



Transcript of “Gary Taubes: Bad Science, Gut Health, & NuSi - #223”

Bulletproof Radio podcast #223



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Dave Asprey: Hey, everyone. It's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is that for some people, starchy foods aren't just bad for your blood sugar. If you have self-brewery syndrome, your stomach creates too much brewers yeast and it converts starchy carbs directly into alcohol.

That means that you basically have measurable levels of blood alcohol even if you're not drinking anything, which is inconvenient if you're in one of those zero tolerance places where any blood alcohol is a crime.

What do you do if you have it? Well, eating low carbs means you don't feed the yeast and well, you might also consider just killing the yeast with some natural things like grapefruit seed extract extract or lots of other substances.

Or just go for what works and use some prescription anti-fungals and knock that nasty stuff down. Then quit eating brewers and bakers yeast or nutritional yeast because honestly those aren't very good foods.

Today's guest I'm honored to have on the show. He's an award-winning science and health journalist, co-founder of the non-profit and totally badass nutrition and science initiative. Author of one of my top books of all time in health and nutrition, which is called Good Calories, Bad Calories as well as the easier to digest so-to-speak book called Why We Get Fat and What to Do About It. None other than Gary Taubes, the man himself.

Gary, welcome to the show.

Gary Taubes: Well, thank you, Dave. Nice to be electronically here.

Dave Asprey: You and I met years ago when you were kind enough, right after Good Calories, Bad Calories came out, to speak at the Silicon

Valley Health Institute, the anti-aging non-profit group that I'm chairman of. I got to have dinner with you and watch you personally eat a steak, which isn't too surprising.

You are one of the more interesting health writers I've ever come across, having read thousands and thousands of books and papers and all that, for one simple reason. In your opus there, I couldn't find a wasted word.

Gary Taubes: You're rare. A lot of people could.

Dave Asprey: Well, here's the thing. Sometimes you went into a lot of detail in Good Calories, Bad Calories, but you never just superfluously did this like okay, this guy at this date at this institution did this and it was wrong for this reason. There was no fluff.

It was one of those things where you read it. You're like I don't know how one human put all that information together and it was a damning account of what happened politically and scientifically. As a piece of journalism and as a piece of scientific work, it is unparalleled in any other book I've read so hats off and thank you for putting it out there.

Gary Taubes: Well, thank you, Dave. Yeah, what the secret was, I had a initial draft that was 400,000 words unfinished so Good Calories, Bad Calories about 500 pages, about 200,000 words. This was 1,000 pages unfinished and I gave a copy to my editor and I said, who's an amazing editor and I'm blessed to have him and said could you ... Is it possible we could make this into two books? Like Kill Bill 1, Kill Bill 2 and turn it into an event.

The first book will be on heart disease and diabetes and the second book will be on obesity. He read it and he said no. It's got to be one book and then I spent three months of my life cutting it in half and then writing the chapters I hadn't yet written. That's what gives it the feeling of everything in there being vitally important, is because it started out being twice as much information.

Dave Asprey: I ran into that problem with the Better Baby Book, my first book. The reason that the Better Baby Book got published the way it did was because of you. When I was a new author, didn't have any idea what I was doing, you really helped me get introduced to the published world and I'm grateful for that.

I went through this thing where I have to cut out 50,000. It was only 150,000 down to 100, but I have to cut out 50,000 words. They all are so important. They're like my children.

When you were done and you wrote that and then when you put down alright, so what are we going to do about it, which was the Why We Get Fat book, how did you feel about the final outcome there? Are you happy with what was published or did you feel like you made a lot of compromises?

Gary Taubes: Well, it's funny. To me the process of writing the book is a learning experience so you accumulate all this information. You've been synthesizing as it goes along, but I actually have to write to understand something.

By the time I'm done with Good Calories, Bad Calories, I now more or less know the book I should have written, which isn't necessarily Why We Get Fat. Why We Get Fat is still as I say, it's the airplane reading, polemical version of the book. It's the book that people can digest and I had a lot of readers write to me and say could you please write a book that my father could read or my brother could read.

Yeah, I'm proud of them. I go back to Good Calories, Bad Calories today when I'm trying to write a third book on this general subject and I think how did I do that. What was my brain doing back then that it's not doing now? I think the primary thing it was doing was not spending most of its time thinking about the non-profit or children.

Dave Asprey: Yeah, children can definitely change the way you write. You have an interesting background for a health writer, too, because you

have a BS in applied physics from Harvard and a Master's in engineering from Stanford and in journalism from Columbia.

You're a really deep science guy, but you're not a medical guy. How did you end up in nutrition in medical field coming from that background of relatively hard science?

Gary Taubes:

Well, I got out of relatively hard science because it was pretty clear I wasn't going to be any good at it as my advisor at Harvard noted after I got a C- in quantum physics. The journalism is what I wanted to do after I read All the President's Men.

I wanted to be an investigative journalist. Problem is I had never worked on any of the ... My high school paper, I hadn't worked on my college paper. When I tried to take journalism classes in college or graduate school, they were limited enrollment and so the kids on the papers got in.

I got into Columbia graduate school in journalism because of the science background. This was was going to be this brave new world of science journalism. Then when I started working for Discover Magazine in the early 1980s, I just stumbled into some stories that seemed to me to be very obviously driven by bad science.

The one I remember the most was this shroud of terrine. We won't go into details, but I remember calling a researcher at Los Alamos at about six o'clock his time on Sunday night. It was about eight o'clock my time, and going through some of his interpretations of the data and basically are you crazy, are you out of your mind? Who taught you how to do science?

This then led me into doing ... My first book I got to live at CERN, the big physics lab outside of Geneva and I watched 150 extraordinarily smart physicists discover non-existent elementary particles on my watch.

It was a learning experience again and how not to do science. Some of the very best experimentalists on this study were explaining to me as they went along what these sloppier physicists were doing and I became obsessed with this question of how to do science right and how easy it is to get the wrong answer.

