

Announcer: Bulletproof Radio. A state of high performance.

Dave: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is that singing mice are using two different brain systems when they do something called a duet. There's a strange kind of mouse that lives in Central American cloud forests and they're musical mice and they sing songs to each other. And a new study reveals how their brains orchestrate those rapid fire duets. And they show the brains of the mice actually split up the musical work. So one brain system controls the content of the song but another part, called the oral facial motor cortex or OMC orchestrates the split second timing needed for them to work with each other.

Dave: These mice were known as Alston's singing mice and they're super quirky, and they're kind of like the famous singers with extreme Green Room demands. And they're kind of divas according to the researchers who had to get extra big terrariums and exercise equipment and special diets, just like you'd expect from any big music star. And the mice are really loud, really vocal in the lab. And they really just studied them with EEG to figure out what's going on inside those brains. When they cooled the OMC of these mice, I'm not sure how they did that, hopefully with an ice pack, it slowed the nerve cells activity and the songs got longer, which suggests that the brain region normally controls that song timing. And when they used the drug to silence the OMC, they couldn't sing in common response with each other. So there's some weird stuff going on around the way those mice and probably people work when we're singing in a functional unit like that.

Dave: And as you might have guessed, we're going to be talking something about music, something about high ends music but not with a musician per se, but with the none other than legendary music producer Rick Rubin, who is in probably more ways than he knows responsible for some of the work that I've done. The time I met Rick, several years ago, must have been 2013, I mentioned I was working on the Bulletproof Diet. And Rick, just at the first time we sat down for lunch, he said, hold on, let me make a phone call. And he called someone and that is why you guys read about it on the *New York Times* list because I was going to self-publish, I didn't know what I was doing. And all it took was like one poke from Rick in the right direction to get me to go, maybe I should publish this as a "real book."

Dave: So Rick, I don't know if I've ever formally thanked you for that. But you set the wheels in motion in a really cool way. But when I look back, I realized that pretty much 80% of the music that I've listened to while I'm writing my books is music that you've directly touched. We're talking about Rage Against the Machine, I mean, Johnny Cash, and you've worked with Metallica, Kanye, like pretty much all of the people that you know you've worked with. But for people listening, if you aren't familiar with Rick's work, it's just kind of ridiculous. Go to Spotify, look up Rick Rubin playlist and you just realize the music that probably makes the biggest memories of your life was touched by Rick, who has this Zen like manner, these big blue eyes, they just look at you and this big beard. And he's probably the opposite of what you might think a music producer is.

Dave: So I'm super honored to be not just interviewing Rick, but to be doing it at Shangri La recording studios, which is why I sound so amazingly good because I'm probably on a

\$50 billion microphone sitting in a place full of history right next door to Bob Dylan's tour bus. This is one of the most epic things I could possibly imagine be doing right now. So Rick, with that introduction, thank you for being on Bulletproof Radio.

[Rick:](#) Thanks for having me.

[Dave:](#) This may be a tough question for you. What was your singular most favorite experience producing music? The one that just stands out as like most memorable? I want to know why.

[Rick:](#) Yeah, I don't think it's possible to answer the question. I'll say that, the thing that's most exciting about the process is when something goes from not very good to very good in this moment, where very little has changed. So it feels like magic is happening, and when that happens, that's a really exciting experience. And you can be working on something for a long time, and it's kind of trudging along in this boring uninteresting way. And then for some reason, it shifts into being remarkable. And sometimes, you can't even tell the difference of what's different between when it's remarkable. And when it was an interesting five minutes earlier, but it happens. Anytime those moments of transformation happen. And we get very excited.

[Rick:](#) And then there's this feeling of, let's say, it's a band performing, and they're performing together and that starts, that feeling of oh my God, it's really good, then it's like scary because, oh, are they going to make it to the end of the song, is it going to be able to maintain this? Because we don't even know why it's happening. All of this work is so out of our control. So we're really at the mercy of the forces of the universe to control the process and we just have to be patient and be open and allow it to happen. Invite it to happen. And sometimes does and sometimes it doesn't, but when it does, it's really exciting.

[Dave:](#) You started Def Jam when you were a young man in college, and you had an ear, an eye, an intuition, a fell, some way of picking out oh, I don't know, the Beastie Boys and Run DMC and these very early transformative artists. So you didn't rely on a body of experience. I've done this for 20 years, I became a master doing this by putting in the hard work. Were you just always naturally, did you have a spark? Did you always sense things this way or did you get stronger over time because it feels like you've touched so many things consistently for 40 years?

[Rick:](#) Yeah, it just seems like a natural, I really love music, and I really love good music. The best way to describe what I do is I'm really just a fan, I'm a super fan of music. I'm true to that fandom. So, when I hear something, if it makes me lean forward and gets me excited, I know that that's good.

[Dave:](#) I've seen you do that I think one time when we were chatting or something, I mentioned some older song that just did something for me. And I watched you, like your eyes change, you sort of like zoomed in on it if that's the right word for it to sort of see if it had the thing for you and it did and it was the song I liked. But it was almost like a, I would describe it as watching a predator look at something, not in a bad way. But just

like if you see a big cat suddenly gets interested, like the ears come up and like all the senses come out and looking is that something that I want to eat. Okay, no, that's not something. But it was very tangible. I could feel that this intensity that just came on and it was probably a three second thing. You were born with that?

[Rick:](#) Yes. I think you were born with it too because it's a sensitivity. It's something that I know that we share from discussions we've had before and those are the same things that make us uncomfortable when we walk into certain places, make you start sneezing, difficulties with traveling. It's just over-sensitization that I just applied to music, but it really, it complicates my life.

