

Transcribed from a presentation delivered at a CrossFit Health event in Scotts Valley, California, on Dec. 15, 2019:

Good morning, everybody. Thank you very much to Greg Glassman for envisioning this series on “The Mess.” — It’s a fantastic lecture series I’ve been learning from myself. Recommend all the lectures to people. — And to the CrossFit team and Karen and Brad for all of your fantastic support. It’s an honor to be here and to be introduced by one of my intellectual heroes. So, it’s a good day today.

Any case, yes, I am a psychiatrist. And a quick — quick story about Harvard before I start the actual talk, which is — I did my residency at Harvard, my psychiatry residency at Harvard, and then I worked at the Harvard University Health Service as a psychiatrist seeing faculty, staff, and students for seven years. And then there was a change in leadership. So, I was allowed to incorporate nutrition consultation into my work there during the time that I was there. I was the only one doing that — the first person, I think, that had ever done that, and it was really fun for me and for my patients. And — and then there was a change in leadership and I was told that I needed to stop because nutrition was beyond the scope of psychiatric practice. So, that’s one of the biggest reasons why I left Harvard a number of years ago. So, in any case, let me — let me get started.

So, I think that, you know, as a nutritional psychiatrist, which I hope will be a growing field, I’m passionate about the care — the proper care and feeding of the human brain. And I’m convinced by the science, which I’ve been studying for more than 10 years now, that the way to do that, you know, is to help people change what they eat. And I’m convinced by the science that the way that people should eat, the brain prefers to eat, is to eat a pre-agricultural, whole foods diet that includes animal protein and animal fat, and that if you have insulin resistance, high insulin levels, high blood sugar levels, you may benefit from a low-carbohydrate or ketogenic version of that same diet. And there are many other modifications you can make, but those are my standard principles.

And so in any case, I feel that my job is already difficult enough because human beings are naturally resistant to change of any kind. But they’re also — They have very, very strong feelings about food. We have very strong feelings about food. Attachments, emotional attachments, cultural attachments to food and addictions to food, and these are very difficult to break. And the food environment, as Dr. Malhorta so beautifully said, “Is working against us all the time.”

So it’s hard to have people — It’s hard to coach people about changing what they eat. But that job is made infinitely more difficult by the nutrition myths that are implanted into our psyches day after day by all of our nutrition — all of the people

that are supposed to be, you know, having our good health in their minds and giving us good advice.

So in any case, you know, so I — Because of my, what I've learned from the science, I write articles like this, that, you know, get lots and lots of attention, you know, 400,000 views and all kinds of comments. And it sparks huge debates, just really fiery debates online because this type of a topic is reviewed as very inflammatory. No matter how objectively you try to write, it's really amazing the kinds of vitriol that you can experience. But I understand people have strong feelings about food, and they're certainly entitled to those feelings.

So in any case, all humans have biases, and I feel a lot of people make an assumption — many assumptions about me because I write about in support of animal foods in the human diet, especially for the brain and the developing brain in particular. So, I need to point these things out. Yes, I think animal foods belong in the diet, but I care about animal welfare, I care about climate change, I'm nutritionally pro-choice. Eat and let eat. I will help you optimize any diet you want to eat. And so that's very important. I respect people's choices, and I have no tolerance for personal attacks on people who don't eat animals. Some of them are my good friends. And I'm not funded by the meat industry. That's always the first thing that people think is true about me. And so — and just not funded by the meat industry. On the left are my sources and income, such as they are. And on the right there's a brand — a newly formed advocacy group trying to get a low-carbohydrate diet included in the United States Dietary Guidelines, and I serve on the steering committee for that network, and that's an unpaid position.

So, yes, public health, and public mental health in particular, is a mess. And it's a mess because nutrition science is a mess, and it's largely because of nutrition epidemiology, which is not science at all. And so, you know, of all the problems, this is in my mind the biggest one. The lion's share of studies that wind up in our guidelines and our headlines come from this type of a study, and I think a lot of you know this topic already. I just need to give us a quick synopsis, which is: These are not scientific experiments. Epidemiologists do not change people's diet and see what happens. Instead, they give them food questionnaires and they ask them, you know, "How often over an entire year have you eaten this many blueberries or this many slices of bread, or this many cups of milk?" And if you don't know or you can't remember, that's too bad, because you're forced to quantify your answers. This, I think, is the biggest problem with these questionnaires — many problems, but this is the big one. You are forced to generate data out of thin air. If you can't remember, you must choose a number; how many times per week or month? So, you know these wild guesses become the data that then form these — They're used to make these hypothetical associations between specific foods and specific diseases. And, you know, that's what ends up — you know, most of the time —

So I'd argue that — Some people say these associations are too weak. They're, they're insignificant. There's only a tiny little risk of cancer if you eat a hot dog. It's not as big as they're making it sound. I'd argue there's no data there to begin with and that these associations are not even real. So, and when these are tested in clinical trials, again, these are hypotheses that must be tested first to see if they, they have any meaning whatsoever. At least 80% of the time they fail, which is worse than a coin toss. So, that suggests that the hypotheses are biased in the wrong direction away from the truth. You could do better tossing a coin.

