

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 endurance training doesn't leave any memory in your muscle. It turns out that your muscles don't have long-term memory for exercises like running, biking or swimming. That old adage that once you've been in shape it's easier to get fit again is probably a myth at least for endurance athletes. Relatively small study conducted in my wife's home country of Sweden in 2016 showed that when muscles take a break, they really don't maintain muscle memory from prior exercise. In the report, people trained one of their legs four times a week for three months and then they took nine months off.

Dave: The study authors took skeletal muscle biopsies, ouch, from both legs before and after and found the cells in the muscles expressed over 3,000 genes in different ways after the exercise, but after they had their fitness hiatus, the scientist couldn't detect any exercise-related genetic changes between the people trained and untrained, at least the people's legs that were trained and untrained. The study author, Malene Lindholm of the Karolinska Institute where my wife also studied says, "We couldn't see any differences at the gene activity level. Most effects are lost by a month or two of no training." Some say that participants next trained both legs and they had similar results, but all study participants grew lots of hair in their legs. Okay the last part I just made up, but the rest of it was all good.

Dave: How's that? I've never made up anything in the cool fact today until right now after almost 600 episodes. I've been really patient. This is the first episode I've recorded after coming off stage at the Bulletproof Biohacking Conference that we held at The Beverly Hilton this year.

Scott: Nice.

Dave: Man, it was pretty epic. Pretty epic conference. I had so much fun there. We had 1,200 people and just the best time, best yet out of six years, so that comes an improving thing, I think we nailed it this year. Today's guest wasn't at the conference which is a very sad thing and something that I'm going to shame him for later on the show.

Scott: Well, you got to invite me.

Dave: Oh, invitation [inaudible 00:02:28] on social media. His name is Scott Carney. He's an award-winning investigative journalist and anthropologist who writes these cool stories that blend narrative nonfiction and ethnography, and if you're going, "What the heck is that?" don't worry, this is totally tied in to biohacking because his reporting has taken to some of the most dangerous and weird corners of the world. He also wrote a New York Times best-selling book called "What Doesn't Kill Us: How Freezing Water, Extreme Altitude And Environmental Conditioning Will Renew Our Lost Evolutionary Strength" and this just came out in paperback.

Dave: Now you understand why I got Scott in the show because these are classical biohacking themes. The idea that the environment around you controls your biology, well he put it

to the test because he's a little skeptical kind of like I am. We're going to talk about human endurance and why effortless comfort is hindering your health and how the wedge can flip your neurological script. Scott, welcome.

Scott: Thanks a lot for having me on, man, and thanks a lot for citing my book in Game Changers. You give me a shout out. I really appreciate that.

Dave: It was actually really cool to be able to cite you in Game Changers. Scott, you are an odd duck because you're going to get a Ph.D. in anthropology which is weird to get a Ph.D. in anyway and then you said, "No, I'll get journalism," which this is a bit of trivia, it is the lowest paid on average career you can get from a four-year degree. Did you know that?

Scott: Anthropology or journalism?

Dave: Journalism is actually lower than even sociology or anthropology, believe it or not.

Scott: That's actually shocking to me because I know a lot of very broke anthropologists in the world, but it doesn't really surprise me because journalism is very difficult and I did not get a journalism degree. I am somewhat proud of this as I dropped out. I got to the dissertation of anthropology and I got to the point where I was like, "Oh, man. I'm going to write this really cool ethnography on ..." at that point, it was a Bollywood film. I lived in India for a long time. We can go into that later and I was like, "Wait, but only five people are going to read me." I was like, "Oh, no. Journalism." I made the switch and I made it in a funny way is that I was broke as grad students are and it was the summer. I was like, "Oh, man. I need money." I looked at the back of the newspaper and it was like ... It was actually the back page of The Onion which I have a print edition at this point.

Dave: Oh, yeah. I love The Onion.

Scott: It said, "Come join our clinical trial for the erectile dysfunction drug Levitra and we'll pay you \$5,000 to like sit on penis poppers for a month." I was like, "That sounds hilarious and it's good money." I joined this clinical trial and I wrote about and I met all these people who are making a living going from clinical trial to clinical trial-

Dave: I read this piece. That was you?

Scott: Yeah.

Dave: It was a fantastic piece. Oh, my god. That's hilarious. I did not know that was yours.

Scott: Yeah, that was probably the first big piece that I ever wrote and then I was like, "Wait a minute. There's money to be had in journalism and I get to have adventures around the world." It made me really psyched. I started writing for Wired and Playboy and People.

Dave: No, you got to be a bad ass. The asterisk in the journalism, that's the average that people make, but you worked for Wired. By the way, it hasn't published yet, but we just did a photo shoot for Wired at the Bulletproof Biohacking Conference, which is cool. I'm

going to be at least in the online edition, maybe print, who knows? Outside Mother Jones, NPR, Playboy, Foreign Policy, you're a big deal when it comes to writing which is awesome, but I did not know that basically your experiences with erectile dysfunction. I'm sorry about that, man, the source of your career in journalism.

Scott: That's true. Not in that month, that month we're all in penis poppers, me and 30 other dudes in that research trial and I made money with my erection.

Dave: I had no idea we're going to go there. I thought we're going to go straight to cold showers and I'm completely confused at this point.

Scott: I'm a tough interview, man. I got to say. You're doing great. You're doing good.

Dave: Well, what attracted me to talking with you and Game Changers because you've done some just cool fascinating stuff. You're a very curious guy and because you studied anthropology, you're actually a system's guy which means like, how did it get to be this way, why is it this way and what does it take to change it which is cool. You got into this idea for "What Doesn't Kill" around human endurance and you decided in 2011, right around the days when I was starting the Bulletproof blog and I did a ton of ice baths and was also when I met Wim Hof at that time and still am. I love Wim. He's a great guy.