[Dave:](#) Yeah, being a highly sensitive person is a complicating factor, but it comes with a gift because there's times and I do not claim any musical skills despite my April Fool's rap video. But there's times when I look at something I go, that's it, like that's why mitochondria do this, I don't know how I know it, but I know it and then I do the work and write about it. And you realize, okay, you can put these ingredients together and have this effect in a way that wasn't done before.

[Rick:](#) It's interesting, too, how often the science follows. Like in music, we don't set the intention of what we want to make. We just know we want it to be good and we're open to the process. But we don't decide in advance we're going to make a song that's a political song and we want it to do these things. It's not like that. Or I want to write a love song that's going to mean this to this person. It's not like that. It's all more of just an open, almost like automatic writing process, where we're trying to tap into our subconscious and let the ideas come through where we might not even know what it means. And then after it appears and after we realize we like it, then we might analyze it and try to understand what is it that we like, how does this work. But we don't start with the science and then build it, it's more like where we have this magical moment that's more rooted in emotion. And then, after that happens, we then try to see if we could figure out why it is.

[Dave:](#) Okay.

[Rick:](#) And we don't know, we can't always tell. We just know we like it, we don't always know why. Sometimes it's like, oh, it does this, it does this, it does this, we like those things, that makes sense. And sometimes, no idea.

[Dave:](#) It seems like in music and art, it's okay to not know why something works. But when we get into the world of biohacking or medicine, if there's no reason for it to work, therefore it doesn't work. Hold on, it did work but we couldn't explain it. How do you think music and art escaped that breaking down into its constituent elements thing so that you can say that's a great song, couldn't tell you why, and people will know it's great. Do you have a theory?

[Rick:](#) No. But I would say that theory, I would apply that theory to everything. And in my life, I don't need to know, I don't need to understand the science of why a bio hack works or doesn't work. And if there's something going on with me, and there are 10 different

possible ways of dealing with it, I'll try all 10. And I won't know which of them worked and which of them didn't. But I don't care, I just want it to work.

[Dave:](#) You got the results, right?

[Rick:](#) Yeah, that's all that, all that I'm interested in is what works for me.

[Dave:](#) It's a liberating perspective, and I didn't use to have it because I was trained as an engineer. And I'm going to try this one thing and then this other thing and you realize same thing if you're trying to compose a song one instrument at a time without the other ones playing, it probably would not sound very good. So, the same thing, if the goal is to do something, you might as well just do it all the way.

[Dave:](#) And you know I've talked about a lot of different biohacks and I know, I want to talk with you about some of the things that you've done in biohacking that probably most people don't know about that are particularly top of mind for you as a person who's in tune with the world around you. See what I did there, in tune? The things that you find either are particularly grounding and really helpful for you, or the things that help you have more of that intuitive spark that you use, you know, the one I described, you sort of perk up and look around and just suck in whatever information is there to see if it hits your filters right. What are the things that are maybe like most grounding and settling and like reduce the overstimulation that happens?

[Rick:](#) Well, we'll start with more nature-based thing. So being in nature, being close to the ocean, being barefoot as often as possible, being in water really helps me. I find that if I'm looking for the answer to a problem, instead of sitting and thinking about it, I may go for a swim on. And something happens when we distract ourselves with a task that allows I think, again, I don't know how it really works, but the way I would describe it, is it seems like we can access a part of our brain that otherwise is engaged or otherwise hard to access through some simple task. Can't be so difficult that it takes all of our attention. But it could be simple as driving. Sometimes when you're driving, like I know, for many musicians, if they're working on melodies, they have more success, if they listen to the music and drive and sing as they're driving, and just keeping themselves from driving off the road is enough of a task to keep them, to have a focus and split their attention between the driving and this creative process.

[Dave:](#) So to get the monkey mind a task. I first came across something like that in my undergrad. I was the first person in my school to have a laptop because I am a geek. And it had this game called FreeCell on it, early Solitaire sort of thing. And I found out that if I played FreeCell during class, which pissed off the entire class, but then I would switch over and take notes that I could listen to what the teacher was saying so effectively, my notes were like the canonical notes for everyone in the class and it was acing all my classes because I finally had that equivalent of driving keeping that part of my brain busy so I could visualize what the teacher was saying.

[Dave:](#) It made no sense at the time and it broke all the rules of multitasking. But for me, it was strangely effective even though I finally had to explain to everyone that they thought it

was rude that I was playing the game and I thought it was rude that they were looking at my private screen. So we'd have to agree that we were each rude. But it feels like that same sort of an idea. So maybe distracting yourself with a menial task is-

[Rick:](#) I've noticed that many artists I work with tend to draw or scribble, and while they're scribbling, ideas will come and words will come or melodies will come, ideas will come. And if you watch them, it just looks like it's a very childlike act and they look like little kids playing. And while that happens, this other thing arrives that's really beautiful.

[Dave:](#) Wow. So it's the distraction. So for you, you're barefoot, you're electrically grounded. You're swimming, I'm guessing swimming, given that we're in Malibu, you're swimming in the ocean as much as you can.

[Rick:](#) Either ocean or a pool but the pool would be either a saltwater pool or a non-chlorinated pool.

[Dave:](#) Okay, cool. I just don't want that on your skin and all. Got it.

[Rick:](#) I don't like the smell.

[Dave:](#) Yeah, I don't either. In fact, a lot of the commercial pools that are indoors are super moldy too because it's always humid. And yeah, between the smell and the echoey stuff, I don't find that pleasant. What are the things, I know that you're a meditator, what's the role of meditation in your craft, this ability to not just be sensitive, but to have a focus sensitivity?