So, other problems with nutrition science: I worked in labs for seven years before medical school, including diabetes research labs with rodents, I'm sad to say, and you know, well of course we're not rodents, but that's just where the problems begin. These animals are bred in highly unnatural, stressful environments. They're genetically or pharmaceutically often altered so that they develop diseases more easily, and there are lousy controls. So, if you see a headline — and this is a real headline — that, you know, “High-fat diets cause depression in mice,” then dollars to doughnuts, the diet that the high-fat group was eating was not just higher in fat and the wrong kind of fat, but it was also loaded with sugar and other processed ingredients compared to the control. So the chow is rigged. So that's the problem with animal studies. If someone asked me to look at an animal study, the first thing I do is look at a method section — go to the methods section and look and see what was in the chow. So, you know, that's — you know, with both epi and animal studies, it's not just that they're unreliable or that they don't apply; it's that they're so bad that they can generate information that flies in the face of human biology.

And the human studies are — you know, we have lots of human studies about lots of different kinds of diets. But in even the randomized control trials, which we think of as the gold standard of clinical trials, you have to read them very carefully. Because we have, you know, just because someone says their diet is healthy, their favorite diet, the Mediterranean, or whatever, it doesn't mean it's healthiest for the human being. And also, you need to ask, “Well healthy compared to what?” And so you need to know, you know, what the control diet is. What did they compare it to? How many different — differences were there between those two diets? With a Mediterranean diet, for example, it, you know, it's higher in olive oil, nuts, and red wine and things like that, but it, you know, it's also very, very low in processed foods. And that might be the only reason why it's healthier. We don't know because there are too many variables. And what other lifestyle changes were made? This is — this happens with plant-based diets all the time. Every single study that I'm aware of that compares a plant-based diet to an animal-based diet did not simply remove the animal foods from the diet. They remove most of the fat. They removed the processed foods and most of the refined carbohydrates, and they changed multiple lifestyle variables: smoking, drinking, exercise, stress management. You

just can't say that the reason why that diet looked a little bit better was because you removed the animal foods. We don't have studies to answer that question. We don't have any clinical nutrition studies that can answer the question we all need to know the answer to, which is: Which diet is healthiest for human beings? So in any case, that doesn't matter, because despite the fact that there is no good science on this question, we are told all the time by lots of different people in positions of authority that the science is settled and basically it boils down to plants good, animals bad. And you know — so we hear it so often that we believe it, and we've been taught it since we were young, and we think of it as though it's a fundamental law of nature, like gravity. But there's actually no science behind that position.

So there are three authoritative documents we are going to go through today that are responsible for implanting these anti-meat messages into our minds. And you know — you know them, you love them, the unholy trinity: the U.S. Dietary Guidelines, the WHO (World Health Organization) report on meat and cancer, and the *EAT-Lancet* report that just came out this year. So all of these documents are biased against animal foods in general and red meat in particular. And as you go through chronologically, you'll see that it becomes more and more stringent, with the most extreme position being the *Lancet* report, which doesn't just vilify red meat, but all animal foods are off the menu — virtually off the menu with that plan. So, you know, most people, including most doctors and nutrition experts, present company excluded, don't even crack open these reports to read them. And I don't really — can't blame them, because they're unreadable. They're virtually unreadable, they're really difficult, they're dense, they're convoluted, and they're very, very long. They're really not designed to educate. They're designed to obfuscate, as far I can tell. So, and they're created by credentialed experts who — in whom a lot of people place their trust. So, but I have spent more hours than I care to count at my own financial expense and psychological expense, reading these documents, poring over these documents, which in and of itself may qualify me for like a new type of personality disorder — but I — you know, I do this partly because I enjoy the science — I have a strong science background — and partly because I want people to understand what's in them. And people ask me about these documents every day — my family, my patients, my colleagues, my friends — so I think it's important that we know what's inside.

So if you read all these, they're all by different groups, but they have a lot of things in common: They're all long and unwelcoming and difficult to read. They omit and misrepresent studies that challenge their recommendations. Their arguments are irrational, incomplete, internally inconsistent. If you try to read one of these, your head may actually explode. They're intended — they're written to — with the purpose of influencing global human behavior. And they use fearmongering, particularly *EAT-Lancet*, but all of them do to some extent, preying on our fears of disease, death, and planetary destruction, and when people are afraid, logic shuts

down. You just cannot argue logic with emotion. Emotion will win every time. As a psychiatrist and a human being, I can tell you that's true. So if you want to motivate someone, you need to really scare them, and they're doing an excellent job of this.

