago or more from this guy, Ancel Keys, who said, "Let's study a few countries and see who gets what and what they're eating, and maybe we can find out the cause of heart disease." Well, he found out that people who ate more fat, and saturated fat, had more heart disease. Turns out he left out a lot of countries that disproved his theory like France, that ate butter and cream like it was going out of style and they had the lowest heart disease risks. And then never really proved it, and then that became the meme, and he was a very powerful figure and actually convinced the world of his point of view, which turned out to be wrong.

And then we moved on to the late '60s when two nutrition scientists at Harvard, and doctors, were paid by the sugar industry, the equivalent of \$50,000 to publish a study in the New England Journal, which at that point didn't require a conflict of interest statement, to show that fat was the enemy and sugar was fine. Well, that went on... That guy went on to run the government's Dietary Guidelines Committee, on the first one under George McGovern, and that led to this whole era of low fat. And then we got the food pyramid, and we... And this whole spiral, and if you look at the statistics, you see that when we came out with the food pyramid, the guidelines, the rate of obesity and diabetes skyrocketed like a hockey stick. And now we're kind of turning the tide back a little bit, it's very hard. And I think most people still believe that fat is bad, they eat skimmed milk, low fat yogurt, low fat foods, low fat salad dressing, and this is really dangerous. Now, the key thing to remember is, you cannot add fat to your diet if you're still eating starch and sugar.

A little bit okay. But if majority of your diet is grains, and starch, and sugar, it's deadly. So, I would really never, never, never do that. Coconut oil is something that does raise cholesterol. So, their view is if you have saturated fat, it raises cholesterol, and cholesterol causes heart disease, and you shouldn't actually eat anything that raises your LDL cholesterol. Well, that whole theory has kinda been broken, and here's how, a couple of reasons. One, there was a major study actually done by the guy who was trying to prove that saturated fat was bad, Ancel Keys, and another guy, a researcher, I think from University of Minnesota back in the late '60s and '70s. This kind of study could never be done today, because it was unethical. They took 9000 people who were basically institutionalized in mental institutions, and they did an experiment on them without their consent, and they gave half of them saturated fat and half of them corn oil. And then they followed them, which is almost impossible to do this kind of study anywhere else, because people live in their free world, they eat whatever they want, you can't control their diet.

So, they controlled their diets, and they found that the group that had the corn oil, actually lowered the LDL cholesterol. That was good, but for every 30-point drop in LDL cholesterol, there was a 22% increase in heart attacks and death. So, the lower your cholesterol, the worst you were, and the saturated fat group did way better. They didn't publish the study. Why? Because it contradicted their entire world view, so they stuffed it in the basement, and it wasn't until last year that researchers from the National Institute of Health dug it up and actually published it and was like, "What?"

SHAWN STEVENSON: This just sounded like a movie right now, Mark.

DR. MARK HYMAN: Oh, my god. Malcolm Gladwell did a great revisionist history podcast on this, it was really quite good. And then of course, we have 17 men analysis of studies, showing there's no link between saturated fat and heart disease. None, from observational studies,

from interventional studies, from blood levels of fatty acid studies. Nobody can find the link when they actually looked at it, it was just all an idea. And so now we still have this idea that saturated fat is bad, and the American Heart Association's still stuck on that, and so that's why they say coconut oil is bad, 'cause saturated fat raises LDL, that causes a heart attack. That theory's just been debunked.

SHAWN STEVENSON: You know what, I think at some point in human history, maybe 10, 20 years from now, maybe a little bit longer, this is going to become a movie. And it's going to star Nicholas Cage, for sure, and it's this national treasure, somebody's digging around in research and they find this old, "Wait a minute, it was at conspiracy the whole time."

DR. MARK HYMAN: They did, they found his old file. Just like dig up in the basement.

SHAWN STEVENSON: It's nuts. That's nuts. But the good news is, again, is that folks like you who are out here and sharing the reality of the situation and also pointing people towards better options. So, I want to ask you about... Because also with coconut oil specifically, and we talk about saturated fats. We're not including the fact that this is from coconut oil. So what we tend to do is we isolate nutrients versus the food. So let's talk a little bit about that issue.

