

Samuel Veissière:

What is very interesting to me about Coronavirus is that it's basically a moral panic. It's teaching me a whole bunch of things that I already knew, and more about, for example, how the human mind is really, really, really bad at estimating the statistical probabilities of anything, and how human minds have evolved to specific cravings for different kinds of information, in particular, anything that conveys information about potential threats or dangers. Right?

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 your cell's plasma membrane has the natural ability to repair itself whenever a bacteria attacks it. This is from a Canadian research team that figured out that cells that are attacked by microbes have the ability to self-repair. They found that microbes poke holes in the external layers of cells, cells scramble their membrane, which is basically their fat lipid layer, into a more liquid form. In other words, it's like if someone poked a hole in cement, the cement suddenly became liquid, and then sealed off the hole again, which is kind of cool.

Dave:

What's interesting in this new research is that researchers found something called TMEM16F that's active in the membrane repair process, and it turns out we may be able to turn that on. So, as we go forward, we can take advantage of that repair me signal, and we can cause your cells to go liquid for a minute and then go solid again. So, if there is damage, we'll just be able to snap our fingers, and that can be useful for, I don't know, infectious diseases, and it could be useful for all sorts of things. In fact, the ability to repair ourselves, maybe it goes even deeper than just ourselves. Maybe we can repair our thought processes as well.

Dave:

Now, you may have been asking yourself, "I wonder what Dave's foreshadowing here. Fixing belief systems, or is he going to talk about that Coronavirus, COVID-19. I like the name corona, by the way.

Samuel Veissière:

For sure.

Dave:

Now, I'm sure there's a beer company who hates me for saying that. Now, here's what I want to cover on today's podcast, which is a little bit different. It's very topical, and it's Coronavirus. I've brought in an expert who's an assistant professor of psychiatry and co-director of the culture, mind and brain program at McGill in Montreal, Canada. He spent his academic career looking at social and evolutionary dimensions of cognition of mental health and just human wellbeing. In other words, he studies how we think about stuff. He's not a medical doctor, but he knows some things about what Coronavirus is doing to us that you probably haven't heard, and I think you're going to be excited to hear this. This guy, from my perspective as a bio hacker and someone who's read stupid amounts of science and written a few

science books, he's onto something here. I'm talking about a guy named... I'm putting a pause in here because I'm going to say your name wrong, so I'm looking at the notes. No offense, my friend.

Samuel Veissière:

No worries.

Dave:

About a guy named Samuel Veissière. Samuel is... well, he's receiving more than his fair share of tweets, because he wrote a profoundly good article in Psychology Today called The Coronavirus is Much Worse Than You Think. Samuel, welcome to the show.

Samuel Veissière:

It's a pleasure.

Dave:

I will admit I had not heard of your work until on my newsfeed I saw your piece, and the best clickbait title ever. I clicked on it and read, "Wait a minute, this isn't one of those people saying, "Oh my god, it's the end of the world." You actually said, "Hey, let's take a look at how human behavior changes in response to inputs to our environment." That's to me kind of crack, because the definition of biohacking is you change the environment around you and inside of you so they have full control of your own biology, including your thoughts. What did you notice about how humans are responding to Coronavirus that didn't pass your psychologist or psychiatry mindset?

Samuel Veissière:

Well, let me start off by saying that I will confess to having experimented with a bit of a clickbait title, and if anything, when I see the viral response to my article, this sort of proves the point that I was trying to make, which is that the virus is infecting our minds but not our bodies.

Dave:

Technically, Coronavirus is infecting some cells in our bodies, but it's infected a lot more people's minds than it has their actual bodies

Samuel Veissière:

For sure, for sure.

Dave:

Does this tie back... this is a great question, but you've actually done work in very interesting populations, including Tibetan Buddhist monks in the Himalayas, people who conjure auditory hallucinations on purpose and things like that. Is this one of those Tibetan Buddhist sort of perspectives, it's infected our mind, or what do you mean by that?

Samuel Veissière:

No, for sure. If I've learned something from Buddhism or also from stoicism, it's that when you examine human evolution and how humans respond to stressors in the environment, it's not so much events in themselves that affect people, but the meaning that people assign to events, the way in which events

are cognized, anticipated, and how that, in turn, affects the body. So, what is very interesting to me about Coronavirus is that it's basically a moral panic. It's teaching me a whole bunch of things that I already knew, and more, for example, about how the human mind is really, really, really bad at estimating the statistical probabilities of anything and how human minds have evolved to specific cravings for different kinds of information, in particular, anything that conveys information about potential threats or danger. Right?

Dave:

What is a moral panic? It's actually those words in combination have a specific definition. What is it and what causes it?

Samuel Veissière:

It's a long story, and I'm glad we have time to have a long conversation, because as we will see, the evolution of pathogens have a lot to do with the evolution of human morality and human psychology. But a moral panic, simply put, is when people freak out and act irrationally and do really stupid things based on ideas about things, usually risks that are not actually the case, that are not actually there.

Dave:

Oh, so you mean like elections?

Samuel Veissière:

Something like that, yes.

Dave:

Okay, now I've pissed off everyone else. Sorry, guys.

Samuel Veissière:

No, but we see a lot of this evolved psychology that again has a lot to do with pathogens in how people reason about political processes, political enemies and the culture wars. It's all really linked.

Dave:

Okay. Well, let's go back in time 10,000 years or 50,000 years, however long you want to go, and talk about how pathogens have changed and perhaps causes human morality. What's your theory there?