So when I was reading the EAT-*Lancet* report, which came out in 29 — January 2019, I read it, the nutrition section of the report, several times, and then I wrote a review of it, a critique of it for *Psychology Today*. And then I was asked to do a presentation about it at Low-Carb Denver, which I did, so I read it again. And I did that to myself too many times. And — but I found myself at Low-Carb Denver saying words like “authoritarian” and “master plan,” and I thought to myself, “What is going on here?” Excuse me. I started to wonder — I started to wonder if these documents might have more in common with propaganda than with nutrition health education. So I did something I've never done before, which was I started to learn about propaganda. I'd never — I mean I've never thought much about this word. I think it's in the — it's in the water now. But, you know, and this is a classic text by Jacques Ellul, who is a French philosopher, and he said that propaganda is “a set of methods employed by an organized group that wants to bring about the active or passive participation in its actions of a mass of individuals, psychologically unified through psychological manipulation.” So, you know, unlike — I read a lot about propaganda over the past month or so in preparation for this talk, and I kind of boil it down to this: that unlike the best forms of communication, propaganda is not egalitarian. It's not educational or enlightening. It's not empowering. It's dictatorial, deceptive, and disempowering. And the language is not that of informed consent, but it's the language of misinformed coercion.

So, here are some of the hallmarks of propaganda gathered from various sources, and all of these apply to the documents we're about to talk about to some extent, and in particular with EAT-*Lancet*, I think every single one of them does. So we're going to talk about these, these — Keep these elements in mind as we're going through the documents, particularly things like, you know, attaching your agenda to popular ideas or myths, and hiding your motives, and using one-sided black and white arguments, and overwhelming people with so much information and then — and then boiling it down to a simplistic message. Lots of different, different features here to think about.

So the U.S. Dietary Guidelines is 144 pages long. Imagine if a wild animal needed to generate — needed to refer to a document like this before it woke up and ate something. A hundred and forty-four pages, and it's based on a 436-page scientific report. You know, you might not think these matter too much, but they directly touch one in four Americans per month through school lunch programs and other federally funded programs. So a lot of people need — are forced to eat this way. They influence our educational curriculum for dietitians and other health professionals, and they influence other countries' dietary guidelines.

I was just in Indonesia giving a talk in June where I — about the dietary guidelines in Indonesia, and they're almost identical to the U.S. Dietary Guidelines. So what patterns did they recommend? There are three, and they're virtually identical with the exception of the vegetarian diet, which excludes — which excludes meat. They're very, very difficult to tell apart. And it's because they both follow these patterns: Higher in fruits, vegetables, grains, legumes, nuts, low-fat dairy, and lower in red meat, saturated fat, sodium, added sugar, refined grains — and notice how interesting this is that red meat is lumped in with — a whole food, mind you — is lumped in with all of this junk. And that happens all the time. It's almost as though it comes out in the same breath. Your red meat and processed — red meat and refined grains, red meat and sugar. People can't separate them in their minds. So I wanted to understand how they came to these conclusions, and as a psychiatrist, I decided I was going to read the depression section of the report first. It was very short. It was two or three pages. And I immediately met criteria — full criteria for depression after reading it. So the committee's summary was this — this is what you see in the actual report: “Patterns emphasizing red and processed meats and refined sugar,” because, you know, throw that right in there, “were generally associated with increased risk of depression.” So I thought, “That's interesting,” because I'm not aware of any of that science. I mean, I've been reading this stuff for 10 years, looking specifically at mental health. I don't know where — So there were 19 citations, and again, afflicted with my aforementioned personality disorder, I decided to read every single one of them. And so this is what you find. It's just — it's just outrageous.

So 16 of them — It's only 16 of them even evaluated meat. So three didn't even mention meat. You can throw those three out. So there are 14 epidemiological studies and two randomized controlled trials. Randomized controlled trials, for people who don't know, are just clinical experiments with human beings, and you choose a control, and you compare your diet. So there was one epidemiological study that said that red meat was positively associated with an increased risk of depression, so “red meat bad.” But it's an epi and questionnaire-based study, but there you have it. There were six epidemiological studies that lumped red meat in with refined carbohydrates and processed carbohydrates. So you know, I think that we can discard these, you know? I don't think it's fair to judge, you know, meat à la mode as the same as meat. And then we have eight studies that found there was no association, no increased risk with red meat and depression. Seven were epidemiological studies and one was a randomized controlled trial. And then there was one randomized controlled trial saying that meat actually protected — reduced your risk of depression. So if you're keeping score at home, that's nine to one in favor of red meat. And even if you throw in their meat à la mode study, it's still nine to seven. So, you know, I don't understand. On what planet can you then conclude that red meat is associated with a higher risk of depression? The committee

outright lied about the outcomes of the studies that they handpicked to support their hypothesis. So this just was infuriating to me.

