Your Questions Answered - Bret and Heather 12th DarkHorse Po...

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**SPEAKERS**

Bret, Heather

**Bret** 00:07

Hey folks, welcome back to the Dark Horse podcast live stream complete with dog tail. All right, we are back to answer your super chat questions. We had

**Heather** 00:18

a dog tail, and drinks.

**Bret** 00:21

Yes, some people said that they had enjoyed us more when we were drinking at the point that one of our previous live streams had run into trouble and we had taken up drinking to see if that would help. So what we've done is given that it is undoubtedly five o'clock somewhere, maybe even here, we have gotten something to drink, we have put the kids to bed. They were not happy about that, in light of the fact that we have not yet had dinner. But anyway, they went once we properly threatened them. So anyway, they're in bed and and we are now free to talk to you about anything and everything. Sex, drugs, rock and roll. It's all on the menu. Okay. All right.

**Heather** 01:01

So we'll do what we've done. The last several of these, we're gonna spend about an hour here, we'll take the first half hour to respond to as many of these questions from the Super Chat from the previous livestream as possible, and then take the second half hour to respond in the order they come in. Likely, unless we reject any out of hand. The questions from the second Super Chat. Okay, so the first one from echo points to an article on mosquito fish, for which female but not male brain size is greater following selection for longer going to podium. So, this I will say, we are going to take a look at and respond to in the next live stream. Okay. Second question regarding culture and consciousness. So this is a reference in part to the talk that we gave for Princeton via webinar last Wednesday, six days ago now and is now up on the web. So regarding cultural consciousness, could psychoactive fungi have played a role in ancient people's ability to quickly make diverse and novel insights? And why many distant cultures have emerged so quickly? and answered the first part of the question? Absolutely. Absolutely. This is hallucinogens, I think, I think we at least alluded to this in that very brief talk that we gave when we compared, you know, said culture is to consciousness, as the sacred is to the shamanistic as Orthodoxy is to heterodoxy as conservatism is to progressivism to this Yeah, I

**Bret** 02:38

would just add that many, many cultures access that state of mind however they do it, whether they do it with sweat lodges, or hunger or other extreme things, or they access it chemically. But they wouldn't be doing it if it didn't have a value that more than compensated them for the cost of it. And the cost cost is significant, because the fact is those states, fascinating as they may be, are not clear headed states. It's not something that you want the captain of the ship involved in while the captain is navigating in dangerous waters. So yes, it must be adaptive. And anyway, look for further discussions of that here and in our book.

**Heather** 03:23

Absolutely. With regard to the second part of the question that why many distinct cultures have emerged so quickly? I'm less confident of that, unless a culture finds itself. faction fractioning. Among the lines of some people follow a particular shamans insights or encouragements to take a particular psychoactive substance, be it fungi or something else. Because it seems to me that it might take a little longer upon exploring a new environment to come to a stable relationship with a psychoactive that exists there.

**Bret** 04:01

Yeah, that's true. Although there are some cultures that have a long standing relationship with a particular psychoactive and in fact, go on pilgrimage, pilgrimages, which could happen in other words, a population that was in motion across the land could traverse it to the same location to collect their pod or whatever.

**Heather** 04:21

In fact, the image that we showed when we were talking about culture, and consciousness being an analogous relationship with for instance, the sacred and shamanistic in that Princeton talk was a yarn painting from a witch all shaman and we chose is exactly the culture that you're talking about that do these law, everyone in the culture at some point is expected or encouraged to go on with these very long pilgrimages, the end place of which is hallucinogenic. And the eugenic exploration.

**Bret** 04:49

Yep. All right.