DR. MARK HYMAN: So, yeah. So, first of all, going back to the coconut, there's populations that lived in the South Pacific, 60% of their calories were coconut oil. And they had no heart disease, obesity, diabetes, nothing. So the evidence for this coconut oil thing is bad. Now, the coconut oil also has many other benefits, we've got polyphenols, antioxidants in virgin coconut oil, and the coconut oil also has something called MCT oil, which is a powerful metabolism booster, brain activator and metabolism activator.

It's really, really an impressive compound. So coconut oil overall has a lot of benefits, and I think that we really shouldn't vilify it. And I think that whole saturated fat thing with it just doesn't really make sense, and yet some people genetically have a harder time with saturated fats. That's true, but as a whole, we're really okay with that.

SHAWN STEVENSON: So there's actually a term, isn't there, for when we're looking at studying nutrients instead of the real food?

DR. MARK HYMAN: Yeah. We call it nutritionism. So we get focused on saturated fat or refined or PUFAs or on mineral like magnesium or some fiber, and we get... This is what the food industry does, and it works for them. If we say fiber is good, whole grains are good. Well, they'll make whole grain Cookie Crisp cereal. Now, that is not healthy. It's got 22 teaspoons of sugar in it, right? Honey Nut Cheerios, sounds good, right? Honey, nut, all these healthy things, right?

SHAWN STEVENSON: Right.

DR. MARK HYMAN: It's got more sugar in a serving than three Chips Ahoy cookies. Right?

SHAWN STEVENSON: That's crazy. Isn't that... It's like a... It's a cereal that... This is what they say, it's Jerry Seinfeld, it's not a cereal that's like cookies. It is cookies.

DR. MARK HYMAN: Right, it is cookies. It's basically breakfast... Actually, not really breakfast. It's dessert masquerading as breakfast.

SHAWN STEVENSON: Exactly, exactly. Except tricks, they say it right out in front, like, hey, we got you. Right? Trick or treat.

DR. MARK HYMAN: Right. Yeah.

SHAWN STEVENSON: So let's shift gears now because this is an amazing community who was really about elevating themselves, becoming educated in nutrition. We've got folks who are vegetarian, following vegetarian protocols, paleo, ketogenic, and here, we're very inclusive and just looking at how can we all work to be the best version of ourselves. And so collectively, what I want to point people to and to talk about is something that we can all agree upon, that you talk about here in the book, and you bring some serious highlights that, again, things that oftentimes we don't consider in vegetables. All right, so there's actually some potential... Oh, we got a special guest here, so...

DR. MARK HYMAN: Like, yay, this is Yoda.

SHAWN STEVENSON: Yoda. Oh, Yoda is... Hopefully you guys can see the video.

DR. MARK HYMAN: So it looks like Yoda. If you go like this, he goes, ah, love you, I do.

SHAWN STEVENSON: Definitely. Man, I totally forgot what I was going to say. Yoda is so cute. Oh my goodness. All right, so vegetables, this category of food, this is something we can collectively agree on. Nobody's like, you know what, vegetables are terrible for you, but there are some things that we need to be concerned about. So let's talk about this category and why you put a whole section here of the book on it.

DR. MARK HYMAN: Well, I wrote a section on every group of food we eat. Like you said, I'm not focusing on nutrients. I'm not writing a chapter on saturated fat or on carbohydrates. I'm writing chapters on the food that we eat, meat, chicken, fish, poultry, fruits, vegetables, grains. So I want to actually make it simple, 'cause we don't eat ingredients, we eat food. And in terms

of vegetables, the sad thing is that most Americans don't eat much vegetables. The number one and two vegetables we eat are potatoes in the form of French fries and tomatoes in the form of ketchup. Now, neither of those should be considered vegetables 'cause they're, one, full of harmful compounds. The ketchup is mostly sugar, and the French fries are deep-fried and processed oils, and that turns into dangerous carcinogenic chemicals like acrylamide, and it's fat and carbs which makes your insulin go up and gain weight. So it's just, these are not vegetables you want to be eating. And in fact, the most common vegetables are the least healthy and the most healthy are the least eaten. So we've kind of flipped that upside down. In the book, I talk about how to choose the right vegetables, and I also talk about how to be aware of where the contaminants are. I work for the Environmental Working Group. I'm on the Board, and we've created a guide called the Dirty Dozen and Clean 15.

