



Transcript of “Max Lugavere: Dementia, Aerobic Exercise & Filming Bread Head -
#229”

Bulletproof Radio podcast #229

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Dave Asprey: Hi, everyone. It's Dave Asprey with Bulletproof Radio. You may have noticed something different if you're watching the video on YouTube or on iTunes. If you're listening in your car, you just noticed the incredibly crisp and clear audio quality. If you're watching at home though, you'll notice that I'm on the beginnings of the new set for Bulletproof Radio here at Bulletproof Labs on Vancouver Island. I have my first ever live guest, and his name is Max Lugavere. Max, welcome.

Max Lugavere: Thanks for having me.

Dave Asprey: I'm really stoked because we've started the whole day here recording with VICE Munchies, and I put you through the ringer on the biohacking sort of thing.

Max Lugavere: You did, and it was awesome. I really enjoyed it.

Dave Asprey: But that's not why Max is on the show today. Max is on the show today because, well, he's making a documentary that's really cool, that's about a subject that's near and dear to me. We're going to talk about that, but first, you've already missed your cool fact of the day, haven't you? We'll do our cool facts of the day and then we're going to talk about his new documentary. Today's cool fact of the day is about why your phone number is seven digits. If you go back to the 1950s, the guys at Bell Labs were looking at what would work best, and they figured out that we could remember on average, seven things.

This is still that way for working memory today unless you're doing something funky to train your working memory or you just have an unusually good working memory. What they found though was that if you put three chunk of item or four chunk of item that you could remember better. They're actually a

quantitative test to see which ones work best. Who knew that all that science went into your phone number and then, we add area codes that screwed all that up, and then country codes. Do you know your phone number anymore? It's all built into these little things that we outsource in that part of your brain, anyway in this working memory retention span.

Max Lugavere: It's true, outsourced cognition.

Dave Asprey: Exactly.

Dave Asprey: Now, the reason that we are recording this podcast today is that you've made or let's say, you're in the process of making documentary on Alzheimer's disease.

Max Lugavere: Yes. It's a film called, Bread Head. Basically, my goal for the film is to be the first ever millennial-focused documentary about the disruptive idea that is dementia prevention. This is a really important topic to me. I think it's actually the most important topic because, you know, our brains really are who we are. They manufacture our minds and all of your incredible work in the realm of optimizing cognition and stuff like that is nothing if there's disease at play. I became obsessed with this topic when three years ago, my mom started showing signs of cognitive decline. A few people noticed this about me, but I was a programmer in high school. I, in high school attacked my own biology with the same engineer's framework that you have in terms of biohacking and whatnot. For me, I've never been overweight. I've never really had to deal with things like arthritis that I know that you have faced and overcome. It was really all about performance for me early on. Three years ago, shit became real for me when my mom started showing these symptoms.

Dave Asprey: How old is your mom?

Max Lugavere: She was 59 when it all started. I used my penchant for understanding the science and research to really dig into the science to figure out why a woman of 59 would start showing these symptoms. On the one hand to try to help her if that was even possible, but on the other hand, to prevent this sort of stuff from ever happening to me. I mean, I'm a really creative person. I use my mind. My mind is my currency in life. The idea that one day I could succumb to this, the randomness that is cognitive decline to me was just a horrific fate.

What I learned at that time is that there are a bunch of myths that many people have about neurodegenerative disease. For one, that it's a disease of the old. Really what they found is that changes begin in the brain decades before the first symptom, before that first trip to the neurologist's office where you feel like something is awry with your cognition. That's like a 30-year disease process. It's already set into motion. I just became obsessed with living and eating in a way that optimizes my brain health because the idea of dementia and cognitive decline to me is unfathomable.

Dave Asprey: When I was in my mid-20s, I had cognitive decline. It was noticeable. I measured it in my performance on just a simple working memory task every day that was called Freecell, that's a form of Solitaire. Some days, I can't remember what I'm doing here. It was very noticeable whether I could perform or not perform. That was my quantitative measure, and I realized my daily performance was getting not so good and I really dug in as well. In my case, it's because I felt it. In your case, it's because you saw it and it made you feel that you were vulnerable to it, but both of us are outliers. Most people in their mid-20s are already experiencing some degree of cognitive decline usually from drinking a lot, but already, things aren't quite as good as they might've been when you were 22. It's just a slow decline until all of a sudden, you notice it and you start dropping words, and it comes and it goes, but it's so subtle, you don't get it. You're looking at Alzheimer's now.

I went and I started working with the Silicon Valley Health Institute, working with people two and three times my age because they were focusing on the same thing, but they're trying to reverse damage and I'm like, "I already probably have some of those damage, but I don't want to undo it." It turns out those same techniques increase performance which is an interesting thing that no one tells us.

Max Lugavere: Yeah, you can. When a research out of UCLA, Dale Bredeesen comes out with a study where he showed essentially a reversal of symptoms with patients that were dealing with things like mild cognitive impairment or early Alzheimer's disease. He put them on a diet that was low in carbohydrates. He supplemented their diets with, in this case, coconut oil or Axona. I don't recall specifically which one it was, but it optimized their sleep with melatonin. He was making sure that they were exercising all the time.

He published a study where he saw a reversal of cognitive decline. The idea that your cognitive health really was in your hands to me is an empowering idea. It's not a notion that I privy to before going through all of these with my mom. I experienced going around the country and visiting various neurology departments with my mom, what is often described as diagnose and adios. That to me was just awful. The idea that there are people out there that are spreading this empowering research, the virtues of MCT Oil, of things like Brain Octane, to me it's like, people need to know about this stuff.

Dave Asprey: It's pretty important in order to have a brain that works right now, and I don't think it really matters what age you get started, but just getting stable energy so you can have multiple source of energy has changed my brain for the better. You did something interesting with your Kickstarter campaign for Bread Head. You doubled your fundraising goal.

- Max Lugavere: Yeah. Who knew people care about their brain health? We did a Kickstarter campaign. It wrapped about two months ago. You definitely helped us get the word out, so thank you for that.
- Dave Asprey: It's a worthy cause.
- Max Lugavere: Yeah. People really took to it. It's one of those magical, viral things that we ... Our goal is \$75,000 because we figured that was enough to really give the project the jolt that it needed to bring it to life and we ended up raising double. It was tweeted by, you know, Dave Asprey.
- Dave Asprey: Some guy.
- Max Lugavere: It was tweeted by Jared Leto and Maria Shriver, all kinds of celebrities. People were incredibly supportive and it was awesome. The feedback was overwhelmingly awesome. I was very happy with that.
- Dave Asprey: There's something happening now. People are waking up and they're realizing, "Wait a minute. I actually do have control of my brain health and I have control of the rest of my biology, too." There's a study out there, you've probably come across in your research that says, "Neuroplasticity increases when you know about neuroplasticity." It was basically knowing that you can change your brain lets you change your brain. If you believe intelligence is fixed, you cannot increase your intelligence. Once you believe its variable, then suddenly, your intelligence can change.
- Max Lugavere: It's amazing.
- Dave Asprey: It's awesome.
- Max Lugavere: Yeah.