Dave: You're like, "I'm going to debunk this weird Dutch fitness guru guy. He says he can do these frankly superhero things." Really, the ability to say, "I'm going to control my body temperature. I'm going to turn my immune system up and down just by thinking about," and you're like, "Okay, I've taken down lots of these sham guru of people. I'm going to take this guy down." What did you do?

Scott: I had just written this huge article for Playboy about how meditation can kill you, especially for people who get attracted to that idea of superpowers and pursue those superpowers to their maximum extent. I found lots of stories of people who actually died. One guy died in the mountains of Arizona who ended up being a book that I wrote called The Enlightenment Trap. I also witnessed people in my earlier life when I was doing meditation in Northern India and Tibet, I actually knew somebody who committed suicide on a meditation retreat in the pursuit of enlightenment. The last lines in her book or in her journal were, "I am a Bodhisattva," which means, "I'm basically an enlightened angel."

Scott: I was like super, super skeptical and of anyone who promises these almost magical powers, and when I saw Wim Hof in 2011, Wim Hof was basically a circus act with a very little bit ... He had like a commercial with Columbia Sportswear. That is what he was known.

Dave: He didn't have the science study around lipopolysaccharide injection-

Scott: No.

Dave: His stuff is legit at least for some people, but some people get frostbite and other stuff too. Just any path including the Buddhist stuff you talked about and I've actually read that book a long time ago, I mean I spent time in Tibet like you, they tell you, "If you go for the fast path, you could get enlightened. You could also die and go nuts." This is in their teaching because they know it. Meditation is not without risks, although most of the stuff we do in the US is pretty low risk but not always.

Scott: Yeah. Not always and I'm very aware of that not always side of things. I lived in India for six years. I saw a lot of people moving there on the spiritual paths and I just observed probably a greater share of insanity than with a normal meditator.

Dave: Yeah, we have a selection bias. "Okay, there's something not right in my life. I'm going to move in to India for a long time to go make it right." You might have had a greater percentage than average, but also sometimes people are just attracted there for beautiful reason and they find what they're looking for and they come back and change the world. They're like, "Flip a coin. Which is it going to be? Who knows?"

Scott: Right, totally. That's just to contextualize and I saw Wim Hof. He's naked sitting on a ... Not naked, he has his shorts on and he's sitting on an iceberg somewhere north the Arctic Circle. There's this photo of him and he says that, "I can train you to control your immune system, to control your body temperature." I was like, "Bullshit! You're going to get people killed." I searched around. I got a magazine to cover my flight to go out there and meet him. This was actually his very first organized training session ever. I was the first guy on it. There were two other people there, one Croatian and one Latvian and that was it. Wim Hof was really unknown at this point.

Scott: I get off the plane and he looks like this ... I mean when you first meet him, Wim Hof is not an impressive-looking guy. He's short, he's got a big ruddy nose, big blotched red skin. He was wearing like a green felt hat, that made him look like a garden gnome.

Dave: Here's the deal. Wim does not care what you think of him. I mean you know this and we're friends as well. I really appreciate him as a human being. Yeah, he just doesn't care which is cool and also a little off-putting if you don't know what you're getting into.

Scott: Right. I was like, "Well, this is going to be the easiest job of my life." He's also discredited himself and he's also talking what sounds to me like disorganized madness. He's like, "We're going to win the war in bacteria. You're going to give me the Nobel Prize." He talked to this disconnected sentences.

Dave: He's not linear.

Scott: He's all over the place. At this point, there's not much science on him. I think there had been one study. We drive out to his training center in the mountains of Poland. This is January. At this point, I had been living in Los Angeles, so I go from palm trees to the winter that stopped the Nazi army. Put that in context. We're in the mountains and I get out of the car and it's like this dilapidated farmhouse. It's like really crummy and I walked upstairs and I looked out the back window, store my rucksack and I see this dude

sitting out back. It's not Wim. It's a guy who just followed him and he is in his underwear in the snowfield throwing snow on his chest and there's steam coming off of him.

Scott: I was like, "Wait, what?" My mind is not even really thinking about the steam as much as like, "Who is this insane person doing this?" As a journalist, you have a couple of options for how you cover someone. You can go in there and sit back and say, "Okay, I will watch you from a distance. I will watch you breathing or whatever and I will write an article about that," or you can jump in and give it an experience. At that point, I hadn't truly decide what I was going to do because I did think it was dangerous. Then I had this long conversation with Wim that night. We're playing chess and just talking, it's the evening and I was like, "Oh," he is really genuine. Beneath that madness, beneath crazy exterior, there's something which is so pure and like he believes it that I was like, "You know what? I'm going to give you a chance. I'm going to do your stuff."

Dave: There's not even 1% of con artist in his energy. I love the way you described him. He's the real deal.

Scott: Yeah, he is. I do his method and the first time it's essentially hyperventilation, exhaling and then breath retention. That's the breathing part of it and you do a bunch of sessions of this. At the end of that, you do another hyperventilation session, exhale and then you start doing pushups. At this point, I could hold my breath for maybe 30 to 45 seconds. I timed it and I could do about 20 pushups. I'm not a super athlete, was not and will never be a super athlete, but that's what I can do. I just do his breathing and I'm holding my breath for three minutes after an hour of breathing and then I do 40 pushups with no air in my lungs and they felt easy. I was like, "Boom!" This was the moment where I was like, "I don't what he's got, but he's got something and I really have to learn it."

Scott: Then he does this next thing which is like, "All right now, Scott, go out and stand in the snow." Because the Wim Hof Method is really breathing, cold exposure and then he has this thing called mindset which is a little difficult to understand. It's not really well described. We go in the snow and the first thing that happened is it hurts. It hurts really badly because I had never intentionally exposed myself to that extreme of a temperature change. What is occurring physiologically is vasoconstriction which means all of the arteries in your body has smooth muscle in them and they contract on internal exposure. You can't really do it with your mind very easily.