So, you know, and what foods do they recommend instead of red meat? So you may have heard this, this USDA slogan: "Make half your grains whole." So obviously if you flip that around it's "Make half your grains refined." So the, you know, the USDA finds itself in a very uncomfortable position of mandating that people include three servings per day of refined carbohydrates in their diet. And what do they have to say for themselves? Why do they do that? I mean that's an area of pretty broad consensus. I think most people would agree that that's — that's an unhealthy plan. So what they say is that refined grains such as white flour and products made with white flour, etc. are part of the recommendation because they're commonly enriched with iron and several B vitamins, and consumption of only whole grains with no replacement or substitution would result in nutrient shortfalls. So gee, you know, I wonder where else you might be able to get iron and B vitamins? So, you know it's just — it's very suspect. How in the world did people get their iron and B vitamins before Wonder Bread and Special K with iron? And so, if the diet they recommend is so nutritionally inadequate that this is what the lengths that they will go to —

But, you know, there is — it's an uncontested fact that red meat and other animal foods are excellent sources of bioavailable iron, and they agree themselves. This is a chart from their report. It's just been highlighted with different colors to help out. So all of the ones highlighted in red are animal foods, whole animal foods. Then the ones in blue are seafood, shellfish primarily, but other seafoods. And the ones that aren't highlighted are plant foods. And then the yellow up there, that's fortified, ready-to-eat cereals and instant cereals. So, and this is in order of, you know, iron intake from top to bottom, with the richest sources being organ meats, followed quickly by the fortified cereals. So, you know, of all the iron-rich whole foods on this table to choose from, they chose fortified cereals as their choice, which makes one wonder what forces influence the recommendations process?

And, you know, I actually got to witness firsthand how this plant-based sausage substitute was made, because I testified at the U.S. Dietary Guidelines this summer. And I was seated between lobbyists from the dairy industry and lobbyists from the grain industry. And it was fascinating. So it's a 14-member committee of MDs and Ph.D.s that submit the large report to the USDA to be finalized. And nine out of 14 of them had conducted research or written books in support of plant-based diets, and there's nothing wrong with that. It's just that they're mightily overrepresented on the committee. So, you know, seeing the professional biases of the committee, listening to the roomful of lobbyists, and seeing that they had outright lied about the one portion of the report where I decided to dig in just randomly, I mean, who knows what the rest of this report looks like, and if you had to read all the

references. So it's clear to me that this document is anything but scientific and trustworthy.

So now, if your heads haven't exploded yet, we're going on to the World Health Organization report on meat and cancer, which came out in 2015. Well, I should correct that statement. The report itself didn't come out in 2015. This sort of glorified press release did, which was a synopsis of their arguments that they said would be forthcoming in a future monograph. But this was a, you know, less than two-page document if you don't include the references. Only 20 references are proclaiming to the world that, you know, that processed meat is carcinogenic and red meat is probably carcinogenic. So they deemed this so urgent that they decided to release this short version and the fully referenced version would come out later. But, you know, never mind waiting for that. We've got to get this — we've got to warn the planet right away.

So, and they reassure us about their process, thusly: "The working group took into consideration all the relevant data, including the substantial epidemiological data" — which I would argue is an oxymoron, but — "showing a positive association between consumption of red meat and cancer of the colorectum." So let's see if we think that that's actually what happened. But in any case, this report, you know, made headlines around the world — scary headlines around the world. Nobody criticizing the content of the report. It just got echoed in headlines, you know: "Eating bacon can kill you," processed meats, you know, alongside smoking as cancer cause, etc. etc. So this sweeping anti-meat proclamation was dutifully accepted without scrutiny and echoed in these scary headlines. But again, my aforementioned personality disorder — I decided to read all 20 references that they listed, and then I wrote a critique of it on my website, which is there. And the reason I mention it is because we only have time for a few examples from it, and you may have more questions. You can see there if you're curious to see everything that I found.

But in any case, it was December, and it was a lot of work to do this. And, you know, I had Christmas on my mind, and so what I ended up doing to reward myself after I was done was I wrote a poem in the style of "The Grinch Who Stole Christmas" about the WHO and the Meat and Cancer Report. And so, if there's time at the end, you want me to read it, I have it with me because it's December again.

So, in any case, hold your noses. We're going in. So, they said they took into consideration all the relevant data. So here we have more than 800 studies of meat and all different types of cancer, and over 800. And these are epidemiological studies, every single one of them on this slide, and they threw out more than 744 of them because they were, I guess, not powerful enough. And so what they ended up with was a handful, a small number of epidemiological studies and — of red meat

and processed meat had cancer. And you can see that they're mixed. So green says, you know, "No association or protective," and red is a negative associate, meaning that maybe it, there's something wrong there. So here we've got epidemiological studies pointing in both directions, and with red meat it's essentially split right down the middle 15 to 14, and it's actually 15 red meat good, 14 red meat bad. So, you know, the epidemiological studies are a wash. So let's hope that they have more robust experimental evidence to go on, because certainly they wouldn't warn us about meat based on this, right? Six — six experimental studies were included in their report. Three rat studies, three human studies — I'm sorry, three rat studies, two human studies, and one rat-human study, by which I mean rats and humans were included, not rat-human hybrids. So these are very, very small studies. And four of these were conducted by the same research group.