Samuel Veissière:

Well, it's not just my theory, there are people like Jonathan Haidt and others who have written about this. What's interesting about the kinds of animal borne pathogens that have been really lethal in human history, so things like smallpox or the bubonic plague or even the common cold, is that they're very, very evolutionarily recent. So, it may be that a lot of our psychology evolved much more recently than we thought, because you've heard the stories where hunter gatherers ensued, and a lot of our psychology evolved in an environment that changed rapidly. So, on this view, we have an obsession with dangers and threats and poison, that when our environments become a little too safe, like now, they go in overdrive and then people get overly anxious. Right? Because it's adaptive to worry about potential dangers.

Samuel Veissière:

But what's interesting is that in the place to have seen in the paleolithic, so from 2 million years ago up to about 12,000 years ago, there were no pathogens, no animal borne pathogens like the ones that are killing us now. Humans mostly died of accidents, they died of infection, they died of parasitic infection, so humans did evolve a strong disgust response to identify things that have the high likelihood of being infectious. So, that's evolutionarily old.

Dave:

We're freaked out by things that might get us sick.

Samuel Veissière:

Right.

Dave:

Right.

Samuel Veissière:

This is why we have evolved a disgust response and we get freaked out by things, like for example rats or mice or bugs that might get us sick, and these are automatically inbuilt biases, but that again, probably evolved more recently than we thought. So, my hunch and that of others, is that this is a sort of a late Neolithic kind of story which is when with the domestication of animals, and grains in particular, and all kinds of species converging together and really in places of really poor sanitation, this is when all these diseases evolved.

Dave:

So, it's gluten's fault.

Samuel Veissière:

Well, grain, I would say, for sure.

Dave:

I was kidding. Everyone blames gluten.

Samuel Veissière:

Yeah, but for sure grain is a big part of this story, yeah.

Dave:

So, grain probably made our immune systems weaker, and if you're one of those eat whole grains and live forever people, you're wrong. So, now that we've got that off the table, it was also though associated with poor nutrition standards, as well as living in crowded cities without sure like sewage, and much less clean water and all of that. So, it was cramped people in combination with bad nutrients equals massive plagues, and so people developed this because the people who had that, they survived and maybe procreated, the people who didn't have it, well, they didn't reproduce because they all died, and that's kind of where we're going.

Samuel Veissière:

Yeah, for sure. Agriculture started slowly about 12,000 years ago, and for the first 5,000 years, humans slowly move into these really dense spaces and they start becoming more dependent on these crops that are kind of making them sick. But anyway, they're doing that, but for the first 5,000 years, the human population basically doubles or a little less than that. So, this is a little inconsistent with what you'd expect in terms of how much people were fed. So, what we're beginning to understand now is that there were a lot of epidemics in the early paleolithic, so basically a huge segment of the human population died of diseases, and it took a long time to build immunity.

Samuel Veissière:

But what's interesting from an anthropological perspective is that probably a lot of fear of strangers and a lot of xenophobia evolved at those times because strangers from other towns and other cities probably carried diseases for which people in different parts did not have immunity. So, in the late Neolithic and Mesopotamia or in Egypt, for example, it was common for strangers who would arrive at a settlement to be placed in quarantine until they could be shown to be disease free, because other humans were basically perceived as vermin. This is something that we find a lot in every day common moral language. So, when people get outraged by something, they talk about being grossed out. They do talk about strangers as vermin, right? Or in politics they talk about sick people infecting the minds of the youth, and so we have all these pathogen kind of metaphors to reflect how our psychology evolved.

Dave:

Are you saying then that some of the many multifaceted parts of racism may just come from that fear of other because other may have bacteria that's foreign to us?

Samuel Veissière:

Yes, absolutely.

Dave:

Okay.

Samuel Veissière:

Yeah. Yeah.

Dave:

That's pretty scary, but it makes sense just from an evolutionary perspective.

Samuel Veissière:

Yeah. If you look at the psychology of moral disgust or the psychology of morality, disgust sensitivity is a psychological trait like conscientiousness or openness to experience or neuroticism, some people are higher than others in that trait. Now, people who are highly germophobic tend to be more morally rigid, more ideologically rigid, and just less open to new ideas.

Dave:

Wait, isn't the president of the United States well known for being a germophobe?

Samuel Veissière:

Well, there you go.

Dave:

Are you taking shots at Trump?

Samuel Veissière:

There you go.

Dave:

There you go. You keep getting hate on Twitter, man. I keep telling you. I totally put words in your mouth there. But he is a well-known germophobe. How good is your data though that says that people who have an extra response to this, like an extra disgust response for germs and all that, that they're more rigid? Is that based on solid research?

Samuel Veissière:

Yeah, yeah, yeah. It's very well documented. Jonathan Haidt in his book *The Righteous Mind* talks about that, and there's been more and more research coming out, including more exciting stuff on not just individual differences, but cross cultural and historical differences. There's this construct in anthropology to typologize cultures in terms of loose and tight cultures. Tight culture tend to have really rigid social norms, sort of a conservative mindset, not very open to innovation. Those cultures, well, tend to have evolved in places that had a much higher pathogen prevalence up until about 1500 AD, which is kind of the cutoff for these moral values to be deeply instilled. Loose cultures, on the other hand, value individualism and innovation a lot more, and they just did not have as many pathogens.

Dave:

Wow, so you can draw a direct map between pathogen burden, which by the way, the pathogen burden is a direct reflection of nutritional status, because people with proper nutrition and enough food typically don't get sick as much, even if pathogens are there. That's well understood. So, part of it is economics, right? And part of it is basically the pathogens themselves. So, you're saying if you have bad economics and bad pathogens at the same time, you're going to have a very strict society. If you have bad pathogens and adequate nutrition and warm shelter for all, you might be in the middle of the road. If you're in the other ones, low pathogen and plenty of food and shelter for everyone, you're going to be the loosest culture because you just have more resources. Is that a good map?