[Rick:](#) Yeah, I think that that's what meditation is it develops your ability to focus in a deep way, in a deep and patient way. And I think patience is a big part of it. But the first style of meditation I learned was Transcendental Meditation, and I've done that since I was 14 years old. And since then, I've learned Vipassana and I've learned, I use different guided meditations and apps, and Metta, which is a Buddhist meditation. But I find myself coming back to TM and it may just be because it was the first one I learned, I don't know. But I really enjoy learning a new one and practicing it for a while and seeing what it does.

[Dave:](#) Yeah, being a dabbler in different types of meditation I found to be valuable as well, because you never know what it's going to do. I have a couple of them I do and my arms will start shaking and there's electricity moving up my spine. That's not my normal meditation, that's more Kundalini but it's not a Kundalini meditation, it's an audio thing. And I don't know that I'd want to do that before Bulletproof Radio, like that might be too much. But having kind of a Swiss Army Knife set of meditation tools is cool. But I find I still don't know exactly which one to do when. Do you sort of have a ritual that says, I'm going to do TM in the morning or before I go into extra creative mode, I would do a different style. Do you have a kind of a thought process around that?

[Rick:](#) I have a loose one. So TM is typically first thing in the morning. There are certain times where I've been, I've dealt with some depression in my life, and when I've been in

depressed episodes, it's hard for me to stay with a meditation that's a self-imposed meditation. And in those times, I find that a guided meditation helps more. I can focus on a voice directing me easier than I can direct myself when that happens. So, I use those in those occasions. Also, I do Metta when I'm exercising, either when I'm, if I'm walking on the beach or if I'm swimming, I repeat the four Metta phrases.

[Dave:](#) What are they?

[Rick:](#) I repeat them twice just because it makes it easier for me to remember them for some reason. May I be filled with loving kindness, filled with loving kindness, may I be well, may I be well. May I be peaceful and at ease, may I be peaceful and at ease, may I be happy, may I be happy. So I'll do that while I'm walking, while I'm swimming in rhythm. And after a year of doing that practice, then you change it from May I to May we. And the we would be your immediate family for the next year. So for the first year, you have to build it in yourself before you can share it. Year two, you would do it for your immediate family. And as you progress over time, gets bigger and bigger until eventually you're doing it for all living beings or for the universe as you choose.

[Rick:](#) But you have to build that charge. And it's really nice, because again, as I said in this one, it's while I'm already walking, it's while I'm already swimming, and it turns any activity into a meditation.

[Dave:](#) Wow. That is really powerful. It reminds me of some of the shamanic fire ceremonies that I've learned from Albert Oviedo. I think for the first year you have to do it by yourself, and only under a full moon. And then you can do it for someone else or with a trainer, and eventually, you can do it for your community and things like that. And it feels though like a lot of that multi-year progression is missing from modern conversations about meditation at large. Do you think that this sort of quick fire meditation that a lot of us are doing for lack of a better word, I have 15 minutes, I'm going to use an app, do you think it's enough or do you think that really we need to do some more?

[Rick:](#) I think any opportunity to meditate is good. There's no bad version and there are no, you know, it's never too short, and it's never too easy. It's fine. If you decide to do a three breath meditation, it's great.

[Dave:](#) The only meditation that hasn't worked for me was meditating on the blood of my enemies.

[Rick:](#) I've never heard that one.

[Dave:](#) I'm kidding, I just made it up. But I was like, yeah, there really isn't a bad one, and I was like, I could probably break that because I'm a hacker. It's one of those things where stoplights for me, okay, I'll do a box breath or two and that's really straightforward.

[Rick:](#) Beautiful. I also really love ice baths. And ice bath is very much a form of a forced meditation. I don't know anyone who gets in the ice and is thinking about anything else.

It's a single pointed, it feels like it's life and death which may be part of its power, I don't know.

[Dave:](#) It is very focusing. That's a fair point. I can't imagine being on the phone, it wouldn't work. How often do you do ice baths now?

[Rick:](#) Typically, we'll do, I would say it works out to about five days a week, in ice.

[Dave:](#) And you're still doing the Wim Hof breathing with it?

[Rick:](#) Sometimes, sometimes it depends. I love Wim Hof breathing, it just depends on where I am in my, it's like the routines change all the time. But that's one that I love and any opportunity to do it, it helps.

[Dave:](#) It helps. Five days a week, that is intense. You've lost 130 pounds, I only lost 100. And I know you've talked about this before but I think a lot of people listening probably haven't heard that. What happened to cause you to lose 130 pounds?

[Rick:](#) Well, it started, I've tried to eat diligently my whole life. So, it wasn't out of not doing the work, it was really out of more bad information. And I was vegan for 23 years thinking that was the healthiest diet I could have. And it was killing me. It was really bad. And I remember I went to a Tibetan doctor who was one of the Dalai Lama's doctors. And he did, he does these ...

[Dave:](#) Pulse [inaudible 00:22:39]

[Rick:](#) Yes. Six pulse analysis. And he did the six post analysis on me and he said, "I want you to leave here and go get some bone broth." This before I'd ever heard of bone broth, and drink that and you're going to feel better. And I said, well, "I can't do that, I'm a vegan." And he said, "You're dying, you need bone broth." And I wouldn't do it because I was a brainwashed vegan.

[Dave:](#) Those are some big words, Rick.

[Rick:](#) I'm telling you, it's the truth.