Dirty Dozen is these dozen fruits and vegetables you want to stay away from if they're not organic. These Clean 15, probably not such a big deal. They're not so contaminated, but strawberries, forget it. You never want to eat a strawberry if it's not organic. And I go through that in the book, and I go through really what we should be eating. Certain vegetables may not be as healthy, like alfalfa sprouts. People think they're a health food, but they contain a toxic carcinogenic compound, so you don't want to consume a lot of alfalfa sprouts. Or white button mushrooms, they're in salads. They have a toxin also in there you want to be aware of. But most of the time, most vegetables are pretty good. Now, starchy vegetables, depending on your metabolism, may not be as good for you. If you're a type 2 diabetic, you don't want to be eating a lot of potatoes and big starchy vegetables. But if you're not, those are great to include in your diet.

SHAWN STEVENSON: Yes. I'm so glad that you focused on this and really kind of pulling back the curtain and really looking at this because... And this is something that we think about, but we might not really, really get. Number one, vegetable-consumed potatoes, all right?

DR. MARK HYMAN: Yeah. Right.

SHAWN STEVENSON: Barely, barely really a vegetable. And then you've got...

DR. MARK HYMAN: Well, French fries.

SHAWN STEVENSON: No. And then listen, Mark, this is so crazy, like you literally detailed my childhood here. So you got...

DR. MARK HYMAN: All right.

SHAWN STEVENSON: Potatoes, number one. Ketchup, literally, literally, I would tell people that I'm part ketchup. When I was a kid, I'm like, I'm kind of... I'm black and I'm white and I'm part ketchup. I'd mix up these things and I'll be like... And I'm part...

DR. MARK HYMAN: Black and white and red.

SHAWN STEVENSON: I'm part orange as well. Right, I'd say red. See, how do you know, you were there? You must have been there. And I say I'm orange because of all the cheese. Now, so that's number one. Number two is ketchup.

DR. MARK HYMAN: Oh, by the way, wait, wait, wait. Cheese, you said orange for the cheese. So orange cheese, the slices of cheese that we all grew up on, the government doesn't allow the companies that sell it to call it cheese 'cause it has to be more than 51% cheese to call it cheese. So they call it slices, American slices. Look at the label next time. It's illegal to call it cheese 'cause it's mostly ingredients that aren't actually food.

SHAWN STEVENSON: Nuts, man. Kraft Macaroni and whatever, right? All right, so listen, so those are the top two. Number three is sweet corn, which that was... Again, that was on the menu. And four is onions, which is surprising. Let's throw it in there.

DR. MARK HYMAN: Onions are okay.

SHAWN STEVENSON: And then five is when you put the inglorious iceberg lettuce. And so this is something that gets me... People are like, Well, I eat salads. I eat salad every day.

DR. MARK HYMAN: That's water.

SHAWN STEVENSON: What kind of salad are you actually eating? So this was my life, minus the lettuce, I didn't really mess with that. But this is...

DR. MARK HYMAN: Yeah, iceberg lettuce.

SHAWN STEVENSON: Yeah, so again... And oh, guys, I got to point this out, too, and this is what you highlighted here. When you mentioned... So first of all, you pointed out that farming is actually one of the most dangerous occupations, the folks that are dealing with pesticides and herbicides or rodenticides, and the increased incidents of kidney, pancreatic, prostate cancers, and in 2000...

DR. MARK HYMAN: Parkinson's disease, yeah.

SHAWN STEVENSON: Crazy stuff. 2015, funded by the EPA, found that consumers who often or always bought organic had significantly less insecticide in their urine, even though, they ate 70% more produce than people who bought the conventionally-grown fruits and vegetables.

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: Nuts.

DR. MARK HYMAN: Exactly.

SHAWN STEVENSON: So literally coming out of our bodies.

DR. MARK HYMAN: Honestly, if we were food, we wouldn't be safe to eat, we're so polluted.

SHAWN STEVENSON: Wow, that's deep.