So let's look at the rodent studies first. So red means — so anyway, here's how these studies work. Step one: Pre-inject rat with a powerful carcinogen — do I need to say that again? Because that's really important. Did you hear that? Then the next step is you feed the rat red or processed meat, and the third step is you examine its poor little colon to see if it has any funny-looking changes that might predict future cancer. These rats did not — never developed cancer, but the red ones developed funny-looking little changes that maybe would turn into cancer in the future. So that's what red means, and gray means neutral, and the reason why those first two rats are bracketed is because it's the same two arms of the same experiment. The first rats, they removed all the calcium from their chow before they gave them the meat. In the second one, they put the calcium back in and it protected the colon. So, I don't know what that means. But the — but so, you know, anywhere from two to three of these studies were, you know, a little scary looking in terms of the colon.

But here's what the WHO did not tell us. On the very first page of the very first study cited, the very first animal study, I found this remarkable statement: "In puzzling contrast with epidemiological studies, experimental studies do not support the hypothesis that red meat increases colorectal cancer risk. Among the 12 rodent studies reported in the literature, none demonstrated a specific promotional effect of red meat." Wait a minute, 12 studies? Why do we only see four up there and they aren't even the four that were listed in this document? So we've got at least six studies, and they've only given us four. So this is an outrageous sin of omission. These are these — the outcomes of those 12 studies, if you read them. And you can see that most of them are neutral in terms of meat and cancer, and a couple of them, it's kind of hard because the way that was designed you couldn't really tell what was happening. And then you actually have two green animals — green means good. Green means the actual red meat protected against precancerous changes in these animals. So it is really — it's really outrageous for me to think about.

Now, but okay. So those are rats and we should move on to humans. So what did the human studies tell us? Now that human studies are very complicated, so you can read about them on the site if you want, but here's a summary of them. They're very small, they're very poorly designed, they basically — they fed meat to volunteers, but they didn't describe in their papers what else they were eating, for the most part. They didn't control properly. They didn't — In many cases, people who were eating red meat were also eating a lot more processed carbohydrates. In one study they were — the volunteers were confined to a metabolic ward where everything is measured and everything is given up. They didn't describe the diet at all except how much meat was in it. So, you really don't know what's happening in these studies, and then they — then they tested their stool samples or colon biopsies to look for biomarkers, not actual cancer because that's, you know, would be very difficult to do. They looked for biomarkers thought to be associated with risk for future colon cancer. And the biomarker results were mixed. So some of the biomarkers didn't change at all, and some of them did go up, which you're trying to avoid. But the ones that went up, when I looked into it more carefully, didn't seem to be considered clearly reliable predictors of cancer risk. And then there was the one biomarker that people seem to agree was the most reliable stayed neutral in these experiments. But there was an experiment listed in one of the papers that I read — again there were only 20 references — and it referred to a study in human beings comparing a vegetarian diet to a meat diet where that most reliable marker went up on the vegetarian diet. So, but this “Vegetarian Diets May Cause Colon Cancer” — that paper didn't show up in the WHO report. So, you know, it's just a — somehow they didn't — they didn't have room. I don't know.

So on the basis of these three — in three inconclusive studies of a handful of people, the WHO had the audacity to scare the entire world's population against eating a nutritious whole food, including parts of the world where malnutrition remains a serious threat to public health. Excuse me. Okay, so it wasn't until nearly two and a half years later that they released the full report. There was no fanfare, no press coverage. I had to keep checking to find out if it had happened. And it's 511 pages long, and I did look at it. I did not read all 511 pages, but I did look at it to see if any new and information had been included that would change my opinion, and I couldn't find any. But it was too late, you know? The — its original message had long since been absorbed as fact. People ask me about this report every day in my clinical practice, and it's had tremendous influence on people. So now, I'm not a cancer expert. You should not take my word for this, right? But luckily I have cancer experts from around the world to back me up on this, because another paper that WHO did not include in their report, which came out a full year before their two-pager did, was published by this international group of cancer scientists who met in Norway, 23 of them, and reviewed this topic of red meat and processed meat and cancer, and what did they find? “Epidemiological and mechanistic data on associations between red and processed meat intake and colorectal cancer are

inconsistent and the underlying mechanisms are unclear.” “The interactions between meat and gut health outcomes such as colorectal cancer are very complex and not clearly pointing in one direction.” Now this is exactly what we just found together going over this information. And, you know, how could the World Health Organization have looked at the same science and come to such different conclusions?