- Dave Asprey: It's also important to maintain your intelligence, that you don't damage it with toxins. In MOLDY, the documentary, by the way a quick plug, that would be moldymovie.com. 50,000 people have seen it and we just wrapped up our free screening, but it's totally worth checking out all of the clips and stuff. In that, Daniel Amen said you can lose 15 IQ points. Your IQ might be 130, you get exposed to ... breathe toxins, in this case, moldy toxins in the air and then, your IQ might go down to 115. You're still smarter than average, but you're not where you were before. If you're dealing with an older person or any person, it doesn't matter if there are things inhibiting mitochondrial respiration in the brain, it can have an impact and if you're already in the cognitively weak position, that you're starting to suffer from some of these effects of ageing or these diseases of aging, that could be the straw that breaks the camel's back so to speak.
- Max Lugavere: It's so interesting, and based on your research, I'm so excited to watch your documentary but then also to learn more because fungi whatever I learned recently is a kingdom as diverse as the plant kingdom and the animal kingdom. Mushrooms, they can either put you on a hallucinogenic trip. They can actually enhance your brain function. There's great random control trials out there that show the Lion's Mane mushroom can actually slow the decline and reduce symptoms of mild cognitive impairment. It can improve symptoms.
- Dave Asprey: Isn't that ridiculous that just a simple mushroom could do that?
- Max Lugavere: It's just a simple mushroom.
- Dave Asprey: Even the hallucinogenic ones like Amanita muscaria and some of the other ones. Psilocybin can do very beneficial things for the brain when used very occasionally and therapeutically rather than recreationally.
- Max Lugavere: Yup.

- Dave Asprey: It's shocking that we haven't paid more attention to this in just overall history of medicine. It's just whatever antibiotics we can get, but there are all these other compounds that come out of this that are really important.
- Max Lugavere: Yeah like penicillin, exactly. It's the most common medicinal mushroom although there are so many others. We've only discovered a small fraction of the mushrooms that are out there. A few people realize this, but a huge percentage of our pharmaceuticals come from mushrooms. It's really interesting. The point is that I don't doubt that mold can have a destructive impact on your health. Then again, as you mentioned earlier, it also makes cheese.
- Dave Asprey: It's not like mold is bad because our soil is based on it, our food is based on it and we'd be surrounded by dead bodies without it. That's just one thing. It was my opportunity to plug the MOLDY movie. What I want to talk with you more about was your calling your documentary Bread Head, so, hmm. One of the Bulletproof recommendations is really don't eat grains.
- Max Lugavere: Yup.
- Dave Asprey: That isn't just wheat, but most of the other grains as well. There's a bunch of reasons for that, but why specifically are you looking at the brain and Alzheimer's disease, and grains and not just gluten?
- Max Lugavere: Yeah, it's a great question. I see whole-grain bread as being the ultimate processed food masquerading as a health staple.
- Dave Asprey: I agree.
- Max Lugavere: Yeah, it's true. If you recognize the fact that your average slice of whole-grain bread has a higher glycemic index than table sugar and pure sucrose, there's that. It affects your blood sugar quite profoundly. The CDC in 2012 ascertained that bread and rolls

were America's number one source of dietary sodium. Now, I know that sodium in a lot of people does not lead to high blood pressure, but I think it's really the sodium to potassium balance that's most important.

Dave Asprey: And magnesium, right?

Max Lugavere: And magnesium. Essentially, when we think of processed foods, we think of foods that are really high in salt and really high in sugar. Bread has those makings, those markings of a processed food. Not to mention the fact that bread is replete with gluten, which is an alien protein that induces gut permeability in every body that is toxic for everybody.

Dave Asprey: No, no. Didn't you hear? There's some study that said only people with celiac need to do it, like you're supposed to be angry and say, "I eat gluten because I can take it." Are you saying there's a study that refutes that, Max?

Max Lugavere: Here's the thing. I don't think that everybody is necessarily going to get sick from gluten.

Dave Asprey: Yeah, that's true.

Max Lugavere: I've done an interview with one of the most renowned researchers in this field and he stated that gluten is toxic for everybody, but not everybody's going to get sick from it. The same way that your body is fighting an invisible war with countless microorganisms on a daily basis, even mold and you are none the wiser to those battles because you've got a great immune system and you're doing things to counteract the susceptibility to those toxins. Gluten is no different. It induces low-grade inflammation in everybody because it lets things past the gut lining that shouldn't get past it. Whether or not it affects you now or decades into the future, I mean, inflammation can have an insidious effect. It can build up over time. My mom who grew up in New York, to her,

eating a bagel was always vastly healthier than an egg because the cholesterol in eggs that clog your arteries and ...

Dave Asprey: I thought that too as a kid.

Max Lugavere: You know? It's just a really pervasive problem that I think we need to fight. The reason I brought up my mom is because she actually tested positive for gluten antibodies and to this day does not have gastrointestinal side effects from consuming a bagel like that. The research shows you that you can have neurological effects from gluten that are extraintestinal. They recently connected ALS to celiac disease. I just think it's like we're really at the tip of the iceberg. There's a lot that is yet undiscovered, but we do also currently know a lot and we know enough to protect our brain health to the best of our ability, and I think that's a battle worth fighting.

Dave Asprey: If someone were to say, "I love cherry turnovers. I'll eat them now," as a long-term health strategy, you're saying maybe that's not optimal.

Max Lugavere: It's not because of the fact that it induces gut permeability in everybody.

Dave Asprey: In everybody, right?

Max Lugavere: In everybody.

Dave Asprey: But I like them. This is the kind of level of discourse that it comes through, "I'm strong and it's not going to make me sick." When I hear that, I actually feel sad for people because there isn't really a rational conversation to have with someone who's taken that perspective. They're going to do whatever the self-destructive path they choose to do, and maybe it won't be self-destructive but it isn't one that leads to optimal strength and resilience either.

Max Lugavere: Right, right. In that moment, they're listening to the Labrador brain, as you always say. I think it's constantly the battle between the prefrontal cortex and that reptilian brain that just wants things that are sweet, that provide that instant gratification, but that also makes you sick. The body prefers short-term survival over long-term health. We need to think about our long-term health in the choices that we make at the kitchen table.