DR. MARK HYMAN: If you do fat biopsies [chuckle], and you look at people's storage of pesticides, DDT, DDE dioxins, Atrazine, it's terrible what's in us. It's frightening. That's why I take saunas all the time and take a lot of cruciferous vegetables and why I take things to... Supplements to help me detoxify 'cause we are a toxic waste dump.

SHAWN STEVENSON: That's nuts, Mark. I can't believe you just said that, we wouldn't be good to eat, so... That's a question for everybody to think about.

DR. MARK HYMAN: If we were food, we would not be safe to eat.

SHAWN STEVENSON: Would you eat yourself, all right? That's the big takeaway from today. Ask that question daily as you're taking care and eating good food, are you...

DR. MARK HYMAN: The cannibals have a list. They're like, don't eat Americans. It's like, Don't eat tuna because it's got too much mercury.

SHAWN STEVENSON: All right. So let's shift gears here and talk about the thing that usually is coupled with vegetables, which is fruit. When I went to a traditional university, and I was taught about the food pyramid at this point, this is when I was in school. And we were told to eat, I believe is five to seven servings of fruits and vegetables, and that is pretty vague because it could just be four servings of fruit and one vegetable. So let's talk about fruit and some of the kind of, really, just kind of jarring issues with fruit. So let's start with the conversation about fructose.

DR. MARK HYMAN: Oh, well, okay. So people go... Well, fructose is in high-fructose corn syrup and anywhere between 55 to 70% or 80% fructose in sweeteners that are used in most foods in America today. And it's not combined like in sugar, regular sugar as glucose and fructose that's together in a double bond, this is free fructose. So it's absorbed very quickly, it goes straight to the liver, it causes fatty liver, it causes inflammation, causes weight gain, it's very harmful. And we are consuming huge amounts of this in everything. It's in salad dressing, it's in ketchup, it's in bread, they put high-fructose corn syrup in bread for Christ's sake. So that's really the problem.

It's not the fructose that's in fruit, 'cause it comes in a package, it comes in a package of fiber, vitamins, minerals, antioxidants, so it's okay to eat it. The problem is what fruit, when and how much and for who? So if you're a type 2 diabetic, and you eat a pound of grapes, you're going to be in trouble, right? If you're an athlete, and you're consuming more fruit, you'll probably handle it fine.

And it's important to say fruit, not fruit juice. You look at Coca-Cola and Pepsi bought Odwalla and Naked Juice. And now, you go to look at one of those in the airport, looks like a healthy green juice or vegetable or fruit juice. You look at the label, it's like drinking two Coca-Colas in terms the amount of sugar has in there. So it's not necessarily fruit in juice or fruit in smoothies, which can be consumed... I mean, how many apples can you eat? You can drink five apples and a glass of apple juice, but you're not going to eat five apples. And then you got all the fiber and nutrients to prevent the absorption. So unless you're really overweight diabetic, you want to keep your fruit to a minimum then. And eat the low glycemic foods, I talk about one of the high sugar fruits, low sugar fruits like berries, they're great, they're full of antioxidants, and you can eat plenty of them, but you have to be careful if you're overweight and have type 2 diabetes.

SHAWN STEVENSON: Yes, you know what, and you also do the same thing with the ranking of some of the top consumed fruit. So the number one for Americans, "fruit" is orange juice, all right, which is bananas.

DR. MARK HYMAN: Like drinking soda.

SHAWN STEVENSON: Same thing for me, that was my number one go-to. And let's see. And also, you cited a study in here linking it to diabetes as well. And next on the list is bananas, which we've talked about several times, very hybridized. And recently, I had a conversation about this on another show, and the host is from Barbados, and he was like, You know what, I never thought about this, you're so right, we had some kind of... Well, we just thought it was normal that there would be bigger seeds in our bananas, and a lot of folks aren't aware that

the bananas that we see, even if they're organic and conventional in our conventional grocery stores, have been hybridized to the point that they can't reproduce on their own any more.

DR. MARK HYMAN: Yeah. Yeah, the South American's a little red banana, funny little bananas, very different bananas.