**Heather** 04:51

Next question. Is there any evolutionary advantage for the devastation of nerve fibers that is the crossing of nerve fibers from one side of the body to the That is to say, the right hemisphere controls the left side of the body,

**Bret** 05:07

I would say it very likely passes the Adaptive Test. In other words, there's a cost even just a trivial level of on the nerves having to travel farther distance. And therefore, the rate of transmission on those nerve nerve fibers being reduced slightly, probably suggests an adaptive function, the only competing hypothesis, I would imagine is that there is a historical constraint. But I believe we see the pattern too frequently for historical constraint to explain all the examples of it. So that's not an ironclad answer. But I would say, My instinct says, Yes, it's going to have an adaptive value. And I do, I cannot somehow free this in my mind from the question of the brakes of a car being hooked up crossways. So your front left and your right rear brake are connected together. So you're just you with control,

**Heather** 06:03

there's more, there's more control in this sort of arrangement than in just having two sides, completely going parallel. So the deca sation is is a word that actually I wasn't particularly familiar with, even though taught comparative anatomy for many, many years. But the chi asthma of the the crossing from one side to the other is, I think, and I'm not 100% sure of this, but basically, we have bilateral symmetry, you know, left left animals that have a left and a right that you could fold in the middle along an axis of symmetry and basically get a mirror image starting at basil vertebrates, and then separately in arthropod, lineages, right? So insects and such, and spiders, and then separately, again, in a few other languages. But if we take vertebrates, in particular, you get brains pretty quickly after you get bilateral symmetry. And this idea of lateralization of things happening on the left side and not the right and vice versa. It doesn't take too much longer before it shows up. And I think that that kiasma, the crossing is ancient as well. So it looks to me therefore, like it's going to add some stability, and that stability might just be a kind of like, error correction. Like, you know, just like you say, with regard to brakes of the car, like if one part fails, you're more likely to have things from far afield and sort of controlling what's Let's go.

**Bret** 07:30

That's a good argument, right? there is damage might, you know, if you're damaged on this side, having the control apparatus on the side where you weren't just hit? You could see an advantage to that? Yeah. And I'm wondering if there's not just some sort of danger of feedbacks, you know, if you had the right side controlling the right side, if you wouldn't be in danger of getting some kind of loop that might create a I don't know, palsy or whatever. Yeah, it is. Yeah, it's

**Heather** 07:56

good. Okay, next question. Can you please show the bare skull? And this is the bear now that's the bear skull and talk CL bear. phylogeny? Is the evolutionary cost of consciousness. Oh, purely metabolic, and our other animals conscious? Because we got a couple questions here. So we did bring up we saw this question enough to bring up

**Bret** 08:13

they're both bear skulls. Both bears coming,

**Heather** 08:17

you owe him? More than that. Yeah, as I say him, I

**Bret** 08:21

don't know either. But my guess is having asked that question, this person knows full well our perspective on this, which is that seals are bears. For the same reason, by the same linguistic rigor that we would say that monkeys are mammals, if is x A y? Is the same kind of question is a monkey a mammal? Of course it is. What else would it be? is a seal a bear? Yes, it is. What else would it be because seals as far as we understand it evolved from bears, they're within the category bear the same way monkey is within the category of mammal.

**Heather** 08:55

And so there's a there's this phylogenetic analysis, which is exactly what the question asks with regard to what's the relationship between seals and bears and seals appear? by every every type of character that's been looked at at this point? morphological, molecular, developmental, all of these character sets run in the same direction and say, Yep, seals evolved from bears. And that makes seals bears in the same way that makes monkeys mammals. Maybe, maybe in some ways, the more interesting question is, whoa, seals went back to the water. Secondarily, you know, we all emerge from the water when tetrapods first came out many hundreds of millions, millions of years ago, but within mammals, and this is, you know, this is far afield, but this is this is the sort of thing that I could talk about forever. We have four different evolutions of returns to water in mammals, and only one of those returns to water, which is say the pinnipeds, the seals, sea lions, and walrus derived from bears, we have also the whales Which derived from point

**Bret** 10:04

a bottomless is living? Great,

**Heather** 10:06

right? So whales are emerging from hippopotamuses. That's, that's one of the other to return to the sea. We have otters which are embedded within the kind of ruins. So our otters otters must be filiform or Arcana form.

**Bret** 10:20

They are weasels, which

**Heather** 10:24

are known as their kena form. Yeah, so broadly speaking, the kind of runs are branch into two types, the sort of catlike and the dogleg so otters are in that doglike branch. And then we have the manatees. And manatees are related to elephants of the city and yeah, so for totally different emergencies of secondarily aquatic mammals.