Scott: If you've never put your feet in snow before, you've probably never experienced that feeling and it hurts. I stand in there for five minutes and I'm just like, "Oh, man. I do not want to be here." Wim's like, "Okay, you can go inside for five minutes." I just like hit my limit. I said, "Wim, this method sucks. More like the pushup circle, but this sucks." Then we go into a sauna. Then I had the opposite reaction which is called vasodilation and the arteries pop open, warm blood goes through cold tissue and it hurts even more.

Dave: Yeah, that part sucks.

Scott: Totally and then the next day, he's like, "Okay. The next day you'll do it, it'll be better." The next day, I'm standing in the snow and I last 10 minutes before I get to that same

spot. The day after that, it's 20 minutes. Fourth day, it's 45 minutes. On the fifth day, I'm up in the mountain in my bathing suit at 2 degrees, just totally exposed. The adaption to what it looked like extreme cold is so incredibly fast that I couldn't believe it and I found this power. The crux of my book is this, are these super powers? Is this manna from heaven coming down like you're powering yourself or is this something else? Is there another explanation? What it is, is there's an evolutionary power that we all have, that we all inherited-

Dave: The untapped.

Scott: We don't touch it. We live in our warm houses. It doesn't matter if it's like -20 outside or 120. We have air-conditioning and modern heating to keep us fine, but we evolve as winners. We evolve in constantly varying temperatures and we don't have those variations anymore.

Dave: One of the things that still sticks in my mind, in fact within actually the same day that I first had yak butter tea when I'm in Tibet.

Scott: Po cha.

Dave: It's 10 degrees below 0 and there's a 30-mile an hour wind. It's getting a little bit late and I've got a porter with me and he's showing off for the young Australian girl who's there. This guy is half my size. He's wearing thin, Chinese knockoff Levi's, faked Nike and vinyl barely lined leather jacket, like [inaudible 00:17:37] leather jacket with a little vinyl on there. I'm wearing like a proper parka. I've trained in mountaineering. I understand environmental exposure and he's jumping up and down on a frozen lake to show off for the Australian girl and he falls through up to his waist.

Dave: He comes out of there, kind of laughed a little sheepishly and I'm like we got a survival situation here. This guy is wearing cotton which they say cotton kills when you're a mountaineering kind of person and it's freaking cold and there is no air and all the bad things you can think of. I had an extra insulated parka and I pulled it out of my backpack and I give it to him and he looks at me and he goes, "Okay," and he puts it in his basket to carry for me.

Scott: Totally.

Dave: There's no language. "No, for you," and he goes, "Not cold." I'm like this guy is a superhuman. It is not possible. He's carrying more than I am. He's running up and down and that just blew my mind. I'm like, either it's a genetic thing and there actually is a genetic high-altitude thing-

Scott: Sure of course.

Dave: The Sherpa people, but even beyond that, like this guy was just made of something different or he could ... To your point, I think it was in Headstrong, I found the research about cardiolipin levels changing over three days. It might have been in Game Changers,

but that's why you adapt so quickly, is that it takes three days of cold exposure and your cell membrane, mitochondrial composition changes, cardiolipin levels go up and suddenly your power goes up. It's always been there but we just don't know it's there.

Scott: I mean if you think about the process of illusion which is basically death after death after death after death, we are the ones who live. We're the boys who live and the girls who live and the reason they live is because they change quickly. It's not that they didn't have the biological system that said, "Storm's coming. I'll get ready next month." It's like, "No, storm's coming. You're getting read now." We inherited that. Our species is 300,000 years old. The life on the planet is about 5 billion, multicellular 1 billion roughly. We inherited the ability to adapt to the environment and the fact that we don't do that now. This guy, the Tibetan is a great example. He probably lives in a generally low technology lifestyle.

Dave: Yup.

Scott: Probably his ancestors were even more technologically insulated, but we now pursue this comfort, this idea of like, "Oh, my body is a little out of homeostasis. I'm going to flip a button, put on a parka, do something to my environment to make me feel good," but our bodies are not meant to do that. Those are signals. Feeling a little chilly is not the signal of, "I need to go save myself from imminent death." It's like, "Oh, my metabolism is heating up." That's actually what that sensation is and if we pay attention to these sensations, we have some ability to control them and adapt them to our own will.

Dave: You wrote in your book that there's a growing consensus among scientists and athletes that we were not built for eternal and effortless homeostasis and that we neither not that damages muscles but environmental and physical oscillation.

Scott: Yeah.

Dave: What other evidence do we have that we really need those oscillations?

Scott: It is really everywhere. There's this idea of hormesis which is really quite popular and you'd probably written about this where you get a stress and that stress is what makes you stronger. Even just something as simple as lifting weights, I'm not a big lifter, but if you lift weights, that is a stress on your body and then you feel sore afterwards and that feeling soreness is actually your muscles forming new connections, tears repairing them, inflammations which then make you stronger. Anything in our system that we stress, our system has to adapt or it fails and because we're incredibly adaptable. You have to look at the environment as a sort of exercise on its own.

Dave: Mm-hmm (affirmative).

Scott: We usually think about human health as one of two pillars which is the stuff you put into your body and then the way you move yourself to use that stuff. That's in general every diet that's out there. What I found over the course of the years of research is that, no,

there is this third pillar, which is the passive way the environment works on you all the time in every way and those sensations that are coming in, and if you adapt that environment and you now see that's a three-part system, now you have tools that you can use. You can change your environment in a way. You can go into superheated rooms if wanted to and that train certain systems and not train others.

Scott: It's truly amazing. You go out to high altitude, you're going to build more red blood cells. Our bodies are so adaptable, why not engage those systems and try to use them?