Then after my second book, some of my friends in the physics community said I should look into public health because if I really am fascinated with bad science or what they call pathological science, I should look at some of the stuff in public health. One thing led to another and the next thing I knew, I was looking at diet.

The key about this that it's not ... It's not quantum optics or ... There were subjects in physics so that when I wrote about them, they literally gave me a headache. Quantum optics was the prime example.

This stuff's pretty simple and it's pretty basic experimental techniques. The errors and how the data are interpreted are pretty basic and pretty frightening. I just got obsessed with it as many of us do. Not even from the personal perspective of how to eat just from the fascinating perspective of how bad the science was and how there was this obvious alternative hypothesis.

Dave Asprey: One of the things that I'm ... At least I was really pissed off about when I ... I stumbled onto a lower carb diet. Nowhere near the level of precision of Bulletproof or Paleo or something, but it was very early on. I had heard about the Atkins diet, but probably wasn't doing it right.

I weighed somewhere around 300 pounds and I just accidentally cut gluten and a substantial amount of carbs. I still had orange juice in the morning. I didn't know what I was doing. I was early 20s and just desperate to lose weight.

I saw a bodybuilding magazine at a coffee shop. Where I went to high school, pretty much you wouldn't look at pictures of semi-naked guys no matter how muscular they were unless you were a little light in the loafers, to be perfectly honest.

It was a small farming town so my God, I don't care. I'm going to read this magazine. It's how to have ripped abs. I'm like I have ripped flabs at this point. I've been fat for years. I have stretch marks. If these guys have something to say, I want to know everything they have to say about it and since then bodybuilding has become very mainstream and totally cool.

I read this and it was like fruit can make you fat. I'm like really and I tried like ... This little bullet-pointed article from I don't know what magazine it was. It was one of those super guys with 15 layers of biceps.

I lost 50 pounds in three months. My personality changed. I'd been trying so hard. I worked out so hard before that and it was all about the wrong inputs to the system and I was pissed. For five years, I was kind of evangelical, but also really angry. I was fat and I was tired for all this time and blah.

What did you feel like when you dug in on the science? Were you just shocked or offended or just sort of like oh, this is what happens when you get millions of people?

Gary Taubes: Remember when I said I had a really good editor, one of the best in the business? One of the things he did once I got a draft that was only about 250,000 words long was take out all my anger and all my sarcasm.

When you go through the science, yeah, it's a perfectly natural response to get absolutely angry at the terrible science that had been done and how the public health community took it and converted it into these messages that could do so much harm.

One of the things I kept remembering in the back of my head is what happened to Atkins. I in effect, I'm considered at Atkins apologist. I think for the 1960s, he got it as right as anyone who was working then.

Dave Asprey: Mm-hmm.

Gary Taubes: He was angry so you read his first book and it's full of ... He's making fun of the establishment. He's being sarcastic, he's pushing the envelope by telling people to eat lobster and Newberg and double quarter pounders with cheese, just no bun. You get crucified for that basically. They want to get rid of the messenger so they throw out the message also.

The same thing happened ... The very first article I did on pathological science back in my Discover days in 1986. I thought the science was so terrible, the article ended up being kind of sarcastic and it ended up working against me.

The guy who I was writing about eventually won the Nobel Prize and I think I helped him the Nobel Prize for non-existent phenomenon by virtue of being angry and sarcastic when I wrote the piece so I had learned my lesson as I got older, which is to keep it to yourself.

My editor kept saying take the high road, take the high road. Just make the points and move on. The epilogue of Good Calories, Bad Calories, he let me express a little bit of my disappointment, but even then it was in very measured tones.

Dave Asprey: How do you handle critics now? There's some people out there who say it's all about calories. You lock someone in a sealed chamber and I can prove it's all about calories just by ... I'm going to throw out of these 57 corner cases where it's not about calories because I want it to be about calories. When you get those kind of critics, how does it make you feel and then how do you choose to respond?

Gary Taubes: Well, I've been accused of always responding to people by saying you're missing the point and unfortunately what I think is they're missing the point and so I want to say look, you're missing the point when you do ... You put somebody and lock them in a room and you restrict that calories.

You're missing the effect on hunger or you're missing the fact that when you're cutting the calories, you're also cutting the carbohydrates. You're also working to reduce insulin levels in a kind of artificial environment.

There's a fundamental issue with all this kind of science where whenever you have these kinds of competing paradigms, almost invariably every piece of data, every piece of evidence could be interpreted from the perspective of either paradigm. Then the key is you have to make some decisions yourself about what you find important and what studies you think weren't unambiguous enough to be ignored.

When I give my lecture on this called Why We Get Fat, one of the things I like about the lecture is I never mention any research. I actually mention randomized controlled trials or observations. I'm just making an argument.

Dave Asprey: Yeah.

Gary Taubes: From various observations that this idea that it's about calories is meaningless and can't explain anything. It's descriptive, not explanatory.

When the people criticize me, I kind of wish they would give these lectures as probably 10, 15 versions of this lecture available online through different universities or groups that have recorded.

I wish they'd just go through and basically say okay, well here, Taubes says what about the genetics of obesity as that out of the genes involved with obesity determining how much we eat and

exercise. Are they determining whether we partition fuel to energy or fat storage?

Then go through each one and rebut it or refute it, but they never ... The critics I've seen never tend to do that. I'm left with an argument that they're not responding to and instead you get these kind of straw men arguments that you described.

Dave Asprey:

Yeah, I've seen as this okay, I don't believe and honestly, your work was some of the work that's helped me to honor my own observations and some of the other stuff I dread, but it was like okay. I have come to the point where I don't saturated fat is bad for me if it's undamaged saturated fat.

I'm not seeing the evidence and when I eat it and I look at my own bio markers, like funny, my energy goes up, my willpower goes up, my inflammation goes down. My testosterone goes up. I am a better human when I eat butter.

To do that and to translate that to I'm going to do it for awhile in excess, more than I probably should to see what happens. In order to do that, you of course are going to get some of the straw men arguments and a lot of the critics that I've come across are the armchair nutritionist types.