[Dave:](#) I was a devout raw vegan for not anywhere near 23 years, but it did make me sick as well. And like the enzymes are going to save me, I'm just going to eat more raw food. I hit a wall maybe faster than you, maybe I started out with less vitality or something. But I appreciate you being willing to just say that because if a vegan diet really works with someone, just get your lab tests and see if it's really working because it's pretty hard to do that.

[Rick:](#) Yeah. Yeah. And again, I feel bad because as a vegan, I was preaching veganism. It comes with the territory. And then when I started eating meat again, it was really difficult. After not eating meat for a long time, it'd be like eating human flesh. So that

was a real hump to get over. And I started with, I mean, it's a long, how much of the story do you want to go into?

[Dave:](#) I think it'd be really valuable for people to hear this.

[Rick:](#) Okay, we'll talk in order that. So I tried many things. Veganism clearly didn't work. I met a person named Phil Maffetone who was a human performance expert.

[Dave:](#) Yeah, I've met Phil.

[Rick:](#) And he worked with Olympic athletes. And I read a book by a guy who ran 1,000 miles in 11 days. And I was thinking, well, I have trouble walking to the end of the block, how can someone do this? Like how is this humanly possible? I read his book, it was really inspiring. And he talks about how his life was changed when he met this Dr. Phil Maffetone. And then like I went online, and this was maybe in Web TV days before I even had a computer. And wrote a note to Phil. He said, asked him if he would become my doctor. And he said that he had quit his medical practice because he was retiring. He didn't know who I was. And we didn't really know each other at all and it turned out he was retiring to become a songwriter. And I said, well, just so happens that maybe I can help you on the song side and you can help me on the health side and you can still do it even though you're retiring. And then we met several times for maybe a year and then eventually came in, he moved into my house and lived with me for two years. And I did everything he said, and I got very, very healthy. But I still didn't lose weight. I lost maybe five pounds.

[Dave:](#) So frustrating to go through that.

[Rick:](#) Yeah, and I did everything. And he said, 99 out of 100 people who have done what you do, and he said, I live with you, I see what you eat, I see the exercise that you do every day, 99 people would have lost all the weight immediately. For some reason, it's not coming off of you.

[Dave:](#) And you weren't sneaking the Snickers bars. This is what most doctor tell people who don't lose weight. It's so just irritating and frustrating to be there. So okay, but you had a witness that you were doing everything right?

[Rick:](#) But at least I felt better, I had more vitality. He changed my circadian rhythm because I used to be up all night and sleep all day. He got me to wake up early in the morning. He got me to sleep longer and better at night. He had me start by adding fish and eggs to my diet, which were two things that I never really liked. But he had me add those more as medicine and he was just trying to get me to have some animal protein in my body. So now I'm a healthier version of my 318 pound self.

[Rick:](#) And I went out to lunch with one of my mentors, name is Mo Austin, who's a, he worked for Frank Sinatra and he ran Warner Brothers records for 30 plus years. Signed Jimi Hendrix. A real, a real beautiful person and friend of the artists. I had lunch with him one day, and he said, "You know, Rick, I'm really getting worried about you, you're getting

really big. I'm going to find a nutritionist, I want you to go to my guy and I want you to do whatever he says." And I said, "I'll do that," knowing it wasn't going to work because I've done everything and nothing works. But I'm open to, you know, I'll follow at his request, but there was no belief involved for sure. And I went to this doctor at UCLA and he put me on a diet of seven protein shakes a day like every two hours. And I could have fish, soup and salad for dinner.

[Rick:](#) What it was a high protein, low carb, low calorie diet. It was definitely a calorie restricted diet, which I'd never done before. I'd done healthy diets but never calorie restricted. I did what he said, in the first three days felt strange, and then after that, it felt perfectly normal. I went to see him two weeks later and I lost like 13 pounds. A lot. And that gave me inspiration to continue and took something like 14 months to lose 130 pounds. And it was a great experience. And then from there, I morphed into eating more real food. In the experimenting I've done with keto, again, I believe that the keto diet is healthy for most people. For some reason for me, I do better with more protein than fat.

[Dave:](#) You're pretty unusual that way. And I know we've talked about it. I'm concerned that I'm seeing some of the aspects of veganism in keto today, where it's like, if you eat a carb again, you're a bad person. Don't your gut bacteria sort of need some of those carbs to function? And so the idea of going in and out of it and making sure you're actually eating more vegetables than steaks is pretty important and it feels like sort of as it becomes popular, that there's both a militancy and a lack of paying attention to those little details that are going to make it work long term. Because I know I certainly eat carbs, I just don't need huge amounts of them and I don't eat them every day.

[Dave:](#) So you're not in ketosis now, you're pretty much on a high protein, moderate vegetable kind of diet?

[Rick:](#) No, I would still say, I'm like on the paleo/keto and for the last, maybe last six months or so, I've been doing intermittent fasting, which I'm really liking. Was hard to start it but once I'm in it, I really enjoy it.

[Dave:](#) It's made a big difference for me too. How about the longer fasts, like 48 hours?

[Rick:](#) Never done it. I did it a long time ago back when I was heavy with maybe, there was one called Arise and Shine, there was several of these cleanse type fasts. But I think back then, my blood sugar was so unstable that it really didn't, I felt sick all the time. It's torture when you don't have control of your blood sugar.