Dave Asprey: It's true, but let's face it. Long-term health, all these years running the Silicon Valley Health Institute and a lot of people think about long-term health when it runs out, when they're 59.

Max Lugavere: Yeah, it's a problem. Yeah.

Dave Asprey: Why wasn't your mother thinking about her long-term health before this?

Max Lugavere: The problem is my mom ... my mom was. She was health conscious, but she is from an era where the recommendations from forces larger than herself were hard to ignore, but counter opinions were simply not available because the media channels were less. She didn't have the Internet. I think that today, we're at a unique time where we're at this interesting apex where we have enough research and the fact that technology really has led to this democratization of information, and we don't have to rely on the government. We don't have to rely on the USDA. We don't even have to rely on our local doctors to get the truth out there.

We're at a really interesting time where we actually can make informed choices for ourselves. That's what I'm trying to do with Bread Head is that I'm trying to like, you know, I'm not demonizing anyone food group necessarily more than I am just providing the information so that people can make this choice for themselves. In the Kickstarter teaser that went viral, I posed a question at the beginning, "One of America's most feared disease is the choice that we make at checkup." As long as you're making that choice, as long as you're aware of that choice, then make the

choice and your fate is in your hands. That's the best that we can do as teachers.

Dave Asprey: It's one of the reasons there's a Bulletproof Diet Roadmap. It's exactly that. If you don't have a roadmap, you just go there and you're being health conscious, but you're probably making decisions based on false assumptions. You might be a rational actor. You're going to do the good thing and you'll eat masses of rock and hail, and nothing else if you believe that's what's going to make you stronger. If it works, that's great. If the data you have is flawed or you're eating whole-grain bread like I used to as a kid when I was fat and my brain didn't work very well not knowing that it has morphine opiate-like effect in the brain.

You just do this and you're doing it over the course of a lifetime and you were paying attention to your long-term health, you were being health conscious and you were getting the exact opposite of what you bargained for because you didn't have the tools especially 20, 30 years ago to track what the effect of these things were on your biology. We have the tools now. If someone can tell you to do something and you can try it. If it doesn't work after six months or after a year, you can say, "All right, maybe that person is," and this is what people would say, "They're a con artist, a scammer, a snake oil, a quack." Those are all ad hominem attacks. Those are BS.

What's going on is the person was wrong. Being wrong is very different than being a con artist. Those aren't words that I use towards even the doctors, the low-fat extremists, the ones who were responsible in part for my obesity. I don't think that they're quacks. I don't think that they're con artists or scammers even though some of them have made enormous amounts of money off pedaling this low-fat, basically low-calorie nonsense. But what they are is people trying to help; they're just not helping.

Max Lugavere: Yeah, and a lot of them are misled. As you know, nutritional training in medical school is next to nothing. U.S. medical schools, their curriculums ignore exercise for the most part. There was a study recently that came out where they assessed the amount of exercise training that future M.D.s were getting and it was next to nothing despite the fact that exercise can prevent and treat so many diseases. I think that they're just uninformed, but then also like nutritional science itself is pretty confusing. The other day, I saw a study that they were feeding mice high-fat, low sugar that a lot of the times, they'll research the effects of saturated fat by combining it with sugar, so you really get no sense of the impact of each variable.

Dave Asprey: It's hydrogenated saturated fat.

Max Lugavere: Hydrogenated saturated fat. I've actually done a research to look into the rat chow that they give these rats. When they test the effects of dietary fat on their lipid markers for example, they use corn oil. I mean, nutritional science is in such a weird state. It's impossible to do this kind of research with the long term with humans that's why I really respect the work that Gary Taubes and Peter Attia are doing with NuSi because they're really looking to raise money to do better research.

Dave Asprey: Gary was just on and they just raised like \$40 million.

Max Lugavere: Wow.

Dave Asprey: Which is, I think from the Arnold Foundation and I'm like, "You go, Gary," because that kind of work is going to shed some light on this and maybe we're both wrong and we really should be eating a tofu-based, low-fat diet because the evidence is very much against that now. I would be shocked because I can look at the effect on testosterone, the effect on inflammation and all these things, those don't work. Maybe, there's some magic group of people where those work sustainably and they don't suck energy and willpower. I think that Gary's work is going to help get to the bottom of

obesity and we can really solve some of these problems. Recently, I think it was a pharmaceutical sales rep said something in the Wall Street Journal about how coconut oil and exercise and diet aren't going to cure Alzheimer's. We need drugs. What do you say to people like that who are just either untrained or unaware that lifestyle factors affect ageing?

Max Lugavere: I remain open-minded to all sides. I'm willing to have a conversation with the author of that article in the Wall Street Journal. He works with an organization that works to look for a fund ... they fund pharmaceutical research for cure for Alzheimer's disease. There are many hypotheses as to why ...

Dave Asprey: Notice I didn't correct any of those because I've no idea.

Max Lugavere: There are a few ideas as to why Alzheimer's disease develops. One of those is an amyloid hypothesis that this buildup of this toxic protein amyloid beta in the brain is really the beginning of Alzheimer's disease and ultimately what leads to the neuronal death. That's one idea. He does not seem open to the idea of prevention via a dietary and lifestyle modifications.

Dave Asprey: He knows what causes amyloid plaques to form a ... ?

Max Lugavere: You know, they don't know.

Dave Asprey: It must not be diet or lifestyle.

Max Lugavere: Right.

Dave Asprey: It might have nothing to do with ...

Max Lugavere: He basically ... Yeah.

Dave Asprey: Where does this research go? We need a drug, but we don't know how we got there.

Max Lugavere: Right. While I do think that his sentiment that more money needs to go into pharmaceutical research, I think that is fine. I agree with that. We also need to focus on the idea of prevention because an ounce of prevention is worth a pound of cure. Once you realize the fact that once you are showing your first symptoms, this is a 30-year disease process already set into motion. To me, the imperative is there. It's clear. We need to be having this conversation about prevention. It begins in the brain before any of the features of Alzheimer's disease including this plaque buildup, including memory dysfunction is what's called glucose hypometabolism.

Dave Asprey: Interesting.

Max Lugavere: Yeah, impaired glucose metabolism in the brain. That stems from, who knew, insulin resistance in the brain, in the most metabolically hungry organ in your body.

Dave Asprey: I've definitely read about Alzheimer's as Type 3 diabetes. Do you like that name? Do you prescribe that or do that?