That can't work therefore it doesn't. That is not science. Ancel Keys. I didn't treat obese people, but I just know. Some of the public critics of this radical notion that if you have fat in the morning, you might get a spike in ketones and that might make you feel good.

That's the Bulletproof intermittent fasting thing. The critics want to go so what happened when you tried it. Oh, I would never try that. It can't work. It's a bad idea.

Well, you could try it for two days and measure your ketones and measure your hunger and see the difference, but it's that willingness to take a non-risk to look at something like that versus

no, I found some studies that refuted that so therefore basically everything's a lie.

Gary Taubes: Well, this is ... I make this point in Good Calories, Bad Calories where I have a chapter that ... The people who treat obesity and the obese subjects are the ones who have the best experience in knowing what works for them so if you've been obese your whole life, you've been fighting it your whole life and trying ... You always hear did you go on diets, you're hungry all the time.

Low and behold, you switch and you get rid of the carbs and add fat in place and suddenly you lose weight effortlessly. This is something that certainly happens to a lot of people. We don't know what proportion.

Dave Asprey: Mm-hmm.

Gary Taubes: As soon as you do that, it's as though you've lost credibility to the research community. I actually had interviews when I was doing Good Calories, Bad Calories. I remember one in particular with a very famous professor at the University of Texas who will go unnamed at the moment, whose research actually implicated insulin in heart disease.

He was one of the rare people who thought that insulin is a causal agent in heart disease. The argument would be you should reduce insulin and if you reduce insulin, you'll have less heart disease, less diabetes and you'll be leaner.

I finally ... He never pushed it to the leaner part of it and I finally said to him while we were doing the interview well, insulin also drives fat accumulation on a day-to-day or at least minute-to-minute level and it's likely it does it on a chronic level so what about if you actually lower insulin levels.

He said well, those kind of studies have never been done. I said actually, they have been in Atkins diet trials. It was about five of them that have been published recently. He said no, the Atkins

diet works because people eat less on it. The diet's kind of nauseating and the people don't like to eat. Now I want to say to him well, I tried it as an experiment.

I was one of these people who was actually foolish enough to try it and as soon as I said that, his response was oh, you're one of those Atkins diet people, like I had just exposed myself as a pulp member because I was willing to try the diet as an experiment.

I said well, I tried it as prompted by the ... An economist at MIT, which is a true story and we were discussing fat and he said that if you're going to write an article about dietary fat as I was doing for science at the time, you should try the Atkins diet so I gave it a context.

It might make him take it more seriously, but basically as soon as I had mentioned the word Atkins, mentioned that I had tried the diet, let alone that I was still mostly following it, I had become somebody that no longer had credibility to them.

This is ... One of the interesting things in the field is that even the clinicians who treat obesity, so the American Bariatric Society. They're full of people who believe that the only way to do it is to get people off the carbohydrates.

They don't get a lot of credibility because they are people who treat obese people, obese people are gluttons and sloths. Nobody stays on diets. There's a whole series of thought constructs at this ... The establishment has created to protect themselves from the simple fact that when people go on these diets, they feel better.

They lose a lot of weight, their metabolic risk factors improve. Their heart disease, diabetes risk factors improve. It's an endless struggle. To say just look at the evidence. Put your preconceptions aside and do what ... I was naive enough to do because I had no preconceptions. Look at the evidence.

Dave Asprey: I feel better knowing that you're paying attention to stuff like this. Well, your background in science is rigid and what you're doing with NuSI, the nutrition science initiative as a non-profit thing.

For listeners, if you've never heard of NuSI, this is something that Gary and Peter Attia, who's also coming on Bulletproof Radio, one of the top low carb, high fat guys out there, have put together ...

Gary can you just tell us what the mission is behind NuSI. I've never been more excited about something so just tell everyone about what you're doing and why they should care.

Gary Taubes: Okay, so let me ... The conclusions of my books basically were that when we focused on dietary fat as the cause of heart disease in the 1960s, we being the medical public health establishment, we decided carbohydrates, sugar and refined grains were basically harmless. They should be eaten, the staple of our diets.

We also decided that obesity was called by just eating too much and taking in too much. If you eat too much and it's a caloric issue, then the problem is you have dietary fats, the problem because there's more calories per gram of fat and carbohydrates are protein.

We embraced these fundamental ideas that our ... We think of them as pillars of modern nutrition thinking that ... The conclusions in my book is that they're almost assuredly wrong. From hardly wrong to almost assuredly wrong.

They can be tested. I think they have been tested in animals and humans. That's the basis of the arguments I make. If they hadn't been tested, I wouldn't be able to make these arguments. They could be better tested and tested in ways that the nutrition research community and the obesity diabetes research community would understand and would accept.

The mission of NuSI is to reduce the burden of obesity and diabetes and their associated chronic diseases in individuals and

of populations. The way we think it has to be done is by getting these rigorous trials in humans done. For a lot of different reasons the obesity nutrition diabetes communities simply never did.

There are these ideas that can be tested. Is obesity and energy balance disorders the cause just by taking in too many calories or it's spending too few or is it a hormonal regulatory defect that's triggered probably by the carbohydrate content of the diet? That can be tested.

With enough thought, with enough rigor and with enough resources, you can test it and those are the kinds of studies we're now facilitating and initiating, funding. When Peter and I founded it, we were kind of thinking this would be a nights and weekends type of endeavor.

We had one study in mind that we wanted to get funded that we were kind of embarrassingly naive about, both the cost of that study and the amount of thinking that would have to go into doing it and what we would learn.

We got support from ... It's a funny story. I got an email one day after doing an economics podcast from a fellow who said ... Named John Arnold who said he runs a foundation in Texas and they're thinking of getting into obesity research.

I had mentioned a couple studies I thought should be funded and he wanted to know if I had a proposal. He had listened to this economics podcast and so I googled John Arnold. He turned out to be a billionaire hedgefund guy who's 38 years old. I sent it to Peter and we got very excited and then we had a conference call with John and his wife Laura and Dennis Calabrese, the head of their foundation.