Dave: It makes a lot of sense to me and this idea that biohacking is the art of changing the environment around you and inside of you. Even your gut bacteria responds to temperature around you and oxygen composition in the air and the whole upgraded labs, a thing that I'm doing or breathing air with no oxygen in it or hyperoxygenated and cryotherapy and light therapy, all of those are just manipulations.

Scott: Totally.

Dave: I've reached the point where I believe, Scott, that we can receive some amount of signal from our environment around us, but that the coldest place on earth is not as cold as liquid nitrogen and the hottest sunlight doesn't have as much red light as what you can get from a red LED light. There's just so many things where we can trick our bodies by getting us stronger signal than they're supposed to have to cause adaptation to give us those "super powers" that are out there and there's emerging science in each of those areas, but to pull it all together and say, "I want to live longer or feel better," there's definitely a path there that scientists are eking out right now. Even without some of those crazy things, you did some stuff that most people would consider superhuman, like 80 pushups in a single breath, you lost-

Scott: Well, 30 breaths first.

Dave: It doesn't matter. You hyperventilated first, I get you. Seven pounds of fat loss in seven days and you melted the banks of a river. You're sitting around ice and all that which is a classical Tibetan or even Chinese medicine practitioners oftentimes learn how to do that.

Scott: Totally.

Dave: But still, that's superpower right there. You're controlling your temperature and you climbed Mount Kilimanjaro in shorts. These are all super bizarre thing for a journalist.

Scott: Yeah, right. Put down that pen, man. Yeah, right.

Dave: I mean you're not a pro athlete. You're not a "superhero." Although I guess Superman was a journalist come to think of it, was a news reporter.

Scott: Hey, yeah. I can kick my butt though, down worry. Here's the thing. You said, the cold of liquid nitrogen is colder absolutely than ice water and I see where you're coming from

and I think there's a ... My preference is actually for natural stimuli, not to say that you can't find stuff like really high-tech stuff, but in the movie of my life which I'm hoping is going to be Rocky IV where it has that montage in it or you have Ivan Drago on one side where he's a USSR big bad dude and he's working out in a lab, like injecting him with stuff, who knows that is, and they're measuring everything and then on the other side there's Rocky who's like pushing wagons through the snow and jumping in water. It's a great montage. You should find it on YouTube.

Dave: Yeah, that's great.

Scott: I am of the opinion that using the natural world that we have available, offers us such an amazing variety and it's free usually that you can just go in there and really get a lot of training and sensations that are really useful. When you talk about cryo, I've really looked at cryo and I really wanted to like it, and having done several sessions now, my feeling is that it's best employed for removing skin tags if you have like those little skin tags that show up because they can freeze them right off, but I actually feel like an ice bath, a proper ice bath around 33 degrees is more intense than a cryo session.

Dave: Of course, it is.

Scott: Because you get more stimulus, the thermodynamics, it's like way colder because you actually move heat because water moves heat a lot better than air does and you got this air gap in the cryo. If you really went down to -300 or something-

Dave: It's 270.

Scott: Yeah, that would kill you. I find them a little bit ... I don't find them as impressive as I have had the experience as an ice bath, going from a sauna to an ice bath or things like that. What we do, what we see so well, you and I and I'm reading your book, I was like, "Oh, man. Dave gets it," because I didn't read your book while I was writing my stuff because I don't like reading people who are too similar to me.

Dave: Yeah, because it soaks in.

Scott: Yeah, I don't want to sound like you. You sound great.

Dave: When I was writing Game Changers, I had not read Tools For Titans at all. In fact, I still haven't read it. I don't want ... Then I was, "Good, that was a collection of essays from which one and mine had the three-line in it," but I was like, "I don't want any pollution there," so I respect that about you, but it is something that a lot of my favorite author friends choose to do.

Scott: Yeah, but then I've written the book and I was reading your book this week in preparation for the interview and the thing that I find so compelling about what you're saying which we're totally on the same page on is you are you. You exist in an environment and you create an environment for this stuff inside of you. What we're doing by modulating our external world is that we're also modulating our internal world

and we sit at this fulcrum point between whatever our mind is. It's just at one place and then we have this world ... You talked about mitochondria, I'm like, "What's that mitochondria experiencing when I drink coffee?"

Scott: It's like getting a very different message and then my mind is getting a different message, but it all adds up to a complex system of who we are. You can take it further and say, "All of humanity is connected. All of the world is connected in a big ... You could go to Gaia. You could to-

Dave: It's a big system. We know that's true.

Scott: Right. Because we have our minds and we have the ability to manipulate things for our own betterment and hopefully ideally betterment of everything. At the end of the day, make the world a better place.

Dave: You nailed it. It's funny because what I learned over the course of weighing 300 pounds and having a chronic illness frankly, all the disease of aging before I'm 30 is that I could spend all of my money and all of my time getting better. In fact, it's a very common thing for people who have Lyme disease or toxic mold or whatever, they get bankrupted along the way. I'm lucky I spent \$300,000 getting better, but I made \$6 million that I didn't lost, but at least I had enough that I could recovery, but it's the time. I'm a dad. I do this show. I write the books and I'm CEO of a venture-backed company. For me, I'm looking what's the ROI on spending 20 minutes on an ice bath including the time to draw the bath, chill it ... I have a digital temperature controlled ice bath, so it's not hard to do, but I-

Scott: Within your house?

Dave: Yeah.

Scott: That's awesome.

Dave: It's pretty cool.

Scott: I wish I had one.

Dave: There's a little pump that recirculates it and because the water's flowing, it's even worse that a normalized bath because you don't get a bubble of heated water around you, so it just drains you-

Scott: Totally. I'm so guilty of like being really still in an ice bath. If I move, it gets real bad.

Dave: Exactly. This one, usually it doesn't matter. Just to be clear, it is made out of an agricultural stock tank because they made it cost-effective, but I don't use it that often because it takes whatever half hour of rigmarole and I got to thaw off. I get three minutes in cryo and I know I'm only hitting my peripheral temperature receptors. It's enough of the signal in three minutes that I can be back on the show within five minutes

when I'm decided to do it. I'm looking at the ROI for all these activities and then do I have hit myself with a red light, before or after when I do it?