[Dave:](#) Yeah, that might be something to play around with. I've noticed if I go past 48 hours on a fast and usually if I want to take the kids skiing or something for the weekend, I don't really want to do dishes, I love to cook, but I really just want to focus. So I choose to do it then. And it's not during the fast really but it's the day after and then the day after that, where you just, you feel all the information in your body just kind of slurp away. It's a pretty cool thing. But the first time you do it, you want to just see what your brain's going to do. But I found for me, I think about food but I don't crave food because

I have control of my blood sugar. I would like to see that become a little bit more of a cultural norm.

[Dave:](#) So I'm putting some stuff together at Bulletproof where like I'll say once a month, like, hey guys, anyone who wants to join me on this like this Monday and Tuesday, like I'm not going to do it when we get on our group chat thing and talk about it because it's hard to put words to it, but there's a clarity that comes to me from that that goes beyond what intermittent fasting does. But even that, six months, did it change your weight or did it change your mind? Like what did you feel from the intermittent fasting?

[Rick:](#) Definitely got a little leaner. I just like the way it feels. And I definitely eat less overall based on the restricted window. Both the timing of it and the desire, like I'm satiated sooner.

[Dave:](#) Are you avoiding the eat after dark sort of thing as you're eating window only during the day?

[Rick:](#) No. I start, I usually do, typically it's noon to 8PM.

[Dave:](#) That's a very typical one for me as well. I found that if I front load it, where I live, it gets dark at like five because I'm up in Canada. So doesn't always work, but at least during summer, I work on making sure that I'm not eating after dark because there's a circadian timing thing to that. But you don't have to be perfect.

[Rick:](#) And I like, if I can have dinner when it's light out, it's a good day. I prefer that.

[Dave:](#) So there you go. Preferring it is a great way to put it where you don't have to have it. You also do some more advanced biohacking stuff. What are some of the kind of cool funky things that maybe you think people haven't heard of that you've found value in?

[Rick:](#) Well, before sleep I use a, I think it's called [inaudible 00:32:34]. It's a device, two electrodes that go on the forehead.

[Dave:](#) Oh, interesting.

[Rick:](#) That like calm the brain waves.

[Dave:](#) It's a cerebral electrical stimulation.

[Rick:](#) Yes.

[Dave:](#) Okay, like a Russian sleep machine.

[Rick:](#) It's called a Fisher Wallace device.

[Dave:](#) Oh, a Fisher Wallace, I recommended it on the blog years ago. Okay. Yeah. It's a prescription device that runs the electrical current like the David one. Okay.

[Rick:](#) So I use that. I use an intranasal red light ...

[Dave:](#) Oh the Vielight.

[Rick:](#) Yeah, Vielight, every night. I typically use a traditional sauna but lately because we've been moving around a lot, I got a sauna space tent with the red lights. So the beauty of that is I get the sweat of the sauna plus the red light. So it's the biophoto modulation along with the sauna at once, which is nice. I used to use the Joovv which I still like. But there's something about sweating at the same time, just time wise, it's very efficient.

[Dave:](#) You and I could both spend 10 hours a day biohacking and not get anything done and that's the risk. So like, I love the way you're stacking it just like you stack meditation with swimming or walking, right? You might as well get the benefits.

[Rick:](#) Yeah.

[Dave:](#) What about Carbogen?

[Rick:](#) Yeah, Carbogen's a good one. That was something that Dr. Phil Maffetone recommended. It was something that they worked with brain injured kids. It's a specific amount, a specific mix of ...

[Dave:](#) Oxygen and CO2 without nitrogen.

[Rick:](#) Yes, oxygen, CO2, but I can't remember what the balance is.

[Dave:](#) Okay, I don't know it. You told me once but I forgot.

[Rick:](#) And you just inhale it with a mask for maybe 10 or 15 minutes while doing deep belly breathing. And it allows the oxygen to cross the blood brain barrier in a way that oxygen, pure oxygen can't. So like it tricks the system into allowing more oxygen in. I did that for quite some time. Hyperbaric oxygen, I've done quite a bit. More hyperbaric air more than hyperbaric oxygen.

[Dave:](#) Just the pressure without breathing the oxygen.

[Rick:](#) Yes, all the stuff was layered like the pool workouts and the heavy weights underwater. Those the ones that come to mind. I mean, it's endless though. We go down.

[Dave:](#) It's playing at a certain point, but it's playing that sometimes has a really unusual benefit.

[Rick:](#) I wear blue blockers every night really religiously.

[Dave:](#) Me too.

[Rick:](#) I've only red lights in my house. Those are the ones that come to mind. But I'm sure as we talk more ...

[Dave:](#) That's a pretty comprehensive list. I have never talked about Carbogen, I think most people in biohacking have never heard of that. So there you go guys, do some googling and figure this out. There'll probably be Carbogen clinics in another six weeks after this episode. But I did try it at one time and it did something good oxygen wise.

[Dave:](#) It felt a little bit like the thing that we do, we call it intermittent hypoxic training at Upgrade labs where you work out and you're breathing air that has no oxygen, the oxygen is removed. So the brain just goes into panic, like open the floodgates for oxygen and then you switch over after you've tricked the brain to breath in pure oxygen. So, it can raise the levels of oxygen in the brain by 26 times more than normal. There's a sort of a feeling that was similar between Carbogen and that, except you're riding on an exercise bike when you're doing this in the lab. So you have like the heart pounding and all that versus just sort of peaceful, relaxed, oxygenated brain, which might be better for creativity, to be honest.

[Rick:](#) Not sure. But I've also done the assault bike wearing a ...

[Dave:](#) A flow restrictor mask.

[Rick:](#) A flow restrictor mask. And then we've done the altitude, the blowing into the tube to create the altitude.

[Dave:](#) What's that called? I have one of those, AltoLabs.