The conference call was exceedingly awkward as these conference calls were. Eventually, we had more conversations. Peter went and spent some time in Houston. They were so impressed with

Peter that they effectively said if you quit your job and become president of this not-for-profit, we'll bankroll it.

They've been doing it ever since. They're an amazing organization that we probably don't have time to talk about in great detail, but really kind of extraordinary people and with wonderful goals and how they're putting their money to work. They've made it possible for us to do what we set out to do and now this nights and weekends job is about 60 to 80 hours a week.

Dave Asprey: Wow.

Gary Taubes: Tries to squeeze out everything else. We'll see how it goes. It's a constant learning experience, a constant challenge and I feel really lucky to be able to do it.

Dave Asprey: I hadn't realized where the funding for NuSI was coming from. It's good that it's someone who's made a lot of money. Who is saying, show me the science, like I'm going to put the money to work for something without necessarily knowing what's going to happen and apparently there's other good things happening.

I had a chance at the Pale FX conference to meet with Nina Teicholz. I always say her...

Gary Taubes: I've known Nina for 10 years and I realized last week that I mispronounce her name, but it's Teicholz.

Dave Asprey: I probably said it wrong when I was sitting down chatting with her about this and she had actually mentioned the Arnold Foundation. Said oh my goodness, is that like Arnold Schwarzenegger? I was like no, no. It's different Arnold, but I was blown away to find that someone was funding NuSI to that extent.

One of the ... She had just disclosed this funding and of course you guys would know each other. She's ... If you're listening, if you've read some of the New York Times and Wall Street Journal op-eds about high fat, what's going on with this, she's one of the best voices they are looking at, like the public policy side of why are we

telling people to eat stuff that makes them fat and even worse, makes them weak and slow before they get fat.

Gary Taubes: And diabetic.

Dave Asprey: And diabetic. Now that we know you've gotten funding there, one of the studies that I am so intrigued about is when you were saying for a whole year, let's put this group on a very low fat diet and this group on a very low carb diet. Opposite ends of the spectrum and actually measure what they take instead of this self-reporting BS where you don't know how much sugar and salt and everything else in your food.

This week in Business Week in the print edition ... At least I think it's this week it's coming out. There's an article where one of the quotes about Bulletproof is I'm like look, either Dean Ornish ... Dean Ornish and I are at opposite ends of the spectrum and one of us is dangerously wrong.

I'm sure that everything that I recommend isn't perfect. It's just the best I know, given the totality of evidence that I've seen, but I might have missed something.

When this study comes out, it's going to be groundbreaking because no one's done anything like this that I've ever seen and if I was to predict what I think is going to happen here, I don't think either end of that is going to be perfect.

The people on a very low carb diet for a long period of time, their gut flora may be different. People on a very low carb diet may be profoundly weak, but maybe one inflammation marker's going to be different. At least we're going to have the ends of the spectrum mapped out.

In this podcast, we're not going to be able to measure all the different markers that you would want to look at here, but can you tell me the three or four buckets of things that you'd be

measuring in both of these populations to know whether it worked. It's not just about how their pants fit, right?

Gary Taubes: Well, first of all yeah, okay, so it's not us. We're funding this group at Stanford.

Dave Asprey: Okay.

Gary Taubes: Christopher Gardner and his colleagues. Christopher in ... I think it was maybe 2007 published the A to Z study, which was a study of four diets, so A was Atkins and T was a traditional diet, O was Ornish and Z was zone.

It was an interesting study that showed ... Seemed to show that the Atkins diet, people did better, but as you pointed out it was pretty clear after about three months, nobody was eating their baseline diet anymore so the low carb diet, they were having the equivalent if you believe what they were telling you. We sorted through the equivalent of like four medium sized potatoes a day, which is not exactly a low carb diet.

Christopher wanted to go back to this and he had reached out to me and I'd also seen in observation that's interesting that suggested that people on ... Who are insulin sensitive to begin with might do better or have better luck with low fat diets. People who are insulin resistant might have better luck with low carb diets.

This raises the crucial issue with this study and it also will determine to some extent what will be crucial when they interpret it. One of the conclusions in my research is that sugar and refined grains, white flour in effect are the causes of these diseases of civilization. Western diets that we see. Heart disease, diabetes, obesity, gout, cancer possibly, Alzheimer's possibly, this whole cluster that tends to go together will western disease and lifestyles.

What they do in these studies, when you think about Ornish and Atkins have in common ... Ornish is a very low fat diet, Atkins is a very low carb diet, but both of them are strict. The sugars and white flour, the high GI.

Dave Asprey: Yeah.

Gary Taubes: High gluten, grains. In both diets, you're removing what could be the drivers of these metabolic diseases so both diets should be healthier.

Dave Asprey: Yeah.

Gary Taubes: What I would expect is that both groups do ... There's people who do very well on both diets.

Dave Asprey: Yeah.

Gary Taubes: Then the question is ... One thing I hope when Christopher and his colleagues get around to interpreting it, because many researchers in the field don't do this. They don't realize that they're starting even a low fat diet, they've restricted the evil carbs or the purportedly low carbs, whatever you want to call them.

Then they're measuring. They'll be measuring. I think he's doing gut biome and he's doing all the heart disease, diabetes risk factors and yeah, waist size will be part of it. Weight will be crucial.

Again, it'll be interesting because we will learn ... We should finally learn ... Christopher and his colleagues are doing a better job than anyone's ever done before of keeping people to these extremes so the low carb on average will not be as low as an Atkins diet, but it'll be closer than it's ever been. The low fat will not be as low as Dr. Ornish would prefer, but it'll be closer than it's ever been.

We'll learn a lot just about those extremes, but what we won't learn is what are the effects of sugar and white flour because those are pretty much removed from both diets.

Dave Asprey: It seems like ... As least given what I know, it seems like it would be unethical to take even a prison population and put them on a sugar and white flour diet because we kind of know what happens. Their teeth fall out.