**Bret** 10:46

So I realized calling you out on this on air is good, probably a terrible thing to do. But now that you say you said four returns to the water, but I'm thinking, you know, otters is an edge case. Oh, for sure. Right. It's returned to the sea. Yep.

**Heather** 11:01

Seals sea lions and walrus are an edge case in some ways as well because they returned to land to breed well, right. So whales are fully Mounties are fully. pinnipeds are kind of an orders edgier.

**Bret** 11:13

But as long as we're taking the edge cases, then we've got a bunch of other edge cases too, because we've got muskrats, and Desmond's and I've forgotten there's a Cuban rodent that is aquatic. And

**Heather** 11:27

those are not all one clade of know we kind of went aquatic and we're rodents

**Bret** 11:33

now Oh, and then there's there's beavers, of course. Right? So anyway, these are all so interesting edge cases. And the you know, the otter, if we say returns to the sea otter, the sea otter gets us there, but the sea otter was not likely to have been first. So it's likely to have come from a river otter, which was partially terrestrial. Sea otters are almost entirely aquatic. Yep. But anyway, now we have digressed rather fully

**Heather** 12:00

Austin quarter of the audience right there is the evolution of the second part of this question was is the evolutionary cost of consciousness purely metabolic and our other animals conscious? Know, the cause talked about this for a long time,

**Bret** 12:12

cost of consciousness goes well beyond metabolic one. So we're defining consciousness as we defined it in our talk the other night, which is that fraction of cognition that is packaged for exchange that we're not going to redo that talk here, but there are all sorts of costs of being conscious. One of them I would argue, is confusion. There are a lot of things that you can be programmed to detect and respond to even intelligently without being conscious once you're conscious. You're in grave danger of choking in the sense of you're up to bat and you become too conscious and you can't hit the ball right?

**Heather** 12:53

starfish don't choke

**Bret** 12:56

No, they don't I've never seen it happen. So anyway, yeah,

**Heather** 13:00

right there we have Okay, so starfish don't satisfy our rubric for are they conscious but is there consciousness and other organisms such as quickly identify a few Oh, wait, I

**Bret** 13:08

wanted to say one was one more cost here, which is a conscious brain is a large brain, and large brains are more vulnerable. So you got metabolic you've got danger, and you've got confusion? And I would say that's just the beginning of the list. So yes, consciousness is a a costly thing. To be beneficial in order

**Heather** 13:28

to justify the large brains are also a metabolic cost. Yes, cost overrun. Also there but built into the question, yeah. So other animals that have consciousness? Maybe we'll just name a few and then we will encourage more of this conversation later. domestic dogs, but also wolves, toothed whales, including dolphins and Orca elephants, other primates. Lions, maybe parrots, corvids, not COVID is corvids, which includes crows,

**Bret** 13:59

probably hyenas. Yep. There are lots of things but what

**Heather** 14:03

are those things that are long lived, large brand, have generational overlap, are social. And as they live in social groups, they know each other and have long developmental periods which in humans, we call childhoods.

**Bret** 14:16

But we are not saying these things are as conscious as people. They're sort of a question about what fraction of your cognition is in the conscious realm. And this varies a lot and it's not synonymous with intelligence. So anyway, more on that later and elsewhere.

**Heather** 14:33

I'm a stylist. salons already follows zero sanitation, fungus very II, which may or may not be the plural of virus, but I like it. fungus very bad bacteria combined with cuts and hair slivers and bodily fluids, huge air movement, bad ventilation, should hair salons open yet. I would not be opening the hair salons yet if it were me. I would be opening other things before hair salons but people are going nuts over the lack of haircuts. feel like

**Bret** 15:00

they're trying to tell me something? Maybe they? Yeah, this is a tough question. But I think the real question is, I don't know what the answer is here. There is a tremendous danger in any of these very intimate kinds of businesses. I don't know what we're all going to do. At some point, maybe we just begin to tolerate each other's crazy hair, which is a day I've been looking forward to for a long time. But But anyway, it's it's a tough puzzle. But the important thing, now that we've discovered that our h vac systems are probably giving people the flu, the flu kills people every year, why are we comfortable with the fact that our h vac systems are spreading it? Now suddenly, we're on that page, people now are suddenly aware of the fact that there's a certain art to washing your hands so that it actually works? Right? Let's not go back to just washing them kind of pro forma. Yep. So what should a hair salon look like? So that this isn't the case? Yes.