[Rick:](#) Yeah.

[Dave:](#) Yeah. And by the way, that is one of the coolest things. I was talking with Brian [Keating], the guy who's an astrophysicist guy who almost got the Nobel Prize for discovering gravity waves. And he's saying, I have this telescope in Chile at 19,200 feet. How do I get people acclimated to AltoLab. It's a cool thing, and I actually may start doing it again because I'm now flying on a plane that only pressure rises to almost 10,000 feet. And I want my brain to work. And the idea here is you breath this little tube for an hour a day for 15 days and suddenly you're acclimated to, [inaudible 00:37:13] for 20 days, but you're suddenly acclimated to 15,000 feet.

[Dave:](#) It seems like the best stuff comes out of Russia. The Fisher Wallace device you mentioned before the cerebral electrical stimulation, I've been using something similar for 20 years and it came out of the Russian space program so astronauts could sleep less so they could do more work, and they could use less fuel to get them into space. And this oxygen restriction device came from the Russian military saying, well, it's expensive to pressurize a jet fighter, why don't we just make our pilots pressure agnostic. And so, they're literally hacking the human body. They're doing crazy peptides and some of the very best work that's been most impactful and anti-aging is straight out of Russia 1980s research.

[Rick:](#) Tell me a little bit about peptides. I know very little other than, I understand it's the new rage.

[Dave:](#) Well, there's a bunch of different peptides and they're essentially short chains of amino acids. You look at amino acids as individual letters and when you string them together, you can get a word as like one little peptide. And when you string a bunch of words, these peptides together into a sentence, you've got a protein and you put all the sentences together into a book and you've got a steak. So, peptides are sometimes just two or three amino acids stuck together in a certain way and they're very potent signaling molecules in the body. And what the Russians did, and actually, this is in the book, I was editing on the way down here, my next anti-aging book, they're getting peptides from young animals, extracting them in ways from agriculture, and making these little capsules you can take that are targeted at certain organ systems to make them younger. And that's what works. It's pretty crazy.

[Dave:](#) Another one that's ...

[Rick:](#) And they're oral.

[Dave:](#) Those are oral. And they're not particularly cheap, it's about 60 bucks a month supply of one, but there's one for male performance. Essentially, it's gonads of ... You can tell if you take that, the next morning, like, okay, I noticed that and I don't think that's placebo. And there's a bunch of actually good research but half of it is not even been translated. And this has been going on for 30, 40 years and they're carefully working on it. But the idea here is if we can do that, we can make peptides in laboratories now that are identical to those and manufacture them. And once we acknowledge that they work or we do more research on them, then it becomes something, oh, wait, maybe we could all get young animal growth signals.

[Dave:](#) Another one that's really powerful, your thymus gland. It gets old very quickly. In fact, by the time you're a young adult, it's mostly gone. Yet it's tied to your immunity. So, there's a peptide called TB-500 that I've been using for quite a while. And you can get this stuff. It's not considered a drug or a medicine, it's not for human use, it's in a gray zone. And what TB-500 does is it replicates the immune stuff that happens from a healthy thymus. And there's another one for the pineal gland. So instead of taking a gland from an animal which might have viruses or whatever other weird stuff, you're getting a laboratory made protein fragment that's exactly like what would come off of there.

[Dave:](#) And Epitalon, the pineal one is tied with the lengthening of the telomeres, a very substantial one. I have several friends who have used it and seen their scores changed dramatically on a telomere test. My only little asterisk on that one would be blood telomeres flop all over the place on a regular basis so it's not a very reliable indicator that it worked. But certainly, they're going back for at least 20 years. There's solid research on this compound and I've considered a part of an advanced anti-aging stack.

[Dave:](#) And there are other ones for wound healing, like a BPC-157, which is another one where if you have something that just isn't getting better, your knee or whatever, it's a healing gastric peptide. And for people who have GI issues, in particular, you can take it orally and it'll reverse Crohn's disease in some studies. So if your gut's all inflamed you take some of that, and in fact, I did it last week. I'm cautious around fermented foods. Some fermented foods are good for you but it's okay if they don't work for everyone, especially if you have just whatever's going on with your genetics.

[Dave:](#) So I made a fermented rice, it's something called mochi, it comes from Japan, and I actually have a Japanese mochi maker. So if I want to eat some carbs, it's cooked in cooled rice, resistant starch. And culinary wise, it's awesome. It's the stuff they wrap around ice cream. But I fermented it with some special yeast that's good for you and I reuse the water. And something bad grew and I don't know what it was, but I ate this stuff and it tasted amazing. And then my gut is wrecked in a way it has not been wrapped in a long time. And I said, all right, what am I going to do on this stuff? So I cracked open a vial of BPC-157 and I took some because it's a gastric healing peptide, and I got better really fast.

[Rick:](#) Amazing.

[Dave:](#) In fact, there's a blog post on these I believe, I'll get you the info on them. If you're listening to this, I will put up another post or I'll highlight this post in the show notes for you. Because these are things where, your doctor is probably not going to tell you about them. I do know doctors who will use either one of those compounds, intravenously, but they won't ever advertise that or tell you that they do that but they usually use it on themselves or on their special patients because it works. And because the science is solid, even if it's not approved. And part of my goal in doing this show is I want to talk about that stuff because it will increase demand which will increase research. And someone out there will fund research in order to make it happen. There's times when you just fund research because it needs to be done not because there's a patent.