Gary Taubes: This is why what Christopher was thinking when he designed that diet. He's going to put them both on a healthy diet and what's ironic is in ... In 2002 when I first ... I wrote this piece for the New York Times Magazine. What if it's all been a big fat lie, suggesting that the sugar and the grains that are the cause of the obesity and metabolic diseases, not the saturated fat.

Dave Asprey: Oh, yeah.

Gary Taubes: In part because I was saying it's not the saturated fat and then part because I was saying it is the sugar and refined flour and now 13 years later, this is the baseline. Everyone says well of course you shouldn't eat sugar and white bread. We all knew that. We've boldly said that. Now the debate is about whether or not ... How bad saturated fat is and what you replace it with.

Dave Asprey: The other question is how bad are plant oils because one of the problems that I ran into just in managing my own cognitive performance and my own hundred pound weight loss is that when you say fat, there's 30 different links of fat and they can all be oxidized or not oxidized.

There are also fat soluble compounds that are often found with some fats and not with others. When you say fat or even saturated fat, butyric acid in five percent of butter that gives it that buttery thing and also makes your feet smell bad, it has a profoundly different effect on brain inflammation than say palmitic acid, another saturated fat.

Even when we get to saturated fat, it's like which saturated fat and did you fry the crap out of it before you ate it because that variable probably matters.

Then you end up getting into this oh no, I'm paralyzed by the requirements for perfection in the study and we can only eat palm oil blessed by monks and stored hermetically. How are you going to get around those levels of things, which really seem to matter?

Gary Taubes: Well, they could matter. Again, it's funny, because this was a lacuna in my research and one thing I get criticized for so we didn't pay attention to vegetable oils.

One of the things I was doing in my books was ... One of the key observations is this observation diseases of western diets and lifestyle so when you start off with these traditional populations all over the world.

Indigenous peoples eating their traditional diets and they made a host of things that kill them, but what doesn't kill them is heart disease, cancer, obesity, diabetes. They don't seem to get arthritis. Again, cancer was a common observation all these studies. This was from like the 1880s to ... Well, you can follow it through to the dawn of the 21st century in some populations.

The question I was asked was what causes those diseases that appear, this cluster of metabolic diseases and they appear in those populations when they start eating western diets and when ... Most of those populations, it's sugar and white flour so that's what I focused on.

You'd see these disease begin to appear before there were any vegetable oils of any quantity, if at all, in these diets. It doesn't mean these vegetable oils are harmless at all, but it does mean that you can get obesity, diabetes, heart disease, etcetera without them.

That's the issue I'm trying ... The issues that I'd like to see our research settle is, is obesity caused merely by eating too much, in which case no matter how you phrase it, it turns out to be some variant on a gluttony or sloth disorder, which I think is horribly naive and intolerably cruel to the obese population.

Dave Asprey: Yes. As a formerly fat guy, yes, it's cruel and it's not true.

Gary Taubes: Yeah, well this is ... This idea, especially with obese children, they're tortured by their obese condition. They're tormented by their peers for being obese and then the medical community tries to get their parents to starve them on top of this when we know that starvation is one of the ...

If it's not one of the four horsemen of the apocalypse, which I think it might be, famine is. Okay, so we got that settled. I can't even go into it without babbling.

I'd like to settle that issue. I think that issue can be settled. Is it a hormonal regulatory disorder and if it is, it's probably ... I'd say almost assuredly triggered by the kind of carbohydrates we eat. The vegetable oils might play a role.

Dave Asprey: Yeah.

Gary Taubes: I'm not saying they don't. Then the other issue is if we can get people off this dietary fat obsession and get the research community paying attention to the right variables and they'll do their job.

Dave Asprey: Yeah.

Gary Taubes: We'll learn the truth. The problem is up until now, they've embraced these preconceptions. They've thought they've been based on sound evidence when if you actually do the exercise of looking to see if they are, you find they're not. Those are the kind of things that I would like to focus on.

- Dave Asprey: There are two things that stood out in the research for my book that undeniably scientifically break the calories in, calories out. One of them comes from animal husbandry or industrial livestock operations more accurately.
- They have a metric called feed efficiency, which is how fat per calorie will the animal get. This metric cannot exist if it's calories in, calories out.
- There's a drug. It goes in the cow's ear. 30 percent increase in feed efficiency. Okay, calories in, calories out is dead at that point. Right?
- Gary Taubes: Yeah. You know, 20 I was ... Gave a talk at a bull auction in Nevada in and I love these because I'm a city boy. The first edition of *Why We Get Fat*, I had a picture of a bull and I had labeled it a cow. That's how I know I got all this hate mail. I didn't have horns. What do I know?
- I got all this hate mail from people in west Texas saying if you can't tell a bull from a cow, how the hell are we trust your judgment on anything?
- Dave Asprey: Don't be milking that bull.
- Gary Taubes: Anyway, they did this bull auction. One of the lectures was from a professor of agriculture, livestock agriculture, a veterinarian at UC Davis on this feed efficiency.
- I said to him afterwards ... I said basically I'd never heard of this before and I said afterwards ... And this was just a month and a half ago. We have to talk.
- Dave Asprey: Yeah.
- Gary Taubes: If you guys think that way, why does anyone in the obesity research community think differently? Yet they do.