SHAWN STEVENSON: Yeah. And it's a lot of work. We want it now, we want the sugar bomb and the so-called the potassium hit. But what I want to talk about in regards to fruit is the fact that... Number one, of course, we talked about what's going on there with insulin, but I want to talk about how we actually use them, right? So with fruit, Look, we just mentioned banana, it's not saying that you can't ever have a banana guys.

DR. MARK HYMAN: No, I mean, bananas versus Doritos go for the banana every day.

SHAWN STEVENSON: Yes. And so what do we... What's a more advantageous approach, knowing that potentially we can get into some issues with the... Our glycemic response with fruit. What should we target and what should we be aware of?

DR. MARK HYMAN: Well, the truth is, we should be eating, not like five to nine, but more like nine to 11 servings of vegetables and fruit. It shouldn't be fruits and vegetables. It should be vegetables and fruit. And again, depending on your own individual unique needs, if you're an athlete, if you're healthy, you can consume more fruit. If you are a diabetic, if you're overweight, if you have a lot of sugar issues, you can binge on fruit.

I used to have a diabetic patient who used to eat a lot of plum, and his blood sugar would skyrocket. So you have to see what works for you. Hopefully, soon, we're going to have an amazing new technology where you basically put a little device on your skin, it reads up to your iPhone, and it'll tell you exactly what your blood sugar is when you eat anything. So you'll know immediately what happens. And I can't wait for that day because I think people are going to know, Gosh, I didn't realize when I ate blabbity, blah, this is what happened. Or when I ate this, I was actually good. So I think that's a really good thing to think about.

SHAWN STEVENSON: All right, let's jump over here now and really get to the meat...

DR. MARK HYMAN: Yeah.

SHAWN STEVENSON: Meats and potatoes. And talk...

DR. MARK HYMAN: I wonder when you were going to get to the meat and the... Subject here.

SHAWN STEVENSON: And talk about meat. So this is a very, very controversial subject, and you highlight so many incredible studies and looking at like is this... Is this actually an issue? Is this the causative agent when we see increases of cancer? This is one of the big things, if you eat too much red meat, it's going to cause heart disease, all these kind of things. So let's talk about this and make this the definitive answer on the subject matter.

DR. MARK HYMAN: Well, look, Shawn, like you, I'm sure you want this too. But I want to live to be like 120 and be healthy. I don't want to do something stupid based on some principle or dogma that's going to make me sick. So, yeah, I was aware of the issues around meat, and meat's been vilified for a long time. First, because it has saturated fat, saturated fat causes heart disease, so cut out the saturated fat. That's why milk... My meat consumption has dramatically decreased in this country over the last 40, 50 years. We've had a lot more chicken, a lot less meat, that may not be a good thing. The second is, when I went to try to look at this, I said, "Okay, I'm going to... I'm a doctor, I'm a scientist, I'm going to go figure this out." So I got all the best papers on meat that I could find, I had researchers dig up all these papers, I printed them out, they were stacked high, I took 'em to a hotel room, and I locked myself in for a week, and I read everything. And I'm like, "All right." And I didn't read the headlines, I didn't read the abstracts, I read the methods, I read who they did studies on, what their characteristics were, what the issues were.

And what's interesting, there were three issues that came up in that process. First was eating meat or not could be a moral issue. I've had Buddhist monks as patients, if they don't want to kill any animals, fine. That's fine, and they can figure out how to be a healthy vegan or vegetarian, and I teach them how to do that. The second is environmental, and absolutely our factory farming of animals is the... One of the worst things that's happening in our society today. One, because it is destroying our environment, it's depleting our soils, which we need. If we don't... If we only have desert and dust on this planet, we're dead. Second, the soils are needed to sequester carbon, which if not, it goes into the environment and causes climate change, goes in the oceans and acidifies the oceans, kills the phytoplankton, which produce half our oxygen. So we're going to suffocate. And the water, also was required to be sequestered in the soil. If you have organic matter in the soil, it can hold tons of water. If you're growing food on dust and fertilizing it and putting all these chemicals on, it can't hold water, which is why we see mud slides and why we see droughts, and why we see these crazy weather patterns, it's because of this.