[Dave:](#) Like I helped to fund research at University of Washington around basic water chemistry with Gerald Pollack around the fourth phase of water. And there's no money to be made in that. I just wanted to understand it. And what he found was magic. If there's tiny droplets of butterfat suspended in water, it makes exclusions on water. Like there, this is what the Tibetans were doing with their Yak butter tea. They didn't have enough energy to use their mitochondria heat to transform water, which is how we do it normally, so they did it with a butter churn ahead of time. They didn't know why it worked just like your conversation about music. They just knew they felt good. I know I felt good when I tried it there and I came back and I didn't know that was a mechanism in Bulletproof coffee but it turns out, I funded the research because I wanted to know.

[Rick:](#) Speaking of water, I also did maybe six months of only deuterium depleted water.

[Dave:](#) Did you notice anything from that?

[Rick:](#) I don't know. I don't know. That said, I'll do it again.

[Dave:](#) You know, deuterium is one of those things, I almost put it in headstrong and I've also experimented, and a few listening going due to what water, deuterium is a heavy isotope of hydrogen, the so-called heavy water. And it's used mostly in the nuclear industry. And it turns out, there's about 160 parts per million of deuterium and areas where there's a little bit more in the groundwater, there tends to be more disease and deuterium clogs up your mitochondrial function.

[Dave:](#) So there's a theory out there that says if you drink deuterium depleted water and get ready to spend, you're going to spend a couple grand a month on this water, and if you do that for a while, your mitochondria are supposed to work better, angels will sing and all sorts of good things happen. And I didn't put it in the book because the ROI on deuterium depleted water, it's not there. You spend so much time, I'm only going to drink this water, only going to cook vegetables, and by the way, fats don't have deuterium issues but carbs do and if they're grown in a high deuterium environment, they do. So I actually even paid consultants to go out and find deuterium processes around the world and to see if I can make it affordable. But at end of the day, I cannot feel a difference from that and I know what good mitochondrial function feels like because you can manipulate it with other compounds like NAD.

[Dave:](#) I look at that as, if I was incredibly rich and dying of cancer, I'd be all over that deuterium. But otherwise, I'm not certain that it meets the bar for worth the effort. But if you just said it, turned your brain on and angels actually did sing, I'd have listened.

[Rick:](#) Yeah, I don't know yet. I'm going to do more research. Which other ones? And obviously things like the Oura Ring, tracking. Tracking is good.

[Dave:](#) I've been wearing the Oura Ring for a long time and tracking sleep for 10 plus years of the EEG and things. And what I noticed Rick, this really cool, I did that whole-body stem cell make over recently, where I had stem cells in the brain, spinal cord, every joint in the body, like everywhere. It was a pretty intense thing. But afterwards, my sleep quality is different. I mean, like noticeably different. I'm putting together my talk for the Bulletproof Conference, which is, I think this episode's going to come out after the conference, but it's happening in the next day or two. And I took a screenshot of one of these because it was ridiculous. I slept, here we go, I slept five hours and 54 minutes. So, little bit less than six hours of sleep. But I got two hours and 23 minutes of REM, and two hours and 20 minutes of deep sleep.

[Rick:](#) Incredible.

[Dave:](#) And these are scores in eight hours that you might get when you're 20. And holy crap, these are breaking records for me and I've been tracking for a long time and I think that the stuff the stem cells did in my brain, my nervous system really did do it but I'm stacking it, like you said, I'm blocking the blue lights, I have a glasses company that does that stuff. And I take, you know, all the sleep stack stuff that I've written about. This is what I'm dialed in and my room's dark, and every little advantage I can get. But still, this for me, even five, six years ago, if I got a half hour of deep sleep, I was pretty happy because I came from an inflamed, unhealthy perspective. So I feel like ...

[Rick:](#) I still don't get that much deep, I get a lot of REM and a little bit of deep. Could be as little as five minutes.

[Dave:](#) Really?

[Rick:](#) I mean, on a good day, it'll be an hour.

[Dave:](#) But not more.

[Rick:](#) But I've had five hours of REM on some nights.

[Dave:](#) Wow. Five hours. I've never had five hours. Well, you're such a creative guy. Creativity does happen in REM. I mean, there's so much communicating and stuff going on there. Wow. So, how do you hack that? I guess at a certain point, you have to start looking at human growth hormone, because if you never get deep sleep, your growth hormone levels will be low clinically and then maybe supplementing is a good idea. But I know that requires the small insulin needles, which aren't your favorites.

[Rick:](#) No.

[Dave:](#) Actually, there's oral peptides that raises growth hormone levels that might be there for you.

[Rick:](#) Wow, that sounds good.

[Dave:](#) All right, I am going to, I'm going to double check which are the ones I'm thinking of here, but I'll hook you up afterwards just with the name of it because I think that just from a very selfish perspective, Rick, I would like you to keep doing cool music so I could listen to it. So we got to give you many, many more years of functioning at the level you are.

[Rick:](#) I'm ready.

[Dave:](#) I want to go back to something you said earlier. You mentioned about the Metta meditation. You mentioned loving kindness as something you focus on. How do you define loving kindness?

[Rick:](#) What comes up is related to something that I want to mention and it's another side of it. It's a little bit like praying. And we didn't cover praying in the stack. But I include prayer, I look for opportunities to use prayer. So for example, if we pray before meals, it's a great opportunity because we know we eat a couple of times a day. So if we're praying before meals or if we pray when we wake up or if we pray when we go to sleep, we're doing those things every day. So if we can tie the practice to something we're already doing, well, I just had great deja vu, just now when the light changed, we've had this conversation before, that was amazing. Amazing. And in prayer, it's not asking for anything. It's more like an agreement to be a humble servant and to have each, have each step be for the highest good for all. I think of loving kindness in that way.