- Dave Asprey: The other thing that's scary is if they did something to the cow to make it gain fat faster, maybe when you eat that cow, it's going to do the same thing to you.
- Gary Taubes: That's possible, but again and then I, my western diet analogy, which is you can make people fat. For instance, Native American. They wouldn't have been eating cows and which of that had been done to them, but by the 1930s, 1940s, 1950s, you start seeing diabetes and obesity erupting in these populations long before we started manipulating our cattle.
- Dave Asprey: You're absolutely right.
- Gary Taubes: There might be these issues that might be making things worse, but they wouldn't have been the initial trigger if you take a historical perspective. The antibiotic question is another one that ... I can imagine how it has an effect, but I have trouble fitting it the data that it's affect is primary.
- Dave Asprey: Have you seen the germ-free mouse feed experiments studies?
- Gary Taubes: The ones ... Which version of the germ-free mouse?
- Dave Asprey: Well, this was when it came up as part of the Maybe Why Bulletproof Coffee hypothesis. Not a proven hypothesis, but why did I keep losing weight eating way too many calories when I was doing this coffee thing?
- They take germ-free mice and they can over-feed them and they stay lean and ripped. They make the right amount of fasting-induced adipose factor. They take these same mice and they put one cube of mouse poop into their cage, which makes them no longer germ-free and there's 60 percent body fat two weeks later.
- That's like woah so then it's a question of what's growing in the gut. There are studies now, particularly mice or rat, where they look at this and it turns out that there are some species of bacteria that amplify our fat storage and amplify our fat burning because let's face it, we're basically a walking petrie dish for them. They

figured out how to hack our hormones to make sure we have extra fuel in case there's a famine.

Whether this is a primary effect, a secondary effect, I don't know, but does it matter? Yes ...

Gary Taubes: Well, this is what's so ... What matters is ultimately can you manipulate the bacteria so that's the goal when people talk about this.

Dave Asprey: Yeah.

Gary Taubes: They manipulate, going to be able to do this. We're going to manipulate the bacteria. You don't have to change how you eat, like you Dave Asprey, you're at least 300 pounds. We're just going to give you the strog. It's going to change your bacteria and you're going to become thin. You don't have to do anything differently.

That's the fantasy behind this and the question of course is, is that true, are they dreaming. One of my problems with mouse and rat studies ... I'll tell you my favorite quote along these lines from ... Yeah, I had the opportunity to spend 25 years doing nothing but talking to scientists for a living. For whatever ... Good or bad, they polluted the way I think or they influenced strongly the way I think.

There was an old cancer, Italian cancer researcher at Thomas Jefferson University. He said to me ... We were talking about rat experiments. He said you know, Gary, if you can't cure cancer in a rat, you shouldn't be in this business. It's so easy.

Dave Asprey: They're not people and they have super livers and they don't use their kidneys for anything, which totally changes.

Gary Taubes: Here's the other quote along these lines. People talk about animal models so this an animal model of human obesity is the idea, but the problem with the model is you never know how they differ from the real thing and you never know about what assumptions you're working under.

When I grew up in the physics community ... The hard ass experiment the physicists used to refer to a paper that was based on a model so if it was model dependent, that was a synonym for I don't have to read this paper because life is too short.

Dave Asprey: Nice. Very good shortcut.

Gary Taubes: It could be all these things could be true. Their hypothesis anyways until you test them in humans, you have no idea what the effect is.

Dave Asprey: One thing that we do know is that you can suppress gut bacteria with a high fat diet, which is interesting and that is shown in humans. You can also increase some kinds of them by eating more antioxidant vegetables and things like that, which Ornish and Atkins would've been proponents of. You eat your leafy greens.

Like you said, these are all hypothesis and there's some evidence that these might be true. I found like eight reasons why only fat with polyphenols in the morning could do interesting things to your bio chemistry.

Knowing which one or a combination of those is doing, I don't know, but I do know that I can cause a repeatable effect with this little bio hack.

Gary Taubes: Well, that's why so much of this is about self-experimentation. We lay out what we think are the basic rules of the system and then within those rules, there's a lot of individual variation. A lot of phenol types have been triggered and then we all begin playing with the various variables involved.

The types of fat, the amount of fat, the timing of the eating. Are we going to intermittently fast? Almost an infinite variety of things we can manipulate to see how they effect us personally.

One thing I always said about diet studies ... If you're obese, you don't need a randomized control trial to tell you if a diet worked.

You go on the diet and you're suddenly 40 pounds lighter, which is a common phenomenon, that diet worked for you.

Dave Asprey: Yeah.

Gary Taubes: What you need to know now is long term effects. For instance, you could starve yourself. If you lose 40 pounds, can you keep it up? Or have you fixed ... By the starvation, have you fixed this metabolic disruption that cause your obesity to begin with and then are you going to live longer?

There's a lot of things we do that make us feel better. I have terrible tinnitus, which is the technical term for what lay people call tinnitus and I try to pronounce it correctly and then people don't know what you're talking about so tinnitus is ear ring.

It sounds like I have, sometimes a hive of bees in my head. Makes it difficult to think. Could be that I had too many concussions as a youth, could be a genetic thing. Could just be bad luck. I also worked in a lot of ... I bounced in rock clubs through college and graduate school. There are a lot of reasons why I could have this.

It's annoying. I will do anything to make it feel better so I will take massive doses of Ginkgo biloba. If it suppresses the tinnitus, I'm happy to have that symptom suppressed. I don't know if the Ginkgo is going to kill me in 10 years or 20 years at which point people will blame it on my high fat diet, but it could be the Ginkgo.

It's a trade-off you're willing to make. You could always, if you have a symptom, you do the experiment, you see if you feel better and then you make some kind of trade-off between ...

It's naive it's not going to have long term consequences or you're not going to be in the situation like I could be in, where the tinnitus comes back, but I'm already taking massive doses Ginkgo. Now if I give up the Ginkgo, will it be even worse? You never know. If you got a symptom, you can experiment and see what happens.