Max Lugavere: It's a hypothesis, but it's a hypothesis for which there is a lot of corroborating evidence. I didn't coin this term. This is a term coined by a researcher at Brown University, and there is ample evidence to suggest that this might be in fact true. That's part of the reason why in trials, MCT oil has been shown to help alleviate symptoms of Alzheimer's disease. Just last year, they tested an insulin nasal spray which ...

Dave Asprey: An insulin nasal spray.

Max Lugavere: An insulin nasal spray.

- Dave Asprey: How does an insulin nasal spray ... You went from talking about MCT to an insulin nasal spray. I totally missed the connection there.
- Max Lugavere: The connection is that MCT oil provides ketones to ailing mitochondria. Mitochondria that can no longer utilize glucose effectively because they become deaf to insulin which is the signaling hormone that alerts yourself to the fact that there's sugar to feed them. MCT oil provides an alternate fuel source like a hybrid car. An alternate and cleaner burning fuel source for these cells that are no longer able to properly utilize glucose. Insulin can help because insulin provides a louder knock onto the mitochondria of those cells, so that they can at least some more glucose.
- Dave Asprey: You probably didn't know this, but just every one of the biohacks that I put you through in the biohacking lab downstairs today increases mitochondrial efficiency, hopes to grow new ones, makes them work better, and a lot of the supplement recommendations that I make on the Bulletproof site and some of the things that I manufacture even are there to support healthy mitochondrial function because screw Alzheimer's. You're not going to feel good after a night of drinking if your mitochondria aren't doing well. You're not going to perform well on your next test. Your brain won't do what it's capable of doing if your mitochondria don't work. They're the spark of life.
- Max Lugavere: Yeah. Your brain at rest is using as much energy as a leg muscle running a marathon. People, when they think about Type 2 diabetes, they think about it as this black and white diagnosis, right, that your hemoglobin A1c is at a point at which your doctor makes a diagnosis. You're either pre-diabetic or you've got a full-blown Type 2 diabetes. The truth is that it's actually, it's a spectrum. You can show signs of insulin resistance in various organs of your body. You can be insulin resistant in your brain. You can be insulin resistant in your arm. The fact that your brain

is so energy hungry, that it uses 20% of your base metabolic rate, it doesn't take a neuroscientist to realize that when there's something metabolically awry going on in your body, you're going to have an impingement on brain health and cognition.

Dave Asprey: There's another guy and I apologize I'm not remembering who it is. It's either Daniel Amen or John Gray, and I've read two books in the last couple of weeks, one by each of them and I'm just swapping in my brain which one write about this idea of creative type ADD where some brains might require more energy than others. I'm pretty sure it's one of those two authors. If you have a high-energy brain, you're probably going to feel cognitive declines earlier in life if you don't feed it right or you get insulin resistance. Who knows? Maybe you're more likely to get Alzheimer's disease much later in life, but this idea that the brain is hungry for energy, you better give it energy makes sense. What about then if you're on a low-calorie diet and you're struggling with these symptoms of Alzheimer's or 30 years before Alzheimer's that you're dealing with this insulin resistant thing? Is there a problem if there's just not enough calories for the brain to function?

Max Lugavere: No. It's really about insulin sensitivity which you can enhance by going on a low carbohydrate diet. Exercise is one of the greatest things that you can do for insulin sensitivity. There are other factors that you can use to bolster the situation. Cocoa flavanols has been shown to increase insulin sensitivity. Essentially, if you want me, I'm in.

Dave Asprey: I got some good, dark chocolate here for you.

Max Lugavere: Amazing. These cocoa flavanols are incredible for you.

Dave Asprey: There you go. Normally, I don't really eat on Bulletproof Radio. Surprisingly, this isn't Bulletproof chocolate. This is a Single Estate super clean chocolate that comes out of New York. I'm going to be putting this in one of my upcoming quarterly boxes. If

you don't know about the Dave Asprey Quarterly Box, go to quarterly.com. This is epically ...

Max Lugavere: Good job. Oh, my God.

Dave Asprey: ... the same guys who own the plantation process the beans, and these are the sorts of things that I source them. It's so good.

Max Lugavere: It's the bomb.

Dave Asprey: You're basically suggesting that we could use cocoa flavanols to influence brain health?

Max Lugavere: Absolutely, yeah.

Dave Asprey: Man, life is tough.

Max Lugavere: There's research that ... There's evidence that it can reverse age-related cognitive decline. It's just incredible for you.

Dave Asprey: Did that look scripted?

Max Lugavere: No. I totally wasn't planning this.

Dave Asprey: I had no idea we're going to talk about cocoa flavanols. I just happen to have really good chocolates in front of me.

Max Lugavere: Dave, you know that you're a great pitchman. You should come ... We should pitch some content together.

Dave Asprey: All right. Let's do it. We'll go talk to VICE.

Max Lugavere: Let's talk to VICE. These are all the things that you can be doing, so that's why I have adopted for myself a low carb diet. I used to believe that the more whole grains I ate, the better my health would be. I worked out a lot. I was never dealing with weight

problems and the like, but I used to feel sluggish after meals. Once I did this research for myself, it was very black and white to me, you know, the way that I should eat for the brain. The dietary pattern for which the most evidence exists that is neuroprotective is the Mediterranean diet, which is because the Mediterranean diet incorporates grains; it doesn't mean that it can't be improved on. The Mediterranean diet is an inherently higher fat diet.

Dave Asprey: They don't actually identify what the Mediterranean diet is because I have seen radically different people write, "Oh, this is Mediterranean." I'm like, "Actually, no. That doesn't look Mediterranean to me." It was 40% grains versus having a little bit of grain. I think Mediterranean diet is like this amorphous mass. That's like eat olive oil.

Max Lugavere: You're absolutely right. Yeah, yeah. You're absolutely right.

Dave Asprey: Or a salad with feta.

Max Lugavere: Right.

Dave Asprey: Other than that ...

Max Lugavere: You're 100% right. Wild cod fish ... By the way, since getting to this island, I've been eating tons of wild salmon. It's amazing.

Dave Asprey: I love moving here.

Max Lugavere: Yeah, it's so great. God, what a life. There's that, there's olive oil. Extra virgin olive oil has a compound and it's called oleocanthal. It's almost medicinal in its health effects. It's amazing. It's what's responsible for that peppery feeling at the back of the throat. It's been shown in studies to clear brains of that amyloid plaque that builds up in the brain as well as selectively causing cancer cells to commit suicide.