Well, let's take a look at who's on the WHO cancer report. So 22 scientists from 10 countries, and according to Dr. David Klurfeld, who is a USDA scientist who served on the WHO's cancer committee and helped write this report, half of them were epidemiologists and a quarter to a third of them are vegetarians. And he had mentioned to them — he had been arguing that other studies should have been included that did not get included. So, for example, he advocated for the inclusion of these two enormous human clinical trials of diet and colon cancer risk. The Women's Health Initiative: In 2006, tens of thousands of women in this study over eight years eating less red meat did not increase their risk of colon cancer one iota. And the National Cancer Institute: 2007, published a study of hundreds of patients finding that there was no recurrence of precancerous colon polyps adenoma. And so, he thought this data was relevant and they did not. And I listened to an interview of him where he described the experience of serving on this committee as the most frustrating professional experience of his life.

So then in January of this year, this happened. The *Lancet*, a very prestigious scientific journal, published this 47-page report entitled “Food in the Anthropocene.” Its lead author is Harvard Professor Walter Willett, arguably the most influential nutrition researcher in the world and the father of nutrition epidemiology. So its vision is one of a great food transformation that can — is intended to feed a growing global population in a sustainable way. Its core recommendation is to minimize or eliminate entirely all animal foods from everyone's diet on the planet and to make us healthier, make the planet healthier. And so to give a sense of how much red meat they recommend on average in their, in their diet, it's a quarter ounce per day. And this is because they say that red meat is essentially an apocalypse on a plate, that it causes cancer, it causes heart disease, it causes obesity, it causes diabetes, and every single reference that they use in the red meat section of their report is an epidemiological study or the WHO report on meat and cancer. So there isn't any clinical trial information included except for what I just showed you in the WHO. So this is — this is, you know, the epitome of fearmongering.

So we understand how *Lancet* is a prestigious journal, but what is EAT? Why is it called EAT-*Lancet*? EAT is a nonprofit — this is their own description of themselves. They're a nonprofit dedicated to transforming our global food system through sound science, impatient disruption, and novel partnerships. So, and this report has

made guideline headlines around the world and continues to every single day. I signed up for Google alerts on this. Every day, three, four, five, six, seven articles around the world on this topic, magnifying this message that this is what we need to eat. These are the kinds of guidelines that you'll see: "New Planetary Health Diet," "The Way We Eat Could Doom Us as a Species," "Here's a New Diet Designed to Save Us." You know, these kinds of — these kinds of messages.

So they're repeating the message rather than scrutinizing it. You know, had they opened the report and read it, I think they would have been very surprised to see what was actually inside. Because inside, the authors, in their own words, make an airtight case with the inclusion of meat in a human diet. It's fascinating to watch this happen right before your very eyes. So in any case, here are a few examples. So they say that, you know, eggs are nutritious. And they say that there — these are quotes from the report — "They're a widely available source of high-quality protein and other essential nutrients needed to support rapid growth." "In large prospective epi studies, high consumption of eggs — up to one a day — has not been associated with increased risk of heart disease except in people with diabetes." "However in low-income countries, replacing calories from a staple starchy food with an egg can substantially improve the nutritional quality of a child's diet and reduce stunting." So eggs are amazing, right? So how many do they recommend we eat per day? "We've used an intake of eggs of about one and a half per week for the reference diet, but higher intake might be beneficial for low-income populations with poor dietary quality." So basically, they're nutritious, so eat sparingly. Yeah. Now I can understand if they might say, "Well, you know, maybe people with diabetes should eat them sparingly because we said that that's where the risk lies." Well, except that this summary article of six randomized controlled trials specifically in people with diabetes found that eggs did not cause any problems. So, and of course, this paper, which was published in 2017, two years before the *EAT-Lancet* report, was not included in the *EAT-Lancet* report.

So, you know they're, they don't like meat. They're conflicted about eggs. How do they feel about protein in general? This is, again — should be an uncontested area of science. Everybody agrees we need protein. We need all of the essential amino acids. So, "Protein quality," they say — this is the quote — "defined by effect on growth rate, reflects the amino acid composition of the food source, and animal sources of protein are of higher quality than most plant sources." I completely agree with that. "High-quality protein is particularly important for growth of infants and young children and possibly in older people losing muscle mass in later life. So, protein good, complete proteins excellent. Complete proteins come primarily from animal foods, so that's fantastic. This is an argument for animal foods. Well, we can't have that. So, "However, a mix of amino acids that maximally stimulate cell replication and growth might not be optimal throughout most of adult life because it could cause cancer." I mean this is unbelievable. And so, you know, I really

thought that I'd heard every meat-causes-cancer argument that there was, but I never heard complete proteins cause cancer. And so, I look to see what the citation was. There was a single source cited for this outrageous statement. It was this paper, which is on the — which is about the gene mutation theory of cancer. And in this paper, the words "protein," "amino acid," and "meat" occur a grand total of zero times. This paper's not about protein of any kind, meat or otherwise, causing cancer. I mean, this is — I mean, they — I don't know why they chose the bit — they don't have a leg to stand on. There is no paper out there as far as I know saying that complete protein — and if you're worried about complete proteins and you're warning people about them, shouldn't you also warn them about the sources of complete proteins that come from plants, like tofu and quinoa? And maybe people should be afraid to mix beans with rice. I mean, this is really scary. So, you know, it's just — It's absurd. It's absurd.