- Dave Asprey: At the end of the show, I'm going to send you an email to introduce you to a neighbor of yours in Alameda, a Dr. Dwight Jennings, who's been on Bulletproof Radio, who has helped like thousands of people with tinnitus by changing the pressure their jaw puts on the trigeminal nerve.
- Since he's your neighbor, you totally just need to go see him once and see if you're a candidate. He realigned my jaw, changed my whole brain. It's remarkable. I'm going to do that if that could help you.
- Gary Taubes: I'm there. I'm holding you to it. As you know, I will try.
- Dave Asprey: Yeah.
- Gary Taubes: I will experiment on almost anything if I think that there's a benefit.
- Dave Asprey: I didn't realize that that was a big issue for you. That's one of the more powerful things that I've had happen to my health, was getting my jaw working so my nervous system worked better and I never get ringing in my ears. I never had a big problem with it, but it was once a week. Thing would pop in. Never.
- Gary Taubes: Thanks so much.
- Dave Asprey: Going back to the...
- Gary Taubes: You also email him and tell him to fit me into his busy schedule?
- Dave Asprey: Oh, yeah. Yeah, his schedule got more busy after he came on the show, but I'll email. Introduce you directly to his private address. You guys need to see each other because if we can do something to help with that distractions, then you'll just do more good work and I like your work.
- Gary Taubes: One other issue here, by the way, just for our viewers. Could be a placebo effect.

Dave Asprey: Yes.

Gary Taubes: I am all for good placebo effect. I'm the one who takes the placebo effect. If I feel better, I don't care if it's a placebo effect or not, but I will try it.

Dave Asprey: Generally, if it works forever, that's great, but if the placebo effect ... They often drop off over time. If it doesn't drop off, great. Let's run that test.

Gary Taubes: Sugar book finished?

Dave Asprey: There you go.

Gary Taubes: Id be happy.

Dave Asprey: I can't wait to see that one. Here's a question for you. You're open to self-experimentation as I believe all good scientists are, that whole observation part of the scientific method. What do you eat for breakfast?

Gary Taubes: What do I eat for breakfast?

Dave Asprey: Has it changed over time?

Gary Taubes: Yeah. No, it's the same. I'm a creature of habit. I'm one of these people who's happy to eat the same thing every day so it's pretty much eggs and bacon every day. They're pasture fed ridiculously expensive eggs that I could buy out here in Berkeley effortlessly.

Funny. I used to complain about how much eggs cost in New York at the supermarket and now I move out here and I buy pasture fed, pasture raised eggs that are twice as expensive. I have no idea if that's good or bad. It just seems like a reasonable thing to do and they definitely taste better.

Dave Asprey: Yeah.

- Gary Taubes: Anyway, that's ... Breakfast is eggs and bacon. The rest of the day it's some kind of meat, fish or fowl with green vegetables.
- Dave Asprey: Are you picky about grass fed versus grain fed?
- Gary Taubes: Yeah, I do grass fed, although I tend to ... One of my local gourmet butchers carry Niman Farms meat, which is finished on grain and I have to say it's pretty delicious. There's a reason why that happened, but even the grain finishing is an interesting story because people tend to blame it for a lot of these product diseases.
- You can go back to the 19th century and most of the corn raised in America in the 19th century was raised to finish beef on so it's not something we recently started doing. We've been doing it for quite a long time.
- Dave Asprey: The difference ...
- Gary Taubes: It probably wasn't unhealthy then, by the way.
- Dave Asprey: The difference I would posit makes a difference is that the corn we raised back then wasn't 98 percent contaminated with fusarium and fusarium made about 500 times less mycotoxin, which is fat soluble. That has to play a role.
- Gary Taubes: Okay, so here's the issue. Here's the experiment. If I eat none of the Niman Farms meat for, let's say three weeks and do just the Marin Farms, which is ...
- Dave Asprey: Yeah, it's good stuff.
- Gary Taubes: Wonderful. One of my other local gourmet butchers. How am I going to feel different?
- Dave Asprey: If you are doing other things in your diet to minimize, but not eliminate mycotoxins, you'll probably see a measurable difference in say to do like a 10 minute cognitive function, executive function. Finger tap time, vigilance test, three in back testing. At

least that was what I found from reducing mycotoxins in coffee, was that there's a difference.

In my own life, I'm a canary for these. I feel the difference because I live with stachybotrys. I very much can tell the difference between grain fed and grass fed beef. Not from flavor, but from how I feel two or three hours later so I'm an extreme responder.

Everyone isn't like me, but when you take people who aren't dealing with chronic inflammation from autoimmune conditions brought about by this, that there's still a cognitive or very importantly, a hypoglycemia effect that's caused by these things.

It's one of those things where if you tried it, maybe you feel it and maybe you're like Dave's completely obsessed with food toxins and anti-nutrients. Okay, that's a fine argument to make. I would just say is there a difference and what's the evidence and can you tell.

I don't know. Maybe it's worth an experiment. If you're going to experiment, the other guys in Berkeley that you may have already met ... If you don't know them, I can introduce you. It's a Bobby and Yrnis run Mission Heirloom, which is just the most ...

Well, put it this way. It has the highest standards of any restaurant I've ever been to. Everything is grass fed. Everything is local. I know the founders very well. They're more obsessive than I am about food quality, which is saying a lot and it's a great compliment to them.

If you've never eaten at Mission Heirloom, I think it's on Shaddick. You got to go by there once because they'll make the most perfect eggs and the most perfect lamb or steak, whatever you like, that you'll ever have.

Gary Taubes: Okay, well, I'm happy to do that.

Dave Asprey: Cool.

Gary Taubes: You got a deal.

Dave Asprey: That's what you have basically. You're having good quality meat, even if it's not grass fed, lots of leafy green vegetables. Cooked or raw?

Gary Taubes: Both.

Dave Asprey: Both. Cool. You're doing this regularly and you're feeling pretty good?

Gary Taubes: Well, if I finish my sugar book, I would be feeling pretty good. Again, it's ... I have the equivalent ... Well, you probably have the same phenomenon. You seem to have more Joie de vivre than I do, but I have the equivalent of about three different lives, three different work lives with no assistant.

I just turned 59 and I have two young children so I could do better on a lot of different areas, particularly sleep.

Dave Asprey: Kids. Sleep. Opposite ends of the spectrum.

Gary Taubes: Less than seven days a week would be nice. There's a lot of things I can improve to improve my state of mind and energy.

Dave Asprey: This is a Skype call, but I did get a chance to hang out with you in person awhile back and you actually look like you're doing really well and that's always a good observation, right?

Gary Taubes: That's always key. It's like doesn't matter how old you are inside. It's that you still look like you're functioning.