Samuel Veissière:

Yeah, that's a pretty good way to put it. I think the key point, which I'm sure you can understand already, is agriculture. It's mostly those exclusively agrarian societies that required a lot of coordination for hard labor, planning for the risk of famine and so forth, that demanded really tight cultures and even tight gender role division. We'll get back to that in a minute. Whereas, so, for example, hunter gatherer cultures tend to be much looser than agrarian societies. Again, post-industrial societies with a highly diversified economy and relatively ecologically and neurologically safe environments also tend to be looser.

Dave:

You're making me feel a little bit judged here, given that I'm a farmer and a rancher here up in Vancouver Island. I mean, I don't need to have-

Samuel Veissière:

But you're also a paleo fan, right?

Dave:

I kind of wrote the Bulletproof Diet. But I'm kidding, I am pretty progressive. But I do see your point, and how that shaped so much of society because of very fundamental external variables. A point that shows up again and again in my books is that, look, a lot of what we're doing at a cellular level, at a personality level, it doesn't really matter. It's in response to our environment, and it's all to make us survive, even though it might have great emotion with it or it might suck or people might die as a result of it, it's kind of wired in so we can survive. We can overcome that if we choose to, but you have to be aware of it. You talked in your article about what happens if you've limited all the dangers. What happens to our threat detection mechanisms? Let's say the parts of us that worry about germs.

Samuel Veissière:

Yeah. That's really interesting even immunologically. When I think back to, say, my grandparent's generation who grew up in Europe, who they saw two world wars, famines, the entire world being destroyed, and every generation up until then had typically lived something like this. It's not like everyone had PTSD. Right? People recovered. People were able to thrive. One of the problems for sure is that we live in environments that are much, much too safe. So, as I'm sure you know, crime rates in North America are at a historical low, yet fear of crime is up. Or take another example, allergies are on the rise, like, say, peanut allergies.

Samuel Veissière:

To accommodate a very, very small statistical minority of fragile people, we have now radically restructured the environment of schools and public space, and people are growing up without the opportunity to encounter the immunological stressors that might make their system more resilient. We see this happening on multiple levels, from the psychological level to the emotional level to the social level, where we are no longer anti-fragile enough. We have become fragile. This is one of many reasons why people freak out when they hear about 3,000 people dying, mostly in China.

Dave:

It's interesting, because I've developed a sensitivity, in fact, I'm full on allergic to douchebags. I have yet to find an environment where they're willing to remove them for me for free. One perspective there is that I'm a victim of this horrible allergy to douchebags, or the other one is that I could toughen up and learn how to deal with critics and all that, which has certainly been part of my path. I learned at some point in my life that I do not have a right to not be offended.

Samuel Veissière:

Yeah. I think you're right there, because you're much, much better off encountering people who disagree with you, because they'll make you stronger and smarter and they might even teach you something about yourself or the world that you did not know. How else would you grow? Right?

Dave:

Or if they're wrong, they might convince you to go do something risky and then you'd get Coronavirus. Your article was straight up like, "Look, let's talk about just the basic facts." And again, these are not medical doctor facts, these are let's look at numbers. You were just going there. Primarily a bunch of people in China, and we say a bunch, it wasn't even that many people, but 3,000 people have passed away. We know a lot about... my headquarters is up in Seattle for Bulletproof, and two people have now been detected weeks and weeks apart who have the same strain, which means it's out in the public already. Other research reports have said most people who get it probably won't know or they'll have mild symptoms of cold or flu like anything else.

Samuel Veissière:

For sure, for sure.

Dave:

So, you look at that and then say, "Oh no, a group of people has died." They're all in a nursing home, where, as you said, they were unhealthy people, which is sad. They're also closely crowded. And no one wants anyone to die, at the same time, if you're looking at risk, people die of flu. In fact, hundreds of thousands of people die of flu all the time. But you look at... they just moved the Olympics at a cost of 20 million dollars over this. Why did we get there from something that is a smaller problem than... I'll say something that appear to be a smaller problem than, well, normal cold and flu season in aggregate? Is it because we think it might grow to be a really big problem?

Samuel Veissière:

Yeah. It's really quite strange. I like what you just pointed out. People who might die from the Coronavirus are already immuno compromised. They tend to be really old. And of course these deaths are tragic, these are people with loved ones and so forth, but we're talking about very small numbers. At the same time, if we're going to worry about preventable death, in the U.S alone, 600,000 people a year die of preventable cardiovascular diseases that are mostly related to their diet, related to their lifestyles, and people don't worry about that at all. People die of traffic accidents, of drowning at really high rates.

Samuel Veissière:

So, it is, even for me, a little strange that this would mobilize so much attention. One of the things that I think... well, there's a couple things that are going on. I talked about we live in worlds that are too safe, so we're not resilient enough. That is correct, to an extent, but we also live in times of increased uncertainty in other domains. People are lonely, for example. We live in very individualistic, very competitive societies. People are lonely, young people have to reinvent everything, from their dream goals to even their gender. It's really complicated, so this elicits a lot of anxiety. There's a lot of epidemic anxiety about climate change, not all of which, by the way, is warranted.

Samuel Veissière:

Again, I'm going to get a lot of hate for this, but it's also another kind of moral panic. So, in many ways, the condition will right for something to mobilize our attention. I would suspect though that in typically tight societies, like, say, India, Pakistan or maybe even China, where people are more used to actual dangers as well, I don't suspect that people there worry as much. Japan is a different ballgame because it's a very weird society that exhibits both tight and loose characteristics.

Dave:



I absolutely love Japan. I really appreciate Japanese society. Anyone who's spent a bunch of time in Japan, there's a very strong hundreds and hundreds of year obsession with cleanliness. Right?

Samuel Veissière:

Sure.