- Dave Asprey: You can damage those compounds by heating your olive oil. It's one of those oils that really, you got to put on your salad like a steak tagliata or tagliatelle, what you put on your steak after you cook it. I'm always sad when people take olive oil, which is probably counterfeit anyway because 69% of olive oil has canola in it in the average store.
- Max Lugavere: Yeah.
- Dave Asprey: When you get real olive oil, use it medicinally. Use it in its whole raw form because that changes how it affects the body. You're talking the good stuff and you just want to make sure it's intact when you use it.
- Max Lugavere: It's super smart and absolutely true. A lot of the health benefits of foods do get lost in the cooking process and I know you talked about this in your book. For example, even a slight cut of grass-fed beef, you cook it on a grill and it, and you char the hell out of it, you're actually creating advanced glycation end products on the surface of the meat. You don't want to drive yourself crazy, I think, but these are all the things that you just need to be mindful of.
- Dave Asprey: Even the habit of throwing your meat on the grill overnight, and that habit leads to heterocyclic amines and PAHs, and some of these other toxic bi-products or AGE formation. I've seen a couple of studies around AGE. Some say that eating them is bad, some say that eating them is not that big of a deal. When they form in your body when you eat high sugar, they're always bad.
- Max Lugavere: Yes.
- Dave Asprey: This complex of basically cancer causing, brain inflammation causing things that come from burning your meat regularly, it doesn't mean you can never enjoy barbecue. It just means that if choose to eat it every single night or eat it frequently without knowing ... even as your choice for flavor that's one thing. If you're

like, “I want to be old and I want to look good and feel good 20 years from now or 30, 40 years from now,” knowing that and acknowledging it, but not making ... It doesn’t have to be perfect, but just changing the direction but not perfection.

Max Lugavere: Right. People can live how they want to live. Live and let live is a fair perspective to usually preach these sorts of ideals, but knowing what you know, I feel like there's a responsibility to disseminate these ideas because not everybody is going to spend all day on PubMed on the way that I do and I'm sure you do. The responsibility comes with being really into this research, having a knack for it, being able to communicate it, but also letting people make their own decisions. I've had to ... I can't even tell you, man, like attempting to undo decades of dietary dogma with my mom. It's impossible. It's impossible. She just has ideas about health that I can't change no matter how hard I try. At the end of the day, I just have to be like, “You know what? I've done this research and here's my perspective and the perspective of the best medical evidence available today.” If she doesn't want to adhere to it, I can't let it affect the relationship.

Dave Asprey: Here's the tough thing. I haven't been able to change my grandmother, but she's 90-something and she's going to do what she's going to do. Most of the rest of my family in their 60s or 70s have made dietary changes based on the Bulletproof Diet, partly okay now, “There's a New York Times bestselling author in the family. Maybe we should pay attention.” Even before that, since we go to the family reunion and I'd make them Bulletproof coffee. That's not a pitch for Bulletproof coffee, but it's that they could feel the difference. It's like, “Whoa! My brain feels a little bit different. I like how I feel.” It's one thing to go like, “If you do this, 20 years from now, you're going to like how you feel.” We suck as organisms with long feedback windows. A one-minute feedback window is an eternity to elaborate on your brain. At 30-year or 20-year, it's invisible.

Rationally, you know you should but in terms of behavior change, it doesn't motivate most people unless they have a really big motivator like seeing it happen to a family member. For the rest of us though let's say you're 25 and you're hearing this. You're like, "Alright. I might get Alzheimer's when I'm old, but that's so far away. I've so many more important things like the attractive blonde across the way." What advice would you offer for someone who's earlier in life? What can I do that's not burdensome and not annoying that's going to reduce their chances of getting Alzheimer's later in life?

Max Lugavere: I can't understate the importance of exercise, which leads to the expression of profound neurotrophic proteins in the brain.

Dave Asprey: What kind of exercise are we talking about?

Max Lugavere: Aerobic exercise.

Dave Asprey: Like Jazzercise?

Max Lugavere: Like Jazzercise.

Dave Asprey: If you're under 40, you don't even know what Jazzercise is. Would you know what Jazzercise is?

Max Lugavere: Vaguely.

Dave Asprey: I just wasn't updating myself. It must've been the '80s or something, I don't know. I was a young teenager when this was popular. Adults would put on leotards, men and women apparently. They would get in these groups of people, kind of like a modern aerobics class but they would do lame jazzy weird dance moves. It was probably the beginning of the aerobics exercise, but I still laugh at it because if you see those '80s videos of people in headbands and leg warmers, that was Jazzercise.

When you say aerobic exercise, like how intense and how long is what I'm really asking.

Max Lugavere: The more you can do, the better.

Dave Asprey: Really? So, 10 miles a day of running?

Max Lugavere: You don't want to over train. You got to listen to your body. By doing aerobic exercise, you actually grow new neurons. You grow new brain cells just by doing aerobic exercise. In fact, you've got neurons in your eyes, so doing exercise is great for your eyes as well, for the neurons in your eyes.

Dave Asprey: You say aerobic exercise, but what about yoga which also affects your eyes and affects your neurons, and your BDNF and all that. Why aerobic versus strength versus movement versus functional movement versus weightlifting?

Max Lugavere: Weightlifting has also proven to be effective in reducing your risk for things like dementia. We don't know the reason why one versus another, you know, it probably has something to do with brain perfusion.

Dave Asprey: You do know that aerobics outperforms weight training for BDNF or brain-derived neurotrophic factor?

Max Lugavere: I can tell you that the research has been done with aerobic exercise.

Dave Asprey: Oh, okay, because that's what's been cool for the past 30 years.

Max Lugavere: Whether or not yoga has the same effect, I don't know. That has not been studied to my knowledge, but I do know that aerobic exercise appears to be great for your brain health. It increases blood flow everywhere in the body.

- Dave Asprey: Increasing blood flow absolutely is important. The reason I'm pushing on this is that the Bulletproof recommendations are for your cardio to increase to ejection fraction which is the amount of blood your heart can pump on a single beat basis which is a great measure of cardiac fitness. The best single most effective way to do that is to go for a 400-meter sprint. You basically run like a tiger is chasing you until you're done and then walk through the wild and do it again until you basically throw up, and that takes about 10 to 15 minutes for the average person.
- Max Lugavere: If I had to make an educated guess, I would say that that is probably just as beneficial for your brain health.
- Dave Asprey: I tend to think so as well, but I'm wondering because you've dug more in on this aerobic exercise brain connection than I have.
- Max Lugavere: Yeah. In general, all exercise is good for your brain, which in and of itself is a counterintuitive concept. The research really has shown that with aerobic exercise, you not only up regulate BDNF expression which is brain-derived neurotrophic factor and it ensures the survival of not only existing neurons but creates and promotes the creation of new brain cells. It feels good, all kinds of feel good endorphins. It also increases insulin sensitivity. It's really an incredible boom for not only your cardiovascular health but also your brain health.
- Dave Asprey: If you are doing this every day, every other day, what's the ideal prescription for this?
- Max Lugavere: The more you do while listening to your own body without overtraining, the better. People with an increased genetic risk for Alzheimer's can negate the genetic risk by doing exercise. I really think that it's a personal thing as far as brain health goes. You'd have to listen to your body. You don't want to over train. In general, being less sedentary ...