This actually... It's kind of a digression, but we had 60 million buffalo in this country, which kept the soils healthy and kept the water in the soils and prevented droughts, and then we killed 60 million buffalo and there were like 300 left. We got the big dust ball in the '30s as a result of that, this almost destroyed America. So we're in that situation. And then of course, there's run off into the rivers that destroys the water ways, there's pesticides, and insecticides that get

loaded in the environment and our bodies, and it creates climate change, it uses one fifth of our fossil fuels. So it depletes our... One... 70% of the world's fresh water supplies is used to grow animals for human consumption, this is a big problem. So, from the point of view of factory farmed animals, no, we should eating those because it harms... The planet, harms us, and in fact, has much different nutrients in it, has far less anti-oxidants, glutathione peroxidase, catalase, less minerals, and it also has a different profile of fat. Wild meat or grass-fed meat has higher levels of omega-3 fats, whereas farm-raised is fed corn and that as... And soybean oil, and that has higher levels of the omega-6 fats, which can be inflammatory. Plus, these cows eat ground up animal parts, they eat feces, they eat candy. There was a giant truck...

SHAWN STEVENSON: Oh man.

DR. MARK HYMAN: A giant truck that fell over on the highway somewhere and it was filled with out-of-date Skittles that they were bringing to feed the cows. So, there's all kinds of stuff that we shouldn't... And plus, there's hormones, antibiotics, there's pesticides in the meat, it's so much less healthy than grass-fed.

SHAWN STEVENSON: Wait, Mark, we got to talk about this. We got to talk about the candy. All right. So, we've said this before, it's not you are what you eat, it's what you eat ate. And literally, we know what candy does to us, but this truck spill, and you talked about it, and this was all over the news. I see guys in here, in the studio, even shaking their head, remembering. This coating over the freeway... Wait, it was the freeway, right?

DR. MARK HYMAN: Red Skittles everywhere.

SHAWN STEVENSON: Red Skittles, and they were on their way to get fed to some cattle. Nuts, nuts.

DR. MARK HYMAN: Yeah, yeah. It is pretty nuts. So yes, from the environmental point of view, absolutely the wrong thing. But let's just take meat separately and look at the third issue, which is healthy. What do these studies show about the effect of meat on health? And there was a period of time where a lot of studies were done, and we call these population studies. They can't prove cause and effect, they basically ask people every year, "What did you eat?" And then they say, "What disease did you have?" And they correlate it and see if there's a connection. Now, there may be a connection, there may not be a connection. For example smoking, they did this kind of study and they found it was a 10-20 to one risk of cancer. With the meat studies, they might find a 20 or 30% increased risk of something, which is not really telling you anything in the context of a type of study that can't prove cause and effect. And when they looked at... When I looked at the characteristics of the meat-eaters in these studies, there was

like 500,000 people over many years, they were unhealthy, because they were eating meat in an era where meat was bad.

So if you ate meat, you didn't give a crap about your health, so you didn't exercise, you smoked, you drank, you didn't eat fruits and vegetables, you ate processed food, you ate more sugar and starch, and you weighed more, and you ate 800 calories more, of course you had more disease, that's why these people seem to have more risk of disease. This has shown over and over again. And when you look at interventional studies where they actually give people a Paleo diet, they actually do better. All their cardiovascular risk markers get better, all their inflammation gets better, their weight goes down. So, we have to really look at the science here. And then of course, there are studies looking at meat eaters and vegetarians who shop at health food stores. Both of their risk goes down in half, because they're eating a healthy overall diet and the meat in the context of an overall healthy diet is not an issue. So I think we have to really rethink our whole negative view of meat. And then of course, there's the issue of whether meat causes cancer, and this is from the World Health Organization, and you shouldn't eat meat 'cause it caused cancer.

Well, it didn't find that meat causes cancer, what it found was that processed meat causes cancer. And it was a 20% increase in risk of colon cancer if you ate bacon and hot dogs and bologna and salami. What did the study actually show? The studies actually show that there was a 20% risk, which means your background risk of getting colon cancer, 5%. When you eat bacon, four pieces every day, your whole life, your risk goes from 5-6%. Now, unless you're planning on eating bacon every day, four pieces your whole life, you probably shouldn't do that, but a piece a bacon here and there, it's going to have a nominal increase in your risk, and it's...