So the message that you hear throughout the report is that, you know, that a vegan diet is safe and appropriate for everyone over the age of 2. And it's — But when you read the actual report, you'll find numerous caveats and exceptions and, "Oh, but not for these people and these people." I mean, they basically acknowledge in their report that, you know, that this diet — The diet that they're recommending, their reference type, which includes a little bit of animal foods, that their reference diet is inadequate, nutritionally insufficient for pregnant women, for babies and growing children, for teenage girls, for aging adults, the malnourished, and the impoverished — that's a lot of people — and that everybody else has to supplement. So what they're saying is that their diet is nutritionally insufficient for human beings — full stop. And, but, you know, unless you think, you know, you don't have to pay any attention to the risk — to this report, you can just eat as much meat as you want, well, it's important for you to know that this isn't just, you know, another scientific paper. This is a master plan. This is seriously — it's a master plan for the human race.

So remember we said "sound science" — which you can decide for yourself if you think it's sound — "impatient disruption, and novel partnerships." So what do they — What do they mean by "impatient disruption"? Quote — these are chilling comments: "Data are sufficient and strong enough to warrant action, and delay will increase the likelihood of serious, even disastrous consequences." "The scale of change to the food system is unlikely to be successful if left to the individual or the whim of consumer choice." "By contrast, hard policy interventions, laws, fiscal measures, subsidies, penalties, trader reconfiguration, and other economic structural measures," you know, "need to be considered." I mean, this is not just another nutrition study. These people have a lot of money, they have a lot of power, and they are getting a lot of media attention. So, but, you know, if our planet is in peril, maybe this is what we need to do. You know, if, you know — if eating a vegan diet is the way to save the planet — but is it? I don't know, because I am not

qualified to comment on sustainability. And, however, I did read through the sustainability portion of the document, and then I consulted with people who might be able to give me more information about it so that I could share something with audiences about it.

So, in any case, there's a table in the report where they — I didn't put it up because it's so complicated — but they basically, they're doing mathematical projections and saying, "Okay, if you do — if you eat your current diet business as usual, what will happen to nine different parameters of environmental quality, including greenhouse gases and things like that?" So they looked at all these nine different measures, and they did the business-as-usual diet, the reference diet, which is a small amount of animal food, that sort of quarter-ounce of meat per day, and then the vegan diet. and then they, you know, looked ahead to see, you know, could this diet be helpful for the planet. And in the chart, you can see that it doesn't really have any effect on any of these measures, except for greenhouse gases. It looks as though it may improve greenhouse gas emissions, and that's important. So, I contacted Dr. Frank Mitloehner, who's one of the people I consulted with, and he had wondered how they had come up with those projections. So he contacted them. He wrote to them and said, "How did you come to those calculations?" Because his information, I guess, would lead us to a different conclusion. And this is the extraordinary reply that he got from the science director of *EAT-Lancet*: "The meat consumption limits proposed by the commission were not set due to environmental considerations but were solely in light of health recommendations ... Thus, it's not the diet to reduce climate change but the diet to reduce the risk of premature mortality due to dietary-related health causes." So, you know, this is — this makes me wonder, you know? If the *EAT-Lancet* diet is not about health and in my opinion based on what I read, it's not about health, and it's not about the planet, what might it be about? And so, remember that third leg of the stool was novel partnerships. So what do they mean by novel partnerships?

Well in 2017, EAT launched an organization called FReSH, a global partnership of 33 corporations. So what kinds of corporate interests might be interested in supporting a plant-based diet? You know, people often assume that a pro-meat agenda is tainted by profit motive, but what about pro-plant agendas? So two-thirds of the companies are companies that produce things like fertilizers, pesticides, processed foods, primarily processed grain products, and flavorings and additives. So make of that you what you will, but this is clearly not a whole foods agenda. So a number of us — So I'd written that article for *Psychology Today*, "EAT-Lancet's Plant-Based Planet: 10 Things You Need to Know." And then a number of other people in the sort of alternative-nutrition community also wrote some powerful public replies as well. And they got some real traction on social media, you know. These were these criticisms that we're posting, and apparently this ruffled some feathers, because just a couple of weeks ago, the *Lancet* published an article

criticizing the criticism without criticizing its content. Just basically upset about it and basically wanting to silence us, essentially. So, "Science and journals face serious challenges in a rapidly changing media landscape that is susceptible to the intentional dissemination of misleading content. Health communication campaigns are clearly susceptible to polarization, so-called content pollution, and disinformation." "Scientists and scientific outlets such as the *Lancet* need to be continuously aware of and act proactively to avoid manipulation and misinformation about issues of fundamental importance for human health and the planet." So again, they did not take issue with any of the substantive criticisms that any of us made. They were just upset that when you looked at the social media trends, there were a couple of — a couple of EAT-*Lancet* articles and then there was my *Psychology Today* article, and then further down you see several articles by Nina Teicholz, and then you see one by, you know Dr. Zoë Harcombe. I mean, they were just upset that their media message had been diluted.