- Dave Asprey: Yeah, moving around a lot is really important.
- Max Lugavere: Yeah, it's incredible for your brain health. I also think that you want to balance that with some really serious sleep. Sleep is incredibly beneficial for the brain for a multitude of reasons. I really do think that, especially young people who find themselves increasingly just glued to their smartphones, and I'm guilty of this as well, I think that the smartphone use at night has a destructive effect.
- Dave Asprey: I got to show you something cool.
- Max Lugavere: Okay.
- Dave Asprey: On my iPhone is a Zen Tech filter, and this is something that I manufacture. It is invisible. You can't really see it, but what it's doing is it's filtering out just a narrow spectrum of blue. The spectrum of blue that most suppresses melatonin.
- Max Lugavere: Wow.
- Dave Asprey: You can still see colors on your phone during the day. It doesn't filter every spectrum of blue like an orange screen on the phone would do that more effectively, but it does take out the worst parts. It's a harm reduction strategy that lets you still, "Okay. I'm going to look at my phone as an alarm clock," for instance. You can do that. I'll arrange to ship you a Zen Tech SleepShield and we just launched that maybe two months ago, but it's one of the things that's not perfect. If you're going to look at your phone, and let's face it, you probably are going to look at your phone, you might as well not turn off your melatonin when you do it.
- Max Lugavere: A hundred percent. It's incredibly important. Your brain can tell the difference between looking at your smartphone at night and the sun being out, that we know from a study done this year that using an E-reader before bed shortens the amount of time spent in REM sleep. It makes it may take longer to actually fall asleep.

Filtering out the blue light, I think is incredible. We know that sleep is just incredible for the brain in many ways. Memory consolidation, your memories are being consolidated when you go to sleep. I actually just did a vlog about this on my YouTube channel, youtube.com/maxlugavere and the incredible lymphatic system, the ducts in your brain that your brain uses to clean itself during your slow wave phase of sleep. It's incredible. All of these insights are incredibly empowering and what can I say? Neurodegenerative diseases are just shrouded in doom and gloom. It doesn't have to be so gloomy. It's not all doom. I think that we've got enough insights today where we can really make a dent in this category of diseases.

Dave Asprey: When we talk about all these different things that in studies have effects on brain health, and you look at doing all of them to some extent, not doing any of them perfectly and you stack it up against someone who says, "We need a drug for Alzheimer's," it just makes you bewildered to look at that respect and we do want a drug for Alzheimer's. But, the approach of do everything that's going to help now, well, maybe we'll have a drug later if they're even right, that amyloid plaques are the cause and not just a symptom of something else like eating crap all the time.

Max Lugavere: Yeah. This has become the story of my life and you hit the nail on the head so perfectly. I mean, I actually think that that article that came out and I'm sure you can find a way to link to it was actually anti-scientific because there is research that came out this year from the Karolinska Institute in the FINGER study.

Dave Asprey: I hear they have the hottest doctors at the Karolinska Institute. My wife, Dr. Lana is trained at the Karolinska Institute, so that was a shout out to my wife and everyone out there. The Swedish Bikini Team all went to the Karolinska Institute.

Max Lugavere: I've never been, but I would love to go and find a wife from there. Yes, they announced the results of the study this year. It's the first

ever randomized controlled trial where they apply to a battery of lifestyle modifications and dietary modifications on one group that they did not give to the other group. The group where they had all this different interventions face a much slower rate of cognitive decline. In fact, some of them saw a reversal of symptoms. I think that that study is definitely worth looking up. The idea that our lifestyle and dietary factors don't matter to me is just an absurd concept. When you realize that this underutilization of glucose begins before any of these features, then the impetus there to me is really to make sure that your cells are as insulin sensitive as possible.

The Type 3 diabetes hypothesis really to me is very empowering because Type 2 diabetes we know it's a lifestyle disease. We know it's a disease reaching epidemic proportions here ... Well, we're not in the States right now, but in the States. Many emerging economies are seeing Type 2 diabetes rates with epidemic proportions. This is from the industrialization of food, the rise of fast food in countries that have maybe been resistant to that up until now, the blood sugar epidemic, the epidemic of desk jobs and the like. To me, it's tragic and it's avoidable. The idea that our brain health can falter to these same factors, to me it's scary but it's also incredibly empowering.

Dave Asprey: It gives you more control, but with that control comes responsibility, right?

Max Lugavere: Yeah.

Dave Asprey: I asked, who was it, Craig Venter, the guy behind the human genome project. He gave this great talk at a Peter Diamante event and I've had a chance to spend some time with Peter. He wrote a blurb for the Bulletproof Diet Book. He's one of those guys launching things into space, and just looking at really big things. Craig, on stage is saying, "We have all this science coming. In five more years, we're going to know this." I said, "All right. Craig, 14

million people have downloaded Bulletproof Radio. Given the set of knowledge you have now, what should we do today that has the best chance of working even if we don't know for sure or should we all just have pizza and beer, and not worry about it?"

What Craig said was funny. He said, "Let's talk about it over pizza and beer." Afterwards, we had a longer conversation. He said, "You know, Dave, I don't want to make recommendations that aren't correct. It is part and partial to my belief in science and all that. The problem is that correct is asymptotic. Asymptotic, it means that you can approach something but you can never quite get there because we think it's correct. The model for motions of the planets, well, it works pretty well except it's not actually correct. It's a model. I'm concerned that even once we completely take a part of the human genome all the way, and I'm signed up to do that.

I'll be one of the first in a thousand or so people to have my genome sequenced. Once we do that, we forget about the exposome. The exposome is the set of all the environmental variables that your genome was exposed to throughout the course of your life. That's kind of hard to track, but that's exactly what you're hitting at here saying, "Well, we don't know all that and we probably never will, but we can say, "We know this does this, so give me more of this and less of this." That's the same reason, that's why there's a roadmap but not a set of edicts on the Bulletproof Diet. That perspective is new.

Max Lugavere: We have to adhere to the science, but we also shouldn't let science limit us. These long-term nutritional studies with humans, they're so difficult to do and animal studies can only get us so far especially when you realize that a lot of these studies as we're learning fats and lipids, and things like that are done with corn oil and done with crazy confounding variables like saturated fat and sugar. You really have to dig into the research. That being said, there are scientists out there that are doing incredible work and

there is insight out there that really, you know, those that illuminate how we might eat for better health; cardiovascular health, brain health.