Dave:

And it's because your fruit can't be marred by the slightest thing and you bathe often. So, you could see why it would be a big problem in Japan because of that very specific cultural aspect. What about though... okay, I also spent 16 days in the Middle East recently. There was no discussion of this whatsoever, but to your point, there are parts of the world there where, look, people get pertussis or whooping cough.

Samuel Veissière:

Sure.

Dave:

If they get other diseases that happen, or malaria, not necessarily in the Middle East, but malaria is a big issue.

Samuel Veissière:

It is.

Dave:

And they're just so used to stuff that can kill you that they look at this and say, "Oh, it's another one of those. It's a bad virus. I've collected almost the whole set and I'm still alive." So, what are the conditions, other than the one, okay, we're germophobes and we're too safe in the U.S, but you talked in your article about some stuff that I thought was actually brilliant about the amplifying effects of some of the social things we have in place about what's causing giant companies to throw away hundreds of millions of dollars, at this point, well, 20 billion dollars on the Olympics, for one thing. What are the other things, aside from our inherent dislike of germs, that are causing the amplification at this point?

Samuel Veissière:

Yeah. Well, as you know, politicians and even big companies don't really drive the agenda and force people to do things. They respond to what people want, which is typically irrational things. Right? I think there are a couple of economic spheres where people are driving the agenda a little more. One of the things we have to talk about is the internet and how interconnected we are. So, if we think back to SARS or H1N1 that caused minor amounts of panic, that happened at a time where people were on average a little less interconnected. So, now we have this 24 hour news cycle with smart phones in our pockets, and we get alerts all the time. We have basically a lot of media companies that know how to exploit our mental vulnerabilities, so you must have heard if it bleeds, it leads. Right? This is something in the news cycle where anything that's about an outrage, a panic, a danger or something, will really colonize people's attention and will go viral. I don't know if you've noticed how even of late, our phones give us automatic weather alert updates. Everything is an alert. Everything is red.

Dave:

Not and my phone. I got no alerts turned on unless you know me and you text me.

Samuel Veissière:

Well, I don't even have a smartphone anymore. I just have a dumb phone. But I just noticed this on other people's phone or even on my iPad. The reason is also if we're clicking and connected all the time, then the media companies make money from the ad companies or whatever, so there are some people who are profiteering from this. Even I am going to confess, I've made money from Coronavirus just from the amount of clicks on my Psychology Today piece. I hope that doesn't make me a disgusting person.

Dave:

Well, you've triggered my disgust reflex, and I'm already thinking about some sort of over the top response, but I can't think of one. It's true. Just by talking about the Coronavirus, you also though, if you're providing useful information... oh, and at the end of the show, and probably after we get off the phone, I'm going to talk about some of the things I'm doing later this week because I'm so terrified of the Coronavirus, I'm flying... let's see, first to L.A, then to Utah for Harry Edelson's stem cell movie premier. Then I'm heading to Florida to share another podcast, and then I'm flying home, and I am entirely unconcerned about the Coronavirus.

Dave:

I'm going to tell people after the show, here's what I'm actually doing to make sure I stay resilient and to lower the risk of getting any airborne thing, which is in place any time you fly that much, so I'm doing nothing special is the short version of this. But let's go back to the moral epidemic thing. One thing you just mentioned there is we have this whole big machine around making us feel fear, fear, fear, because fear sells. We've got speed of information dissemination, and we've seen this in our politics, and it's much worse now than it was five years ago.

Samuel Veissière:

Oh, yeah.

Dave:

It's not because of politics, it's because emergent evolutionary behavior happens in tech companies, just like it does in our cells, in our immune systems, and parasites in the birds that carry the parasites. We all work to survive. So, the tech companies have figured out, fear, fear, fear, so they do it unconsciously. It's an algorithm.

Samuel Veissière:

Oh, yeah.

Dave:

Okay. So that's happening. There's some other people who have agendas, not agendas, big, evil, I'm in the basement of a pizza shop kind of conspiracy stuff, nothing like that. But people have agendas and outcomes that they're looking for that aren't in alignment with necessarily human survival or aren't in alignment with irrational response to what looks to be a nominal threat. By the way, that just pissed a lot of people off. Sorry guys, just look at the numbers. What are the parties, aside from tech companies,

who have skin in the game and behave differently than is rational, and why do they do that? What are the parties, aside from tech companies, who have skin in the game and behave differently than is rational, and why do they do that?

Samuel Veissière:

Well, I'm sure there are a lot of face mask companies right now and hand sanitizing companies that are making money from the hoarding panic, which I must say, and I do have compassion. I want people to get better, and I want to help deliver a message of reassurance. But as an anthropologist, I watch this epidemic as hoarding in stores and people buying face masks, and it makes me realize, face masks are about as effective as a tinfoil hat, basically, or an amulet. Actually, an amulet, as a ritual devised to prevent danger, probably has a higher placebo power than a face mask, because you will get your amulet in this really nice kind of ritual context where you get a lot of love and care from others.

Dave:

I'm so, so glad you said that. Yeah. I believe too, an amulet charged to protect you from any pandemic, even if it's not really a pandemic, is likely to have more affect than a face mask, because face masks are just not that effective. However, if you wanted to look cool, you could also wrap your head in toilet paper.

Samuel Veissière:

Right, right.

Dave:

And you might also feel good about that. But when you actually talk to the real scientists about how it's transmitted, it's from touching your face and sticking your fingers in your nose and all that. So, you talk though in your article, where I was going with my question was around politicians. Politicians, their primary goal is clearly they want to serve people in whatever model they believe will serve people, whether they're rigid or loose, but they have to stay in office. Right? So, if you're a king, okay, well then you want to make sure you have lots of guards and a good military, because you could stay as long as you want. But if you have to be elected again, what do you change in your behavior when you see something that might be a pandemic? When you see people starting to show aspects of a moral panic, when you see people getting grossed out about a threat like this. What's the rational actor who wants to evolve to protect their position in power? What do they do?