[Dave:](#) One of the meditations or maybe you could call it a prayer that I do, is I'll say it thank you for using me today. I don't have to be rational about it, I don't have to know why it works, but if I do that, it just seems like it's a better day. I don't actually define who I'm talking to, who's using me that day. When you pray, are you praying to a specific deity of choice?

[Rick:](#) Not specific.

[Dave:](#) Just the universe?

[Rick:](#) Yes. I'm your vehicle, I'll do your will, please guide me for the highest good.

[Dave:](#) Yeah. I love it that you talk about that. That's the side of biohacking that I think sometimes gets lost in the ego of I grew abs or I have the highest performing brain. You got to ask, okay, you have the world's highest performing brain, what are you going to do with it? And it's that loving kindness aspect that you talked about, that certainly I picked up in Tibet when I was there to learn meditation and in some of the neurofeedback was the other experiences I've had [inaudible 00:51:34] training where if you're missing that sense of mission or even just sense of service, even if it's not mission-based, you probably won't have the biomarkers that you want to tie it right back to ego. Like, something isn't going to work out the way that it otherwise could, and that's the one that's hardest to explain to people like you and me who are gathering data but you've clearly noticed that.

[Dave:](#) And I've picked that up in my own life as well and I love that we can talk about that and put it on the air because if you're listening to this show right now and you're saying, well, that's just a bunch of crap, why would these crazy people pray, there is no God or whatever. It doesn't matter if there's a God. What's going on is the act of praying does something to your neurology or to your soul or whatever you want to call it, that makes you better.

[Rick:](#) And gratitude practice, we know that it works. We know that it works. Science proves that it works

[Dave:](#) Yeah, you can science your gratitude. How do you practice gratitude?

[Rick:](#) It depends. In the past, I've used gratitude journal. It can be included in the meal prayers. Those are the ones that come to mind, but I'm sure there are others.

[Dave:](#) I've got two more questions for you. One of them has to do with failure. How do you handle things when you absolutely fail at something?

[Rick:](#) I always think about it in terms of, I start with the idea that everything we do is an experiment. So, the stakes are, oh, I try to keep, in my mind, I always try to think of the stakes being very low for everything. I mean, it's on experiment and we're just playing, we're just here to play. So, if something works, I know, okay, that experiment didn't work in the way that I thought it might but it taught me something. I learned, okay, if I

want to do this thing, that's not the way to do it and now I can try this other method. I guess it's more of just a mindset of using, thinking of it as feedback and taking the feedback and using it for the highest good, whatever that is.

[Dave:](#) So you depersonalize it. And the final question for you is what I've been asking as sort of the new question on Bulletproof Radio now that *Game Changers* is out and I got that big data set. Although, man, I'd kind of like to ask you that question too. But the new one is, how long do you want to live and how long do you think you're going to live? Because I'm writing about anti-aging and potential immortality. What's your take on that?

[Rick:](#) I'd like to live as long as possible. I don't have a number in mind. I suppose I'd like to live in a healthy way as long as possible even more so. But also, I follow the universe's intention for me and wherever it leads, it leads. I've enjoyed the time that I've had and I look forward to enjoying more. And whenever it's done, it's done.

[Dave:](#) It's a very Buddhist perspective, right? I like to say that I'd like to die at a time and by a method of my choosing.

[Rick:](#) That's a good one.

[Dave:](#) So there's always an out.

[Rick:](#) That's nice.

[Dave:](#) But also, if I'm not supposed to be here, I'll probably get the message and then things work out. Which is a lot of people's sort of Rage Against the Dying of the Light sort of thing. But I'm not convinced that rage to live longer is a good strategy.

[Rick:](#) I can remember I had a friend whose mom had a very serious cancer and she was really committed to beating the cancer. And she did everything she could do both alternative wise and Western to beat it. And it went on for years and it became sort of the focus of her life. And then I ran into her one day and there was a calmness about her, and it was like she was a different, before, she was this vigilant person fighting for something. And now she was this, it was like something shifted. And she said, "I know I'm going to pass and it's okay, and I'm at peace." It seems that something happens when we know that we're going to pass that makes it okay. It's like, I don't know if it's a chemical process or if it's purely a spiritual process, I don't know how or maybe it's both.

[Dave:](#) Could be both, a little bit of DMT comes not and you see whatever's going on. I've witnessed that as well from a family friend who was dying of a brain tumor. He'd come over and use my hyperbaric chambers, like I'd meditate in there, this is great. It would make his brain work well enough to spend more time with his family. But he fought and then decided, okay, I'm done. But there was a level of peace and just like happiness and being with the community. And it was really a blessing to be able to see that shift because it was very dramatic. So yeah, there's something there.

[Rick:](#) Like 20 years ago or so my appendix burst and I didn't go to the hospital, and I never had it removed. So, there's a certain, I don't know, I didn't believe I was going to die from that experience. I got really sick.

[Dave:](#) I bet.

[Rick:](#) I can't tell you how sick I was. But I also found that when I get really sick, really creative thoughts come.

[Dave:](#) Yeah, that makes sense. You kind of hallucinate.

[Rick:](#) Yeah.

[Dave:](#) Wow. Rick, I feel like we could chat for hours and obviously we will but not on the mic. Thank you for being a guest on Bulletproof Radio for sharing, your knowledge, your wisdom and your music and the music of the people you work with the world. It's had a profound impact on me long before I met you and I'm grateful for our friendship and for you being on the show.

[Rick:](#) Great. Thank you so much, and I look forward to doing it again.