We're talking about a 1% absolute risk increase. So we shouldn't be eating tons of hot dogs and processed meat, I agree, but the truth is that the risk is overstated and amplified. I mean I was sitting with a friend and another friend on a panel at a conference. One was a paleo doc, and the other was a vegan cardiologist who was low fat, and they're arguing and fighting. I'm like, Listen guys, we're all friends. You're paleo, you're vegan, and I must be a pegan, and I was like, Oh, that's funny. And everybody laughed, and then I was like, Wait a minute, there's a lot of common sense in that, and I'm like, it's not extreme, it looks at in each category, how do you choose what to eat? If you're going to eat grains, what are the healthiest grains? If you're going to eat meat, what's the healthiest meat? How much of each should you eat? The truth is that when you look at those two camps, they agree on most stuff. One, we should be eating a diet high in sugar and starch. Two, we should be eating mostly vegetables and plant foods. Three, we should be eating good quality fats. Four, we should not eat chemicals and processed foods and hormones, antibiotics, GMO and crap. And five, we should... If we are raising animals, we

should use sustainable practices, we should use regenerative agriculture, we should humanely treat the animals.

If we're consuming fish, we should be sustainably harvesting them or... Or sustainably raising them in fish farms that aren't toxic, and we should eat... If we're going to eat grains, you probably don't want to eat a lot of the inflammatory starchy grains, you want to eat more things like Buckwheat and Quinoa, stay away from a lot of the gluten grains. If you're eating dairy, you don't want to have a factory farm dairy. And by the way, both camps don't believe in dairy, and I'm not a big dairy fan, but if you're going to eat some dairy and you can tolerate it, it probably should be sheep or goat cheese, not cow dairy, which is full of inflammatory proteins and other factors that can be harmful. And I go through all the issues around dairy, despite the fact that our government says to consume three glasses of milk a day for everybody, 'cause it's going to prevent fractures and make your kids grow strong and help you lose weight, none of those, by the way, are true, all of them have been disproven by science, not just my opinion, this is from the top scientist at Harvard who challenged the government and they say, Well, sorry, this is what the Dairy Council says we have to put in there so... And by the way, I'm not sure you know this, Shawn, but this fall, the National Academy of Sciences published a report...

It was commissioned by Congress to look at the integrity of the dietary guidelines process. Do you know about this?

SHAWN STEVENSON: Yeah.

DR. MARK HYMAN: And they essentially said, the dietary guidelines process is corrupt, that scientists on it are funded by the food industry, and that they've ignored huge amounts of data, like all the data on saturated fat, they completely ignored 'cause they use the wrong databases or they don't look at it, or they discard it. And so the guidelines we think are valid guidelines that governed all of our food policies in America are actually corrupt and wrong, so we have to really rethink all this and change the way we view... How we make sense of it, and that's really why I wrote Food: What the Heck Should I Eat? Because people just don't know, and I try to sift through all the difficulties 'cause we hear some scientists that can be corrupt, we hear the government was corrupt, hear the media which is looking for headlines, we have the food industry giving us nonsense, like health claims, which seem to say the food is healthy, 'cause it's got a whole grain Cookie Crisp cereal, and I try to make sense of it and simplify it in a way that people can just eat real food and know what to eat.

SHAWN STEVENSON: Thank you so much for tuning in to the show today. I hope you got a lot of value out of this. Very, very special to be able to have these conversations and to get this message out to more people. It's not just about our education and our empowerment, it's

really about sharing, sharing is caring. So this is definitely an episode to share, you could share it out with your friends on social media, you take a screen shot of the episode, you can tag me, I'm at Shawn model, and tag Dr. Hyman as well, and show him some love. And of course, you can send this directly from the podcast app that you're listening on. Now listen, we're just getting warmed up, we got some more epic interviews and master classes, so make sure to stay tuned. Take care, have an amazing day, and I'll talk with you soon. And for more after the show, make sure to head over to themodelhealthshow.com. That's where you can find all of the show notes, you could find transcriptions, videos for each episode. And if you got a comment, you can leave me a comment there as well, and please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome, and I appreciate that so much, and take care. I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.