Dave: Because if I can shrink myself a little bit with cold and I increase the number of electrons with the red light, I'll do the red light after which is probably going to cause improvements in mitochondrial function. Now, I got a multiplicative effect. Here's the deal. I'm just so lazy and I have stuff I want to do because I got to play ping pong with my son because he's about to beat me. I need to get some practice in.

Scott: Yeah, that's true.

Dave: For me it's that, how do I fit these natural methods in that oftentimes take a long time with the stuff that I actually wanted to do isn't a natural? Like what we're doing over our podcast right now, it's not natural, but it's cool. How do you balance out that I want to be rustic and I want to do cool stuff?

Scott: I value my time incredibly, much more than I do with money. When I do, I don't know in an ice bath, I don't know the contractions for it, but I do have snow outside in the winter. When I was writing the book, I would do these shirtless runs around the lake outside of my house to acclimatize myself to cold and come back. I generally think that you should workout in whatever environment is going on outside of the time because while cold is awesome, there's also a bunch of heat things that are really important too and there's also some nice spring 75-degree weather things that are also great.

Scott: I really think that we are connected to our environment and we need to use those signals more so than we just need cold, although if a friend of mine is throwing an ice bath, I'm like, "Awesome. I'm coming over and jump in." I often take opportunities that are available to me more so than creating them around me in a concept regimen with the exception of I do the Wim Hof protocols every single morning. I take a cold shower every single morning. I do the pushups and that whole thing because that really centers me and before I start anything.

Dave: Yeah. Having a daily practice is also powerful in its own right. When you're researching your book, Scott, who are the most memorable people that you train with? I mean you're basically growing superpowers because that's what I'll call it. Tell me like the two most like, "I can't believe I did this kind of things."

Scott: Well, I mean Wim Hof is the obvious.

Dave: Of course, yeah.

Scott: I hanged out with him for a long time and he is amazing. I love the guy. I think he's crazy. I don't think he's a prophet. I think he's a madman, but I think that he has opened up the door to a way of thinking about the body that no one else could have. I have respect to Wim.

Dave: Here's the deal just for people who are listening to this, the people who are most interesting are so far from average which is another word for normal. It's totally cool like, "That guy's nuts, but he did something special and we're going to learn from that." Wim is a little bit more than nuts in a good way. He's got some kind of a thing in there that has a spiritual vibe to it. He's not all in the same universe that you and I are in, Scott, but that's okay.

Scott: Yeah.

Dave: I don't want to say anything bad about Wim because he does not deserve any hits like that. It's not in my assessment of him.

Scott: Sure. I find myself pretty fair to Wim in the book.

Dave: Yeah, you are.

Scott: I see his positivity as so far outweighing his negative traits, but you always have to also remember that there's this balance. People who are on the extremes exist on this balance.

Dave: You're also a trained journalist, which means you will never write a one-sided piece. You always say, even if you're like, "This is the most amazing thing ever," there will be a paragraph in there, "And by the way, Quackwatch as he's a bad man," or whatever.

Scott: Yeah. I don't want to go after Quackwatch, but yes, in general-

Dave: No, I'm just saying like as a source or whatever, but you got to find a counter source. I'm just saying because all the people that I know and respect the most have been targeted by Quackwatch, so I always look at that. They're my favorite like counterpoints. When I finally got mentioned from the Quackwatch guys, I was like, "Career goal met. That was something I wanted in my whole life, but I'm not a doctor, so I don't really qualify, but they got me anyway." I'm like, "Thank you guys." Anyway, sorry to go off in a tangent there, but the point is you always find a counterpoint because you're a trained skeptic, and to write a balanced piece, you must. Even when you're writing about Wim, generally you're pretty positive, but you dig for the holes.

Scott: Well, also I experienced the holes. I write about my experience. I don't do the whole fair and balance thing where you go and source to counteract on other source. The way I view it is that if I see something, I write my honest reporting of that. I try not to spin it. It's always going to be a spin, but if I see something like Wim for instance, we walked up Mount Kilimanjaro, he did something that could have gotten all killed and there was a mutiny and 25 of the people left the group and I followed him to the top of the mountain. That's the end of What Doesn't Kill Us and I'm following up. Everyone has left. It's just Wim and I and one other dude. We're going up the mountain together and I'm following him probably 75% because I'm a journalist and I'm like, "Well, I've got to go and see the end of the story," and the other 25% is like, "Well, okay, but I can do this."

Scott: The end of the book is actually quite interesting and so I'm just going to give it away to everyone who's listening too as a bonus, but you're going to love the journey anyway which is that anyone's journey with personal health, with improving themselves is not about another person. It's about their own journey and I've realized at some point, when I see Wim, he makes a trip at somebody. He sort of stumbles a little bit and then catches himself. I'm like, "You're not god. You're not a prophet. You're not anything like that. You're just a crazy dude who has this real cool idea and I'm a crazy dude who also has this idea."

Scott: Then I followed him up and I realized, "This is my journey. This is my journey. This is not just Wim's journey." That is very liberating to be able to hold two concepts at the same time, 1) Wim is a prophet and, 2) Wim is a madman and say, "It's all right because we're all like that. We're all flawed individuals in a million different ways, but we can find the good. We can accentuate the good and that's the dream." To answer the other half of your question, who are the other people I met who are amazing? I hanged out with Laird Hamilton, the legendary surfer. He did his XPT training. I saw a very early stage of it. He's a very inspiring, very intense guy and mad respect to him.