Samuel Veissière:

Yeah. People, as you know, mostly want for things to be predictable, and they want to be okay. As much as people like to think that they want to be in charge, typically people don't want to be in charge, they just want to bitch that they're not in charge, they look up to their leaders to do the job. So, for a politician who's trying to stay in office, a crisis, an increase in uncertainty, even a war, can be a blessing in disguise, or not even in disguise at all.

Samuel Veissière:

So, if a politician is somehow able to provide the illusion that they're in control, that things are going to be fine, that they're used their iron fist to fix the problem, people are going to feel reassured, just like children are reassured when their parents, I don't know, help them sort out their difficulties. So, it is, because I'm really not a conspiracy theory minded person at all, I'm more interested in how people think

in conspiracy terms, but yeah, it's important to realize that this might benefit some people in power, for sure. But it might also make some fragile power structures collapse.

Dave:

There's an interesting book called *Conspiracy* by Ryan Holiday, one of my fabulous authors, and a guy I've been honored to get to know and to interview on the show. I believe that we may actually have a gene in or, or maybe it's not a gene, but an evolved behavior trait where we are mystified by, fascinated by, and abhorrent of conspiracy. We look for, just like we look for germs where there may or may not be, and people love to say, "This must be a conspiracy. They're hiding something." But the computer science AI emergent behavior side of what I do, all this side of biology, look, it's going to look like a conspiracy, but what's happening is a bunch of tiny micro decisions that are made in pursuit of a specific goal. It makes it sure look like an invisible hand is guiding things.

Dave:

But the reality here is that, well, people have germaphobia, so we're primed for this. Germaphobia can spread much faster because of the internet, and politicians are likely to basically say, "I'm going to give into that. I'm going to actually do something, because people who do something get reelected." And what they do doesn't really have to match what works, it just has to have made people feel good. Right? Then companies, same thing. Let's see. We cut our travel budget a lot and we make our employees feel safe, which is good for employee retention. The executives, okay, I am an executive at a company like that. You know how much executives know about this? About nothing, unless they're large hospital organizations or epidemiologists or something like that.

Dave:

Seriously, we all sit in a room and say, "Okay," by the way, I didn't have to sit in a room at Bulletproof. I've hired a CEO, I have a good executive team, I'm chairman and founder. But I know because this is what happens in all the last times this stuff happened when I meet with the guy in the room making the call. We say, "What's going to make our employees feel safest? What's going to actually reduce risk?" Right? Because we don't want to take real risks, but we also don't want to scare our people. You don't want to scatter the herd. These are people you're responsible for them, you care for them, you want them to be happy and satisfied, you want their families to be safe.

Dave:

You go, "Well, I could tell them, "You know what? Do the job. You have the same risk as anyone before. Nothing has changed in the real world, even though you're losing it and your families all terrified." Or they could say, "You know what? That's too much stress. Let's do something that shows how much we care." Exactly what the politicians do, because you want to stay in power. The last thing I would ever do as a leader of a large group of people is say, "Look, I don't care about your feelings." Right?

Samuel Veissière:

Yeah. To me that's a really big philosophical question actually because pragmatically you have to meet people where they're at. You can't expect people to function at a higher level than how they actually function. But to what extent politically or organizationally do we want to cater to people's just irrationality? Because I like what you said about conspiracy theories. I think we as found that gene or that evolved trait, and it's basically overactive theory of mind. It's for the same reason that we evolved religions and we think that there are invisible spirits watching us. Humans are really bad about reasoning

about complex processes, and they assume that complex processes have a mind like a human, so this is why people say society doesn't want you to do that or Israel doesn't want you to do that.

Samuel Veissière:

We talk about complex processes as though they have simplistic dark intentions toward us. Like you said, that is not how emerging behavior works at all. We always create these really, really simplistic narratives about this intentional bad design to go after vulnerable people. So, soon you're probably going to start-

Dave:

By the way, there really are bad people out there, just so we're both good. There are people who do human slavery. Those are actually bad people. Right? But there's a lot of things where there isn't a dark human saying, "I'm planning to make it so that there can be, whatever, human slavery, because I want there to be." I don't think that's happening, but there is human slavery and there are bad humans who need to be stopped. Just so we're both really clear on it, it's not because someone wanted a whole bunch of them to exist. That's the step we're talking about. Right?

Samuel Veissière:

But the problem, and this is relevant to the question we're debating here, is that most acts of atrocity, like genocidal violence and those sort of things, are not really done by evil people. They're done by people who can self-deceive into thinking they're doing this for some kind of morally righteous act. There's a lot of psychological work on this where at some point people are able to dehumanize others and think, "I'm committing this great sacrifice to help my group," or something. So, I wish it were that simple that there's just a few psychopaths who can manipulate the masses but unfortunately it's the same drive for moral purity and the same avoidance of moral disgust that really quickly drives people to genocidal hatred. We're seeing it now even with the corona moral panic.

Dave:

You just said something that's profound, one of the most important lessons that people could learn out of 700 episodes of Bulletproof Radio. It's something that I first read about, it blew my mind when I was maybe a sophomore in college. I took a class on religion and violence. A lot of people don't know, I was one class away from a minor in religious studies. I was just blown away, because he said, "What do all these people who have led cults and blew things up, Hamas and Jim Jones and all this, and he says, "Does anyone have an idea? All these people are stupid. They clearly are off their rockers," and he just laughed at me and he said, "No, no. Those people are entirely rational. They just have different beliefs than you do."