So this is a really — it's just amazing that they would call it misinformation without calling us out on the content of the information we were publishing. So what would our dear friend and philosopher Jacques Ellul have to say about this kind of a response? "The propagandist must insist on the purity of his own intentions and at the same time hurl accusations at his enemy. The propagandist will not accuse the enemy of just any misdeed; he will accuse him of the very intention that he himself has and of trying to commit the very crime that he himself is about to commit." So unscrupulous tactics aside, it matters if authorities get this science wrong. I consult with people all the time about all different kinds of diets and one thing that's been happening more often lately is parents consulting with me about their children, teenagers primarily, but some as young as six years old refusing to eat animal foods of any kind. And they're getting these messages at school. And they're developing nutrient deficiencies — I have real real clinical stories about this — Developing nutrient deficiencies because no one is saying to them, "Vegan diets have important nutritional holes." They're just saying, "Plants good, animals bad." This is really dangerous, especially for developing children, so it matters on a lot of levels.

So, you know, these unscientific documents become the standard of care. Most clinicians don't have the time or the interest to review them. If patients don't improve or get sicker with your bad advice, a lot of clinicians will assume that the patients are being non-compliant. And not all the time. I hear stories like this very frequently, and it robs providers of the joy of practicing medicine and seeing, actually helping people and seeing people get healthier. And that increases burnout. If all you're doing, you know, is watching people get sicker, that — that's not fun. That — it's really — it gives you a sense of powerlessness and hopelessness. And I used to feel that way in psychiatry a lot of the times, because

no matter what medicine I tried, people weren't really getting very much better. So, you know, it impacts the clinician-patient relationship.

So a lot of patients nowadays go off and do their own research online, and they'll try something different to try to get better. They go against their doctor's recommendations in an effort to try to be healthier. And sometimes that can backfire because the clinician can sometimes criticize or oppose the patient for being non-compliant, and they don't have the time to figure out what this new diet is that this person is doing, whatever it is. Even if it's working, they may feel really frustrated with the patient for not following their advice, and sometimes the relationship will be terminated on one side or the other. And in some parts of the country — and they consult with people in different areas of the country if there's a physician shortage, which there is many many places in this country — sometimes people are kind of left to their own devices if the doctor that they're seeing will not support their diet. And they end up trying to taper their own medications, and it's just really dangerous in some cases.

So in any case, Jacques Ellul, what are we to do? So he says, and this is right along the lines of what Dr. Malhotra said: "Propaganda ceases where simple dialogue begins." You know, bring it into the light, ask questions, don't just accept it blindly. Learn to recognize the signs of propaganda. And when you're reading something, you know, ask yourself, "Are you starting to feel very strong emotions like fear?" Because that can shut down your intellectual processes. Consider the motives and interests of the person who's writing the article, and stay open-minded and curious. Even if you think you know a lot about nutrition, there's always more to learn, and it's really important to be able to say, "You know what, I was wrong about that, or I hadn't thought about it that way." Ask questions. Play devil's advocate. Examine all sides of the argument, not just one, even if that one argument seems rock solid. And don't rely on any one source. Seek areas, uncontested facts where everybody seems to agree. And of course, don't deny the truth of your own experience. If you are getting healthier on a diet that's not officially recommended by someone, that's powerful information that needs to be taken into consideration.

So I have — I was listening online to Dr. Terence Kealey's talk, and he gave a talk for CrossFit not long ago called "The Myth of Scientific Objectivity." And I was pleased to see that he's here today, because I got to meet him in person. And so, this is how he approaches scientific articles. He says, you know: "You need to — You need to view —" Sorry about that. I don't know, I thought that was automatic — "You need to view scientific papers not as facts to be, you know, swallowed whole as a consumer." You need to realize that scientific papers — It's a person's argument. And their — and it's an argument based on their very real, very human biases and their interest in furthering their own careers. That's all very understandable, but it's an argument, and you need to evaluate it for yourself. And so, he said, as you can

see, I was gonna say it out loud, but I'm a bit of a prude, and so — “How and why is this lying so-and-so lying to me?” And I think that's great. You should always start from the position of extreme skepticism, because most nutrition science is really not worth the paper it's printed on. And it really is damaging to our public health. So that's it. If there's time for questions or a poem, I'm happy to stay a few more minutes.