Scott: Brian Mackenzie, the founder of High-Intensity Interval-Training. He's one of the first HIIT guys out there, really, really startling intellect on him and determination. I'm really proud to have been friends with him even after the book has come out. That's really cool. Then another fun thing that I did which ties into some of the ways to develop superpowers is I did this like race called the Tough Guy which is supposedly the coldest obstacle course race in England and they hold it traditionally on the coldest day of the year. People show up in their wetsuits and it's like the normal obstacle course races. There's mud and nets and all that shit stuff and I lined up of course in my bathing suit. I wished I'd had a Speedo, but I couldn't find an American flag Speedo, so I was just on normal old bathing suit and the gun goes off and everyone is like shivering and I'm shivering and I'm like, "Why am I doing this? Then we go.

Dave: You intimidated everybody. That was wild. That's badass. Anyway keep going.

Scott: I'm a terrible runner. Incidentally the guy who won the race did it like an hour and a half. I took it three and a half hour to finish this race, but it's freezing. People are going to this hypothermia tent and I'm running with this like huge grin on my face, basically naked and enjoying every last minute. Here's the trick that I used which is at first I felt that cold on my skin and I was like, "It's there. It's called. That sensation is cold," but I told myself, "No, that sensation is not just cold. It's the sensation of the joy that I have of doing this crazy race, of like jumping over things," because I like jumping over things. I love going under things. I like having those challenges.

Scott: All of a sudden what happened is that it transformed into the physical experience of joy for me and heat and I wasn't cold at all on this trip where other people were having a really miserable time because they think of themselves as fighting this environment and I'm like, "No, I'm just in it, man." I gave up any hope of winning because I never really had one and then I was just there for the pure experience of it and then because it wasn't a lethal environment, we're not on the moon or anything like that, I'm not in ice

water for that whole time, it just became this really fun meditation and that's one of the things that I think that is achievable for anyone who does these methods.

Scott: You don't have to climb up Mount Kilimanjaro in superfast time, in a super skimpy outfit. You can do these things and use these mental switches to say, "Look, I have these sensations coming and I'm going to create a new association for that." In many cases, that can also build resilience.

Dave: I think resilience is a keyword there and one of the things that I found in the course of doing neurofeedback to find out what is really going on in my brain is what you just described their own struggle. When you stop struggling, all the efforts, the electrons that went into the struggle, they got to go somewhere and they could go in towards keeping you warm, but that whole, "I'm fighting against something," it doesn't work very well because if you fight against something, it usually gets stronger and you get weaker. If you said you're experiencing it, you're not struggling. You're performing and you might fail, but at least you're doing it. It's a sense of liberation there and I think that's an element to a lot of those stuff anywhere, you stop resisting the painful stop.

Dave: I've noticed like when I'm doing really intense like Rolfing or when I'm getting 100 injections of stem cells or have my bone marrow taken out for stem cells without anesthesia and it's like, you can be, "Ahhh!" and fight it or you could just feel like, "I'm going to welcome this because this is part of the experience and it doesn't hurt. I mean it hurt some, but it's like 5% as much as it would have been." There's some switch. You write something called The Wedge. How is The Wedge tied to that switch we're talking about?

Scott: The Wedge is incidentally the title of my next book which should be coming out in the future, whenever that is. I just finished the manuscript and we're going through those process, but The Wedge is really what I see as the heart of the Wim Hof Method and the heart of a lot of training out there which is that you have a sensation coming in from the environment and that thing is a subjective truth, the blizzard. The blizzard is happening and that hits your skin initially or your sensory system in some way and enters your body and now in that sensory system, your senses frame what's coming into your body in some way. Just because the neurons, there's electrical impulse that moves through, and if you talk about pain like someone stab you in your bone for the bone marrow, where does that pain occur?

Scott: Does that pain occur in your bone or does that pain occur in your brain? The truth is the pain occurs in your brain. It has to actually travel from one location to another to actually be anything. Sensation comes in and it's actually more or less meaningless. It doesn't have a lot of intrinsic value. It enters to the lowest part of your brainstem in most pathways and any sensation will immediately trigger a homeostatic response. It might change your heart rate. It might your change your thermoregulation. It might change some immuno-pathways and that's just like hardwired into like what you are, but still doesn't have any meaning. It's just like, this is what your brain did automatically, lowest level of the brainstem.

Scott: It goes in from there and then there's this really fascinating thing that occurs where sensation goes from meaningless to having to find meaning. It has to look for meaning somehow and the way we process anything is that we in, what do you call it, the effect of nervous system by and large, we bond our emotional state at the time of sensation to the sensation and it creates roughly a symbol like a little package and that package, next time you experience that same symbol or that same sensation, instead of like packaging your current emotional state, it reaches back to that initial emotional state and just relives it. Anytime you sense anything, you're actually reliving your past.

Dave: Exactly.

Scott: Now, when you realized that that's the way we work, you can start thinking, "Okay, if I have a positive emotional [inaudible 00:43:45]..." I didn't invent this by anyway. We've been talking about this for a thousand of years, but if I have a positive spin on something as it's coming, I'm going to have future better associations with that thing and better association now and also better outcomes as long as you don't go down the insanity route, just like flip over to the next end.

Dave: I found and this is weird, I just want your take on it because you've dug in on this stuff. Given that I get really relaxed around any of these things, like I'll find myself going to sleep during Rolfing. If you got Rolfing, they're like reaching through your muscles and the very experience Rolfers I've worked with it, I've never seen anything like this, like you just go to sleep and wake up an hour later and I could do anything I want. Like I don't know. It just happens, but I found my heart rate was dropping too low during some of these procedures, so I started listening to like Jane's Addiction or Rage Against The Machine or something like that. I actually turn that on headphones to raise my heart rate so that I just don't go to sleep.

Scott: Interesting.

Dave: What's your take on that?

Scott: I mean you're creating new symbols. Everything comes down to this neural grammar that we have and you have probably gotten to a point in your head where you have a lot of control on your body. That stimulus is coming and you have a lot of control and you're like, "I'm going to fully parasympathetic."