Dave:

So, if the beliefs are there's a feeling, "Oh my god, this disgusting virus may kill me right now and look at this," and the feeling is panic and the feeling is virus is big and bad, your behavior will be rational, which is hoard everything, get xenophobic, put on masks, take a bath in hand sanitizer and never go anywhere. It's rational behavior because you believe the feeling and you took that on as being real instead of looking at the data. Then everything there that looks irrational isn't irrational. That's a bit point you made, and I want to double down on that and tell that story, because it's profound. Everyone, most people listening today, most of the people you think are stupid, they just believe different things than you. They're not actually stupid and irrational.

Samuel Veissière:

That's it. What's really tragic about evil is the banality of it or the altruism of it. Again, when you examine the discourse in practices of, for example, Nazi Germany or [Maoist 00:36:53] China, there's always this explicit literal effort to prevent some kind of social infection, to sanitize society, to remove impure, polluted elements. So, it's all piggybacking off of and hijacking our pathogen detection mechanisms that get applied to large classes of people that become dehumanized through discourse.

Dave:

You wrote about something that really, really made me laugh. You said that we're suffering from a corona cognitive epidemic.

Samuel Veissière:

For sure.

Dave:

A corona cognitive epidemic. No one's called CCE out before, although I think I might put that new condition in the title of this episode. What does that mean, the way you describe it?

Samuel Veissière:

It means that, almost literally, actually, the Coronavirus is exploiting our cognitive vulnerabilities, and in doing so, is actually doing the work of domestication, almost. When you think of evolution and emergent behavior and a numbers game, so species typically try to domesticate other species to suit their nutritional needs. Right? And their fitness and reproductive needs. So, one day to do that is typically one species controls another species' migration patterns and residence patterns, and then parks them in a place where they can be fed off of and then they can be selectively bred. Well, the Coronavirus is also doing this to us. Right? It's stopping our air traffic, it's shutting down borders and schools and soccer games and Olympics and crashing the stock market. But by exploiting cognitive vulnerabilities, not vulnerabilities in our lungs.

Dave:

So, instead of just invading and breaking down the communication or inflammatory pathway systems in the body or digesting cells the way normal pathogens would go about this, it's actually doing the same thing on a societal level, so it's breaking down the control systems, the supply chains and all of that.

Samuel Veissière:

For sure.

Dave:

Now, from an evolutionary perspective, what does a virus have to gain from doing that?

Samuel Veissière:

Well, I think, and this is again why corona is a really intelligent virus, simply it maximizes its reproductive fitness and it spreads and it keeps itself alive, and it creates ecological niche conditions in which it can continue to breed. So, I've used the analogy of Ebola, which is a very, very stupid virus, because it kills its

host and itself too quickly to spread. I think even with our really interconnected travel systems, we're never going to have an Ebola level global pandemic because these types of viruses die too quickly.

Samuel Veissière:

This is why these kinds of animal borne pathogens coming out of China in particular are really, really smart, and I predict that we're going to see more and more of these smart viruses as humans are also going to adapt. Right? Our immune system will become stronger, so next season, a lot of people will have developed immunity, so then another stronger virus will try to exploit the same kinds of [crosstalk 00:40:11].

Dave:

Well, it's usually every four to six years. I'm just remembering SARS, MERS, bird flu. Wasn't there another flu like that? Swine flu.

Samuel Veissière:

Yeah, the swine flu. I guess it depends.

Dave:

It's basically about every four years on average something comes out. Some of them companies make stupid amount of money, like when Tamiflu was required to be purchased by governments all over the planet by the WHO from a for-profit company.

Samuel Veissière:

Yes, I remember.

Dave:

Yeah. Stuff like that. So, sometimes there's money to be made, and I kind of feel like if we're redefining the definition of pandemic to make something that's a little bit maybe scary, maybe it could be an issue, to fan the flames and then sell a lot of drugs, that doesn't look very good. But in this case, I don't think that's what's going on, I just think it's a straight up moral panic. There isn't anyone trying to make money off this. Even the mask manufacturers, they're not. It's people who own masks in bulk who are jacking up the prices. And a lot of people don't know this, something that makes me actually really happy as a human being is that some of the factories that make iPhone components in China retooled overnight. They stopped making iPhones, so Apple's not so happy because they'll miss shipments, but they retooled the same factories that make our phones to make masks.

Dave:

But the fact that we have the ability as a species to go from making an iPhone to a mask in the same facility, that is a godlike power. I mean, it is so technically impressive, that I heard that, I'm like, "I'm floored." It's so cool. So, that said, maybe we should just buy less masks because we don't need them and keep buying iPhones, but we don't need those either.

Samuel Veissière:

But again, it's co-evolution at work. Right? It's really interesting the emerging behavior. A new selective pressure rises from a new pathogen that understands and exploits some vulnerabilities, but humans and

our markets fight back by devising other strategies that unfortunately benefit some people and not others. It is really fascinating, I agree.

Dave:

You talked in the article in Psychology Today about how... you said you can prepare to fight the yearly corona invasions to come by resisting your own neuroticism, your own prejudice, and your own irrationality. Easier to say, hard to do. What are some tangible things that we can do listening to this show? How do we do that?

Samuel Veissière:

Yeah. Let's talk about pragmatics again, and not being idealistic and just meeting people where they're at. We have to work with our limited human psychology and the really strong cognitive biases that are already in place. One of them, which we're seeing at play in the epidemic, is statistical base rate neglect. People are really, really bad at estimating the likelihood of anything. Our mind is really bad at really apprehending the facts that are in front of us, and it jumps to a few things that are highly relevant in terms of fitness. So, we have to use these very strong denial mechanisms by, for example, especially for people who might be a little neurotic, who might worry too much, I would say unplug. Don't read anything else about Coronavirus. Just stop reading it. If you're going to be on the internet, then go look at pictures of, I don't know, puppies or babies or something. Then do the normal things that humans-

Dave:

By the way, did you know that puppies can also get Coronavirus? There was the first case. I just wanted to offer that.