Dave Asprey: I think for everyone, it does. There's a confounding thing. We've got in the Ornish camp saying you need to eat no fat essentially at very, very low levels of fat and a diet rich in whole grains. They'll sight studies...

Max Lugavere: For example, a study came out ... I saw a study headline grace my desktop and my Facebook Newsfeed a couple of weeks ago that said that a high carbohydrate diet provides the same benefits as calorie restriction.

Dave Asprey: What the hell?

Max Lugavere: That was the headline. You look in the study. First of all, it's an animal study and second of all, the study, they were feeding animals. 80% of their calorie intake was from protein.

Dave Asprey: Those are high carbohydrate protein based studies?

Max Lugavere: That was their control. It was a high protein, low carb diet like super, super high protein. As you know, you don't have to get a high protein diet.

Dave Asprey: I know. It messes you up.

Max Lugavere: Yeah. They matched that against a really high carbohydrate diet. The high carbohydrate diet in that case did better than the super, super, super high protein diet. That was an animal study and I just think it wasn't sound. I actually sent that to my researcher friend, "What do you guys think of this?" He was like, "You would never in a human diet approach that level of protein and that actually can create issues."

Dave Asprey: Yeah, like kidney problems and ammonia levels. It makes you cranky and tired, and puts you in an adrenal state so you yell at people all the time. It's not good to overdo protein.

Max Lugavere: Right. The idea that metabolic markers on a high carbohydrate diet would then prove to me it's just like it doesn't make any sense.

Dave Asprey: I also take issue with studies even if you're looking at Alzheimer's or brain health or whatever other outcome. When they talk about a high fat diet, it is meaningless to talk about fat. It turns out one of the medium-chain fats, and the term medium-chain was done by a chemist counting carbons, but not a biochemist, so he had no idea what actually went where, what was processed by the liver, what wasn't. There's been a little trickery of people who are saying, "Oh, lauric acid, the most common, cheap part of coconut oil is a medium-chain." It is legally, but metabolically, it's not a true medium chain. It's a chemical medium chain, but not a biological medium chain. It's interesting because once it bypass the liver, they go straight to energy in the brain are the ones that make you feel the best, for sure. The other sneaky medium chain no one talks about is C6. This is a fat that is highly irritating to your mucosa.

If you don't get all of it out of a refined coconut oil, it actually causes disaster events. A high-fat diet, technically, it could all be C6. If you ate that, it would mess you up on so many different levels like you basically couldn't get out of the bathroom. There are evidences of high-fat diets or high saturated fat diets make you crap your pants. You could construct a study that way compared to a pure corn syrup diet. Corn syrup is better than high fat, but ... Number one, the fact that it's high fat doesn't mean anything unless you know what kind of fat and whether the fat is oxidized or not.

Max Lugavere: Right.

- Dave Asprey: It's the same thing with those animal proteins versus plant protein, rice and the nerve gas is a plant protein. Spider venom's an animal protein. Those distinctions are irrelevant for nutritional research.
- Max Lugavere: Yeah, 100% and they shouldn't be. I think that nutrition scientists need to really do a study where they're giving mice olive oil instead of the soybean oil that you're using to make broader recommendation on how much fat humans should consume.
- Dave Asprey: If you source the olive oil, don't go to the store and buy the cheapest olive oil there. If you do get an olive oil, you got to test what's in it because it said olive oil on the thing, but if you don't know what impurities and you don't know that a lot of olive oil is cut with canola, what you're finding is in your nice, beautiful write up and with all your graphs, we sourced XYZ brand, generic olive oil, but we never tested even one sample to verify that it was what we thought it was.
- Max Lugavere: One these researchers get their rat chow from the same place, from manufacturers of rat food. It's a very difficult thing. You have to read the research. Actually, one of my favorite papers is, it's called the Disease-modifying and Neuroprotective Effects of the Ketogenic Diet.
- Dave Asprey: I know this paper.
- Max Lugavere: It's a great paper. It came out only a couple of years ago. It talks about the virtues of leading a high-fat diet for ...
- Dave Asprey: Specific fat diets, right? Not a high corn oil diet?
- Max Lugavere: It just says the value of being in ketosis for ... It begins with epilepsy. There's been a ton of research that shows that it's beneficial for patients with epilepsy, but then also the potential

for Alzheimer's disease, Parkinson's disease. That's definitely an important read, I think.

Dave Asprey: At this point, when someone says, "There's no validity to diets with ketosis." There's so much evidence that you have to be specifically excluding massive amounts of data to fit your view of the world. I've worked on experiments with myself where I'm in ketosis for long periods of time and didn't have good outcomes. I also know, I've had lots of people on the podcast who really do. They can do ketosis for two years straight without ever, ever leaving ketosis and they're happy as clams. I've found for me that a cyclical ketosis diet works, and after having talked with a lot of Bulletproof followers over time, I found that if you're on nutritional ketosis all the time that quite often, it creates adrenal stress but not always. It depends on your metabolism. When you dip in and you dip out, it tends to cause the body to remain sensitive to insulin versus getting insulin resistant, which can happen when you're in a state of ketosis all the time. It's like surfing that line of ketosis provides the most energy for me.

Max Lugavere: It's like turning your body's metabolism until I get a Nest thermostat so that it can regulate itself because your body is the most advanced hybrid car in the universe. You don't tell your Prius when to switch from gas to electric and vice versa because the Prius does it for you. Well, so can your body. In fact, by not allowing your body to do that, you're undermining incredible genetic capacities to rebuild, to protect. I just think it's like, again, giving the people the tools to do that, to hack their own biology in that sense, I think is incredibly empowering.

Dave Asprey: We're coming up on the end of the show, but there's a couple of things that I'm going to do different because we're here at Bulletproof Labs in the biohacking facility. First, I want to ask you the final question here, and then I'm going to show people who are watching on video what it looks like upstairs and we'll save for another probably a full video where we do a tour of what's

going on downstairs. We kind of worked you over today. You're in the flow tank. We electrically stimulated your muscles and we put you in the hyperbaric chamber and all sorts of craziness.

Max Lugavere: This is, by the way, it was an incredible day and this is going to be on Munchies which is a food vertical under VICE which is an incredible publication and platform. You can find out when it goes live by following me on Twitter @maxlugavere. I'm sure Dave ...

Dave Asprey: Yeah, we'll definitely post the link to that.

Max Lugavere: That would be awesome.