Dave: Yeah, I'll just shut that down.

Scott: Instead of going from fight or flight, I'm going to rest and digest. Because it's happening in your peripheral nervous system, it's happening in your brain where the actual pain occurs. You've been able to rewire yourself. You're a hacker and no shock there. You've been able to rewire this and then maybe you pushed it too far.

Dave: I think I did. I get a little bit angry when I'm going to do something, but I don't really walk in anger. That's not an emotion that I usually sit with, and if I do, I'm usually like, "I don't

want to carry it down around. It's too expensive. I'll get rid of that." Maybe I just need to be a little pissed off with the doctor.

Scott: But here's the interesting thing about any sort of interference with the system is that our system craves homeostasis. It craves the place to be and it's going to find it naturally because of the environmental stimulus you have. We have the power because we're humans because we're smart to use interventions. It's something I call The Wedge. You can use other terminology for this as well. You can use interventions to mess with that to become to a new level of homeostasis in other environment. You can train yourself to that, but it doesn't always mean you're smarter than your body.

Scott: What we're trying to do is expand our ... If you think about a graph, and we have this in the center of the graph and there's two lines on either side, that's the zero point and that's like absolute safety and if we move ourselves towards danger on either side, there's going to be an absolute point where it's death. Our nervous system, when we get into that stimulus which causes death eventually, it's eventually going to say, "Warning, warning, warning. Watch out," and resilience is getting as close to that death stimulus without causing damage and our body is going to alert ourselves usually very conservatively, "Oh, the temperature in the room is 62 degrees and I am going to die."

Scott: You're not, but your body is going to signal this to you early, but then you can modulate and find that, "I'm working in this margin until I can get to a place," but at the end of day, I think the battle of man versus nature, nature wins, every time, hands down.

Dave: Absolutely. I'm with you there into the day and that's nature will listen to this environment and I'm pretty sure we can do some pretty things in the environment that our bodies didn't expect, but at the end of the day, our body is going to listen more to nature than to you. All right, I swear I could do like three episodes because we didn't talk about very much The Enlightenment Trap about how meditation can make you go nuts, which is a real true thing and we didn't talk about the five years you spent figuring out where you can go to buy organs, bones and blood and things like that. You go deep and you're a well-storied and a well-spoken journalist. It's really cool. I'm a fan of your work, Scott.

Scott: Thanks.

Dave: We didn't go into that stuff, but I do want to ask you something because you said you just finished your manuscript of The Wedge.

Scott: I did.

Dave: I hopefully tonight finishing the final, final edits on my next book also for submission because my editor at Harper Wave is really calling me every five minutes, so I've got that done, but this is about going at anti-aging and my quest to live at least 180 and it's okay, I might die trying.

Scott: I mean likely you're going to die trying, but it's a great goal.

Dave: Worse I'll do is pursue the goal and live better along the way for doing it, so I feel like there isn't big downside there other than I'll be embarrassed after I'm dead. Oh, wait. I won't. You can't lose, but I honestly think it's an achievable goal or I wouldn't have said it. My question for you is how long do you want to live given what you know about organ trafficking and enlightenment and freezing your ass off? How long?

Scott: Well, this is the ... I was hoping you would ask this question, Dave. Awesome. I'm going to tell because I think that death is our greatest teacher in the world.

Dave: Oh, yeah.

Scott: The fact that we will cease, it creates ... It's going to happen guys.

Dave: Like end of the universe is going to happen. Like we're all going to die. I'm with you there.

Scott: At some point, no matter what, how it happens, I can guarantee you that death comes ... If life was a song, the song is going to end in a minor key. Death is going to suck. I think we can take this as given. It's going to suck.

Dave: Haven't you seen someone who's like died surrounded by friends at peace, like really-

Scott: It's still going to suck.

Dave: You think? I don't know. Talk to some hospice workers, there's the occasional, the one in 10,000 persons who's like, "I'm dying at peace." I've seen that.

Scott: Okay, maybe there's this, but let's just not take that as a given.

Dave: It's very likely to suck. I'll give you that.

Scott: Very likely to suck with a statistical error that proves the point.

Dave: Okay, fully own that.

Scott: I think that this is actually, if we really inhibit this and I've seen a fair amount of death in my [inaudible 00:50:24], I've seen friends die. I've been in these places and I think when this happens ... Americans are very, very hesitant about death. We don't want to talk about it. We don't want to think about it. When it happens, it's like no one wants to talk to you about it happening because it happened to that person. It's like contagious. Really messed up around death. I think that really and I saw this internet meme the other day and I'm going to just read it because it was good meme which is that, "The goal of life is to die young as late as possible."

Dave: Yes.

Scott: I want to live my life to the absolute maximum fullest extent as I can but the goal is not to fully fund my retirement account so that I can die comfortably in my bed at a late age. Like, no. The goal is not death and the unspoken narrative of our society is that if we want to become comfortable up until end, my feeling is no. We want to have as many experiences as we can now, we want to take risks even if those risks fail, even if some of those risks could kill us.

Dave: Oh, yeah.

Scott: We still want to take those risks because that is our imperative for being alive in the first place because you're still going to go out in a minor key, like that's going to happen. In terms of my absolute age, honestly if I die tomorrow which I hope I don't, I hope I last a long time, I already feel like my life has been useful. I will feel like I've already done things that are great. I still feel like I hope I have many more chapters to come, but I think when there's no absolute number, I feel like you have to be good with death right now if you want to live a full life.

Dave: You know what you sound like? You sound like a guy who lived in India for six years.

Scott: But I wasn't on the spiritual path. I hanged out in Tibet. I did. I hanged out in North India, but I was there because I was interested in the chaos of India. It's so fascinating. There is a spiritual message in all of these and that's why we push ourselves. That's why you do biohacking. It's not because the biohacking is the goal. The goal is because you want to live an interesting and fun life.