Dave Asprey: All the best doctors can look at you and before there's an examination, they kind of know. You look at the skin, you look at the eyes. You look at the energy. Yeah. Not being a doctor, but being a guy who's just doing a comparison with a wide range.

I'd say you're hanging in there pretty well, especially for a new dad.

Gary Taubes: My goal in life now ... I have an obsession, which is the concept two, rowing machines. I used to do these as a kid, being meaning until I was about 35 and then I quit for awhile and now I've gone back to it.

They have rankings online so you can do your scores, your times for 500 meters, 1,000, 2,000, 5,000. You can put them online. I actually haven't put any online yet, but my goal is at 59 to get to 90th percentile in a few of the key races and realizing that I only work out about twice a week for 20 minutes.

We'll see if that's doable. I've definitely done it for the shortest distance, but that would be the one where endurance would be of course least of the factors.

Dave Asprey: Well, there's a question that I ask everyone who comes on Bulletproof Radio and it's the final question in the show. It's given all the stuff you know, both from your hardcore physics background, nutrition research and everything else, just life, your top three recommendations for someone who wants to perform better as a human being. I don't mean athletically. I just mean you want more of whatever it is you do, what matters most? Those three things.

Gary Taubes: Okay. Yeah, I've been thinking about this for awhile and all I can tell you are the things that would work for me. Again, you're talking to someone who's got a sugar book that's three years overdue so there's this possibility when it comes to actually performing better, I really have no clue other than okay, so get rid of the sugars and the white flour in your diet. That's the definite. I think that's going to make anyone healthier, whether they're a vegan or 100 percent carnivore.

I got to say get rid of the internet.

Dave Asprey: That's a first.

Gary Taubes: I know this is counter-productive for somebody who's got a podcast, but you think about how much time we waste.

What's my third is going to be ... It's got to be getting enough sleep. If I can get seven, eight hours of sleep for five days in a row, I'm an entirely different person.

It's interesting. I describe my writing. It's always been sufficient to me so basically you wake up in the morning. Whether you have a book to write or an article, it's wake up in the morning, push the rock up the hill.

Dave Asprey: Mm-hmm.

Gary Taubes: Then it rolls back down. You wake up the next morning and push the rock up the hill. Eventually you get it to the top of the hill one day and then you start editing and everything's cool. You begin enjoying life again. I've never been a fan of writing. I love researching.

When I don't get enough sleep, I can't push the rock. It's just that simple. It's like you walk around the rock. You put your shoulder against it. You try to take a running head start. It just doesn't move. You get enough sleep, the rock moves.

I can. The question is often we don't get enough sleep because we're waking up at three in the morning worried about things. Those are the kind of issues that you'd probably be ... Have good advice about.

Dave Asprey: Just wake up to check your email. I mean that's a ...

Gary Taubes: That's my advice. Those are the three things.

Dave Asprey: That is ... It's awesome advice and coming from someone who's not just a pretty good scientist, but also a successful author, that's particularly interesting because you've out-performed in multiple fields, which is kind of cool.

I've asked this question of Arianna Huffington and Tim Ferris and. What did Tim say off the top of his mind? Off the top of my head.

Well, I've actually had him on twice and most recently we talked about learning. We didn't talk about his top three and he was on like 100 episodes ago. I don't remember his ones, but I imagine sleep was in there somewhere.

Gary Taubes: It's always worth hearing his advice on improving performance. If anyone over performs in all areas of life, it's A. Tim Ferris and maybe a close second, my colleague Peter Attia.

Dave Asprey: Peter is just an amazing dynamo from what I hear. I can't wait till he comes on the show. He's a couple weeks out, he'll be on. Tim, by the way has a new TV show. If you're listening to this and you haven't heard about the Tim Ferris Experiment on iTunes, it's really cool.

Gary Taubes: There's more internet. That's the issue.

Dave Asprey: Well, this is more like TV. It's delivered over that bad internet, but the ... What he did is he went out and said I'm going to learn a new skill.

Like I'm going to learn how to be a professional drummer and at the end of the week, one week of learning, I'll go live on stage with Foreigner as their drummer. Just the amount of focused learning and high performance in one week.

It just gets more ridiculous from there so it's a pretty fascinating thing when you look at Tim as just a high performer, like how the heck do you do that. I'm glad I didn't have to it, I don't think I would've done it.

Well, Gary, where can people find out more about your books? I know there's Good Calories, Bad Calories. There's Why We Get Fat. What website should they go? Tell them how to find you because you're a pretty well-known guy.

Gary Taubes: Website is garytaubes.com. Unfortunately, it's been lying fallow for about two years as I've been dedicating those two years to NuSI and the sugar book so I have to write at least an explanation to why I've been gone.

I get emails from people on occasion to the website saying I read your books. They're very compelling. I've started your diet, but I noticed you haven't blogged since 2012. Have you died of a heart attack? Can you please get back to me? I have to update that. That's the main.

Then nusi.org is the ... N-U-S-I.org is the nutrition science initiative and you'll see what we're doing. We think it's exceedingly important and would love all the help we can get there.

Dave Asprey: Gary, thanks again for coming on Bulletproof Radio. It's an honor to have you on, honor to talk with you and just thanks for all your work.

Gary Taubes: Well, thank you, Dave. It's great to do it. Very impressive.

Dave Asprey: If you enjoyed today's episode, I certainly did. Do me a favor and go out there and pick up one of Gary's books. If you want the long read that'll just completely fill you with science, Good Calories, Bad Calories. You want the Cliff's Notes? Why We Get Fat and check out what NuSI's doing.

While you're at it, check out some of this cool new Bulletproof stuff like the Zen Tech shield that you put on your iPhone that blocks the blue spectrum of light that lowers melatonin so that way if you are going to use the internet before sleep, shame on you for doing that, at least you won't wreck you won't wreck your melatonin for the next four hours. Check out that new tech. It's called Zen Tech on bulletproof.com.

Have an awesome day.

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