Dave Asprey: The other thing is I'm going to turn the camera round so you're seeing the set, but I'm actually going to show you what the kitchen looks like because I've the coolest orange refrigerator you've ever seen. It's made by a company called SMEG. It actually matches the Bulletproof colors, but it also looks like it was made in 1950, and it's just awesome. I'll just walk you through real quick what this amazing kitchen looks like because you're going to get to see a lot more of this because I'm going to start making recipes for the Bulletproof cookbook that's coming up here. I'm actually going to show you as I'm cooking the food over the next many months. That won't be a part of Bulletproof Radio. It'll be on our YouTube channel when you subscribe to that. I'll just occasionally say, "Look, this is what I'm having for dinner and I'm going to cook it." Max, the next time you're up here, I'm actually going to make you cook dinner with me as well and we can put extra gluten not in the food.

Max Lugavere: That'd be perfect. That'd be awesome.

Dave Asprey: Given that, tell me if you have three recommendations for people who want to perform better, based on all the research you've done, all of the things you know in your life, and you want to

perform better for long periods of time, what are the three most important piece of advice you could give them?

Max Lugavere: Definitely reduce, cut out sugar from your diets. Eat a low carbohydrate diet. Try the gluten free if you're not already. Embrace helpful fats. The brain is desperate for good fat. Good fat makes up your cell membranes by consuming DHA fat which is replete in wild salmon, fish oil, and things like that. You actually, you can also boost that neurotrophic factor in the brain, BDNF which is so important. The second would be exercise. Don't be afraid to exercise and know that by exercising, you are doing incredibly beneficial things for your brain health, things that no known pharmaceutical on the planet has the power to do.

Dave Asprey: That means we need more pharmaceuticals. The estrogen pill is coming.

Max Lugavere: Right. More pharmaceuticals. Again, sleep I think is really important. I'm definitely guilty. I can't wait to get the lens cover for my iPhone.

Dave Asprey: It's called Zen Tech.

Max Lugavere: Zen Tech.

Dave Asprey: Yeah. It's on the Bulletproof website and Bulletproof store, but I'll send you one.

Max Lugavere: That would be awesome. The blue light that emit from smartphones is pretty destructive. When you're sleeping, your brain is actually cleaning itself.

Dave Asprey: By the way, Apple, Samsung, we're watching you. Why the hell is it not already built in to the operating system and why didn't you just source LEDs that don't do this to our bodies? This is on you and I'll stop selling the Zen Tech shield when you start making

iPhones that don't mess with people's sleep. It's not okay. You know this. We're watching you.

Max Lugavere: Thank you, no. I mean ...

Dave Asprey: It's their fault. They know.

Max Lugavere: It's true. Apple, come on, please. Take my money just reduce the blue light that comes from my smartphone at night.

Dave Asprey: I'll pay more for less blue light. Good idea.

Max Lugavere: Exactly. That's it. Embrace helpful fats. Be mindful of the food that you're eating, not in the meditative sort of sense, but in the idea that food is information. With olive oil, you're consuming polyphenols that are doing incredible things for your brain health. Again, don't be afraid to tinker, see how you feel. That's it. I think those are pretty good roadmap.

Dave Asprey: Here's a bit of trivia. When you said embrace helpful fats, companies who have more than 15% of fat in the calories of a product are not allowed to label it healthy. If it's fat saturated, it cannot be labeled a healthy fat according to current regulations even if there's a preponderance of evidence that it's healthy. People put labels on food. People who write about food who also sell the food are not allowed to say something's healthy even though it is.

Max Lugavere: Yeah, it's preposterous. I feel like the furor around saturated fat as a heart demon has long been debunked. Cholesterol recently was taken off of the USDA's nutrients of concern list. Yeah.

Dave Asprey: What about my egg white omelet?

Max Lugavere: God, what's so mind blowing to me about that is that that happened three months ago that the USDA finally came to their

senses, but it wasn't three months ago that cholesterol stopped being bad for your heart health. It's never been bad for your heart health.

Dave Asprey: Unless it's highly oxidized when you eat it. Spray dried egg yolks which they like to use in lab studies are probably bad for your health.

Max Lugavere: Yeah, or it becomes oxidized in the body which is harmful. Think about how many millions of Americans have for decades been trading eggs for a quick cook instant oats in the morning for their morning breakfast. To me, this is infuriating. I think that I've really decided that our mission is to help disseminate the truth about what we're eating and how it affects our bodily health. Once we become ill, it's a lot harder to really make a difference.

Dave Asprey: It is indeed and thanks for your work. I'm really looking forward to seeing Bread Head when it comes out. It's so much work to make a movie. The MOLDY movie that just came out, we're recording this a dozen days after it came out. It was two years of really hard work. The budget was certainly a little bit higher than the amount of money you've raised just in order to make something that's worth watching that tells a story that can cause behavior change.

You're in for an amazing thing to do, but the satisfaction of seeing it come out and getting those messages from people to say, like people ... Now, I know one of the Bulletproof employees has mold in his house and just didn't know it. He wasn't involved in the documentary. When he saw the documentary, he was like, "I think we have to move," like "I'm getting brain fog for the first time in my life. What's going on?" that kind of thing. The same thing is going to happen when you launch Bread Head. People are going to say, "I went off gluten. I added fat back to my diet and I got my brain back." That's an amazing gift to do for someone.

Max Lugavere: Yeah. I'm so excited. When you hear things like, "Study confirms that non-celiac gluten sensitivity exists. The idea that 18 million Americans are dealing with this non-celiac gluten sensitivity, it's a vastly under diagnosed thing. The idea that millions of Americans are consuming bread and then becoming depressed as a result of it, that are experiencing brain fog as a result of it unwillingly thinking about their lives in a negative light because they consume bread, to me it's insane while it's also something that we need to do our best to make sure that this information spreads. To me, that's a terrible thing. Where do we begin? There's just so much work to do, but I think that by continuing to spread this message that food is information, I think that's how we can really make the biggest impact.

Dave Asprey: It is indeed. Thank you, Max for coming on Bulletproof Radio. What we're going to do now is first, I'm going to remind you that the Bulletproof Conference is coming out in October at bulletproofconference.com. We're going to talk a lot about brains this year. We're going to talk of course about biohacking in general, but you should go to bulletproofconference.com and check it out now and you'll even get a better deal on your tickets because you're going to want to go. If you were there last year, if you're one of the 500 other people who went, it completely rocks and it's like no other conference you've ever seen.

Thanks for watching. Have an awesome day. Check out bulletproofconference.com. Check out moldymovie.com.
As always, have an awesome day.

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