Dave: Yeah, it's the experience like, "I wonder if that's possible. Like let's find out." If it's not possible or I just don't know how to do, okay, but there's joy in discovery. It's the seeking of joy. I'm with you there. I admire what you're saying which is that I'd rather not do it, but you sound like you're at peace if it happens and I'm the same way. There's a contingent of the radical anti-aging crowd. I mean many of friends who are, "Death is important," and I like to think my devout atheist grandfather and he was on his deathbed and he looked at my dad and he said, "You know, now that I've lived my whole life and I've experienced all these things and I'm really starting to think more about this whole afterlife, religious thing," he says to my dad.

Dave: My dad's like, "Oh, my god, he's going to convert." He goes, "And I'm more convinced than never that it's all bullshit!" It was just [inaudible 00:53:34] kind of joke, but then when he was actually in his last few minutes, he's like, "You know what? I'm a scientist, PhD, chemist, wrote for Encyclopedia Britannica and storied career," and he said, "You know? I've never done this before, so I'm going to be a curious scientist. I'm going to be curious about death."

Dave: He did die. I don't know if he was fully at peace, but he died with his family all around him of his own choice. He said, "You know? I don't want to live on dialysis for the rest of my life because if I fight really hard, I might be well enough to watch golf." He's like, "I'm done. I'm just only drinking wine, instead of water. You guys should all come around." I'm like, "Okay, that was a pretty good death." I got to say.

Dave: I just remember that, "I'm going to be curious about it," and that's the mindset that I'm open to rather than fear because fear is the mind killer, at least that was one of the laws in Game Changers.

Scott: Is it Dune?

Dave: It is from Dune. I stole it straight up from Frank Herbert, I did, but it's like you're not going to live well, now and you take away from all these things that you just value there and by putting this conversation about how long you want to live, I want people to learn or to start thinking, "What does all this look like and what does death look like?" Maybe it's different than I thought and just to bring some awareness because I want a lot of really smart highly energetic old people to learn from in my life because they teach me a lot.

Scott: Are you a fan of Sandman series by Neil Gaiman?

Dave: Absolutely.

Scott: He has got this great line because of the characters is Death and she's like a punk rock girl and she has this line which is, "All people live exactly the same amount of time, exactly one life." I was like, "Whoa, you hit some deep spots," but it's so true. We've got a certain amount of time on earth and we use it as best as we can, so if we have a lot of old people who are living really long lives, "Hey, that's fantastic." It doesn't mean Kurt Cobain didn't live a great life either.

Dave: Yeah.

Scott: He died at 27. I don't know if I would have wanted to be Kurt Cobain, but he did a lot of cool stuff. The goal as you said it's joy. It's finding abilities and doing things and living the best life you can in the time that we have. Your friends who are like immortalists, these people who want to live until the very end of the heat death of the universe or whatever it is their goal is, like I find that a little pathological. I find that a little dangerous because what will happen is they won't face the things that every life form has in common, like every single cell creature all the way up to the most complex animals.

Scott: We all share the fact that we're going to die and that has been the signal, that is actually the signal that controls your nervous system. That's the fight or flight response. That's the rest and digest response. Everything is responding to death and we need to not race towards it, but we need to be like, "It's there."

Dave: If you want to extend us back to some of your other work, Scott, death is a part of the environment as it exists. If you remove death from the environment, we have no idea what our biology will do. If you're actually a mortal as in a truck could hit it and you won't ... You might turn out to be like some big blob of cells. I mean god knows. It's an interesting thought experiment. I have no idea. It actually might be interesting to find out, but I don't think I want to be truly immortal because we've all read the curse of the

immortal person, "Could someone kill me please? I'm so tired of being alive. I've done everything. I'm bored." If that ever happens, my real goal is I'd like to die at a time and by a method of my choosing, and at that point, I mean who can complain? Yeah, the end of death itself probably isn't good for human biology, but who knows? No one has ever tried it.

Scott: Yeah. No, they've tried. They've all failed.

Dave: Now, we know.

Scott: Now, we know. Fair enough.

Dave: All right, Scott. This has been a fascinating interview. Your new book that is not out yet is called *The Wedge*, but *What Doesn't Kill Us* that you've written is a fascinating read for people who are listening who are fans of the interviews with Wim Hof or some of the other things. You've gone out and you've done some of these things that I call biohacking that has given you the superpowers and you write about him and you did as a non-pro athlete, as a journalist, a curious guy who is actually skeptical, so kudos for you work. I think you do a really good job communicating. I appreciate your book. I appreciate your articles and I appreciate you being on the show.

Scott: Awesome! Thanks Dave. I really have enjoyed being here.

Dave: You had a link. It was scottcarney.com/audible. People will get some kind of audiobook?

Scott: Here's the thing, let's steal money from Jeff Bezos together.

Dave: All right, it's a deal.

Scott: They gave me this affiliate link where if you click on it, right now it's audible.com/whatdoesntkillus, but I'm going to set up scottcarney.com/audible and if you click it, you get 30 days of audible for free which is cool and I get \$75 and that means we're stealing that money from Jeff Bezos together.

Dave: Sweet!

Scott: Alternate you can just go to audible or wherever, download it and that's fine too or you can get from the library and read the book.

Dave: Just to be clear, guys, I get nothing out of this deal. I just like Scott's books. This is just a [inaudible 00:58:56] like he does good stuff. If you're going to get it anyway, you might as well go to scottcarney.com/audible.

Scott: That's right. All the social media places were all there. Everyone is. You know where to find us in virtual space.

Dave: C-A-R-N-E-Y is how to spell Carney. All right, Scott, thank you for an excellent interview and your curiosity and your willingness to go to the ends of the earth to figure out cool stuff. I'm a fan.

Scott: Great! Let's do it again sometime. Thanks.

Dave: Count on it.