Samuel Veissière:

Poor guys.

Dave:

Sorry. I just totally undid all the good you just did there.

Samuel Veissière:

No, no, no, but what I was going to say is that because we know that the risk is actually very low, and I like what you said about what you're going to do when you go in an airplane, and you're going to do what you do all the time to prevent a slightly higher risk of getting sick on a plane.

Dave:

It's not even slightly. By the way, airplanes are crappy environments. You want to get sick, fly a lot. It's that straight forward. Or there are higher risks, so do the things that manage the risk, because you don't get to pick the pathogen you get exposed to on an airplane. You don't know who was on there before you. So, you manage a risk, and you know what? You're probably not going to get sick, and if you do, it probably won't matter.

Samuel Veissière:

No, I suppose you're right. I can't give this as official medical advice, this is just an N of one, this is me. But I fly a lot too, and I just never get sick. I have a really strong immune system. I don't know why. I



guess I'm lucky. I would like to suspect that the fact that I'm just not worrier perhaps helps. This much we know. We know that worrying excessively lowers our immune response, can trigger inflammation, can make us prone to slower rates of recovery from normal illness, and we know that there's a lot of everyday things that people can do that can strengthen their immune system. One of them is to spend time with loved ones, to participate in spiritual religious kind of ritual activity, do things where you get to practice just gratitude with others. I know it sounds cheesy, but these things we know.

Samuel Veissière:

Like many people I think in the cognitive science community, I came out of the rationalist atheist camp. I can't pronounce myself on whether or not there's a God, but I know as a cognitive scientist that people who participate in some kind of religious or spiritual life tend to live longer lives, tend not to get sick as much, to recover faster from illness. There's just a lot of small everyday things that I think any sort of healthy grandmother could tell you. You know? I think if you're worried, ask your grandmother, I would say, and she'll probably be able to give you better medical advice than what you'll read on the internet.

Dave:

So, turning down your anxiety might be one of the things to help.

Samuel Veissière:

Yeah, but also spending time with people, because there's a big loneliness epidemic in North America, in Japan, and loneliness has been shown to put people at a higher risk of cardiovascular diseases than even smoking 15 cigarettes a day. So, yeah, if you're going to just be alone worried and just scroll down a bottomless feed all day about the panicky things, and that's going to make you more unwell.

Dave:

So, if you smoke 15 cigarettes a day with a friend, they cancel each other out?

Samuel Veissière:

Maybe, maybe. We don't really know.

Dave:

#badatmath. All right. Samuel, thank you for being one of the few people to stand up and just say, "Look, we are making some seriously massive dysfunctional changes in response to this, much like the immune system may make inappropriate responses to any kind of an infection that don't serve the immune system. Some viruses like SARS and MERS, they benefit from something called an inflammatory cytokine storm. So, they cause information. They go, "Oh, I've got your information," and then they give you so much of it that they knock you down. I'm just sitting around me watching me, watching these, and every time a conference or something is canceled and there's a huge rush of people and the news reporting on it, but I've called hotel managers.

Dave:

They're like, "Actually, 99% of conferences aren't canceling. Then only once who cancel are the ones who have huge numbers of international attendees." They're canceling because people are worried about... not getting sick, they're worried about being quarantined and being fed garbage food and locked in a hospital for two weeks because they crossed a border. That's remarkable. That seems to be

what's really going on, and I would just encourage listeners, "Hey, chill out a little bit and take a step back and realize two percent of average people..." oh, except, wait, that's not right either, because we have no idea how many people are actually infected, but it's probably 10 times larger than we think, and there's emerging data that says that.

Dave:

So, if that's the case then, this is pretty much another cold or flu and nothing else. Wow, wouldn't that be surprising? Anyway, thank you for being the one who stood up and said, "I'm just going to have to say the dangerous of this isn't a response to it, not in the pathogen itself." You did us a service, even though your Twitter feed is all blown up by very, very angry people, as I'm sure mine will be. By the way, your Twitter is Samuel, and I'm just going to spell your last name, S-A-M-U-E-L, and then V-E-I-S-S-I-È-R-E. I'll put links in the show notes. I'll go on here on the episode, and Samuel, thank you for being on. I'll record my thoughts on what you can actually do if you want to reduce your risk of getting anything while you fly. So, I'm not telling you how you're going to block or stop or prevent or treat the Coronavirus, although I am going to tell you one way to treat it. No, I just undid what I said.; I am going to just go through some of the things that I would go on a travel that you probably don't know. Then, in closing, Samuel, I have a first class ticket, app expenses paid, to Wuhan.

Samuel Veissière:

Oh, do you? Nice. Yes, please. I would love to go. Absolutely.

Dave:

All right. I was hoping you would say that. And by the way, if you're not watching on YouTube, I will tell you, his eyes did not get big, he did not look like a horse that just got exposed to a lightning bolt or something. He just thought it was, "Oh, yeah. That sounds good."

Samuel Veissière:

Are you kidding me? You're going to turn down a free trip halfway around the world? I'll go.

Dave:

Have a wonderful day. Thanks for injecting a dose of rationality into a conversation that's become very, very hyper responsive and dysfunctional. Much appreciated.

Dave:

All right, so you're wondering what are the things that Dave actually does when he flies. Who doesn't get sick? First off, I have a giant amulet. No, actually, I don't have an amulet. What I do is I say, "All right, what can I do to my body so that I'll be more resilient for the environment I'm going to be in?" What's going on in airplanes is dry, crappy air. It's low in oxygen, it usually has toxins present. And you can say, "Yeah, toxins, schmoxins." Guys, I flew with a laboratory grade air meter and I looked at small particle, the .2 or .02 and smaller, and I looked at from Aldehyde and all that, I'll tell you, newer planes have much better air than older planes. But I think Delta oftentimes flies older planes, and this has to do with how they compress air.

Dave:

I also travel with a charcoal mask, not because the charcoal mask is going to pick up these particles that people breathe out, because those particles aren't really how you're going to get infected. You're going to get infected by most things, from touching the seats or the bathroom or the doorknobs, and then touching your eyes or your nose or your mouth. So, you want to avoid doing that. I'll talk about that in a second. But you can breathe stuff in. What happens with dry air like that is you end up getting tiny cracks in your sinuses. So, what would you do to make that not happen?

Dave:

You can get something called xylitol nasal spray. There's a couple different brands of it, X-Y-L-I-T-O-L. It's a common sugar alcohol that comes from birch trees, and we actually usually use it in some of the Bulletproof products because it's a good sweetener. It also has this neat effect. It keeps bacteria from adhering to surfaces. It gets bacteria drunk but not you. So, you can use that in your nasal spray. Now, you've got moisture, it always has saltwater in it too. In your nose you're less likely to get cracks. If you do, bacteria isn't going to stick to them. That would be a useful thing to do, so I'll do that before I fly.

Dave:

Also, let your mitochondria do some good work in a low oxygen environment. Don't eat sugar when you fly. In fact, it's better that you don't eat anything when you fly. Have a few ketones present. To do that, I'll have a Bulletproof Coffee before I fly, and if it's the time of day when I'm not going to have Bulletproof Coffee, I might eat a little bit of something before I fly, and I like to have a little bit of brain octane with that to bump my ketones. Dr. Veitch, who worked with Hans Krebs, just passed away. In fact, I think I was his last interview before he passed away, which is a great honor, and he said straight up, ketones protect you from inflammation and even some forms of radiation when you're flying.

Dave:

So, having a few ketones present is a good idea. I also take Keto Prime. It's a supplement that I formulated for Bulletproof that helps with mitochondrial function when you fly. I take [coinzibe 00:52:43] Q10 when I fly, I take vitamin C, N-acetyl cysteine. I take the Bulletproof glutathione when I fly. All of these are to protect my detox systems and to help my body be more resilient against all things, including just being tired, including against inflammation. I wear compression pants, and the other thing is inside that nasal spray, I will open the bottle up and I will put in either colloidal silver, I'll just add some. There's a brand called Argentine 23 that's pretty good, but any colloidal silver can work, or I'll put a drop of good old fashioned iodine in there.

Dave:

Now, when you do that and you spray it in your sinuses, what ends up happening is, I'm talking one drop of iodine in a whole bottle. You don't want to spray pure iodine in your sinuses. You could really harm yourself that way. But a very, very, very weak solution. What that's doing is it's killing the stuff in there so it's less likely to cause problems for you. I am a guy who had sinus infections or strep throat every single month for almost 15 years straight growing up. I almost had sinus surgery. I fixed my sinuses one week before I was going to go under the knife, and I've studied this a lot. That is a pretty powerful combination to do.

Dave:

So, you do that when you fly with those things in there, and surprisingly enough, the odds are very high that when you land you're going to feel good. That charcoal mask I travel with, it's because sometimes

when the airplanes are landing or taking off, they vent jet fuel, something called a blow back, into the cabin. That stuff will make you sick and give you brain fog. So, if I smell jet exhaust, I'm breathing through a mask. The rest of the time, I sit there, I drink a ton of water. I don't drink airplane water unless it's from a bottle, ideally the sparkling water. I'll tell you why in a second. Airplane water, especially the hot water, is from a tank that's never washed. If you increase your toxin load, you don't feel good. So, get good water on the airplane, drink tons of it, and don't drink the airplane hot water, even though that's kind of sad.

Dave:

From there, honestly, reducing your stress load when you fly. Don't read news outbreaks about the Coronavirus when you're in the air, listen using noise canceling headphones. I'm using my favorite ones right now. They're in ear noise canceling. I don't have a deal with these guys. They're BOSE. But the over ear ones are big and bulky and annoying. The ones that are inside your ear work better, in my opinion, and they're my daily use ones. They're comfortable, they fit, and most importantly, you can't hear anything on an airplane. I wear my glasses, the True Dark glasses. Yes, I started the company, yes, I make money if you buy them, and yes, they're different and better than blue blockers, and I love them. I wear those and usually a baseball hat.

Dave:

Now, I've blocked out junk light, I've done my best to deal with junk air, and I've blocked out junk noise, so I've lowered the stress on my system and I've increased my energy supply and I've taken basically supplements that help with inflammation and mitochondrial function. I've also protected my sinuses. And when I sit down, I'm going to take that wet cloth they give me, or I'm going to spray any one of my favorite anti-bacterial things. There's something called HOCL, Branch Basics makes an anti-microbial thing that's pretty good. You could use rubbing alcohol, you could use little wipes. It doesn't matter. But wipe down the armrests that you're going to be touching all that time. Wipe down the table, scrub the thing you're going to sit on. I highly, highly recommend doing that. At that point, use a tissue to open the bathroom door and wash your hands after you go to the bathroom. You'll be okay.

Dave:

That's it, guys. If you wanted that in a bullet point format, we'll put that up on the Dave Asprey website as soon as possible. Those are just my thoughts on it. This is what I do every time I fly, whether or not there's a Coronavirus or some other virus whose name we don't know yet that could be lurking.