**Heather** 16:01

How can they change in the future. And for right now, though, at least for those of us in the Northern Hemisphere, you'll certainly I've heard talk of there's there are a lot of jurisdictions that are closing down streets to car traffic to enable people to social distance while being outside. And this will potentially allow for restaurants to reopen at some point for something other than takeout and have people sit outside to eat other kinds of businesses like hair salons, maybe could also be doing some of their business outside. For in the Northern Hemisphere. As we move into late spring and summer. If you're in Australia, this is going to be harder and harder. And obviously, you know, weather is highly variable. So it doesn't, it's not easy, but it is part of our job where you get used to when you travel in a lot of the rest of the world that doesn't have such controlled interior spaces where you have to have a lot of airflow, and you expect to not be exactly the temperature that you were counting on for the entire part of your day.

**Bret** 17:03

Yeah, so I would say, maybe an assignment for those of you in the audience from this is your specialty. Figure out how to deliver haircuts over zoom. And I think you'd have to early investors.

**Heather** 17:22

On the reports of COVID-19, tobacco users question about smoking bans caused them to spend more time outside, could this be a factor in the strikingly small percentage of hospitalized smokers? That's really interesting. We've talked on one of the earlier live streams, and I'm sorry, we've done enough now that I no longer remember mostly which number it was in. But one of the earlier live streams had the title smoking in the name smoking in the titles would be relatively easy to find. We talked about what we thought it was understood at that point. But smoking bans, causing smokers to spend more time outside could be a factor. It doesn't seem to me that smokers spend so much time outside that it would be fully explanatory, but it might be partially explanatory. What do you think?

**Bret** 18:06

It's obviously a potential factor. And one of the things that we're discovering in this pandemic is just how complex the interaction of factors is. I mean, you know, it's subways, but it's local trains. You know, that's the kind of level of detail that we need to be thinking. So yeah, it's a good thought and maybe, yep.

**Heather** 18:25

Must all of our scientific information come from peer reviewed articles? parentheses received pushback on the medium article, presumably the one that we were talking about two livestreams ago? What makes China's style of what market more or less dangerous than western style factory farming for viruses? Yeah, so all this, this is two distinct and very important points, both of which we have spent some time talking about, we talked about peer review, I think in six, actually, a fair bit, livestream sex. And then we also talked a bit about wet markets early on when it still seemed like that was the most likely source for this virus. But western style factory farming is absolutely 100% going to contribute to some superbugs, at least the difference is, you don't have in factory farming exotic meats being brought into human cuisine that haven't been there for a long time.

**Bret** 19:26

So I would add a couple things here, one, just a bit of history. The first time we ever heard of the novel Coronavirus, we had just emerged from the Amazon where we had spent 10 days almost two days Yeah. And we'd come out and it was we were in Ecuador, we were taking a couple days in the otavalo region up in the Andes. And a news story about novel Coronavirus came across the phone somehow because there was one case thought to be In Ecuador, and at that point, I looked into it and it looked very much like what markets were the obvious thing. And I looked at the question of which bats it was, and all of that, and I tweeted something about thinking the wet market hypothesis seemed likely. And I immediately got pushback from people who pointed out the job advertisement for the Wuhan virology lab, and I immediately retracted my claim that it made sense that it was wet markets, because there was obviously much I did not know about situation. But in any case, we can't trust the peer reviewed literature because the peer reviewed literature comes from a group that has the same bias, oh, my goodness, what's happening over there, that cat has broken into her house again. So anyway, the the problem with the peer reviewed literature, one of the many problems with it is that the people who generate it come through channels that cause them to have the same biases. And while the scientific method should correct for that, it often does not. So we have to engage in the contemplation of things that emerge outside of the peer reviewed literature. And the question should be, are they well done? Are they done well enough that they could be in the peer reviewed literature of the peer reviewed literature was better? Alright, there was another part to that question.

**Heather** 21:23

It was about peer review and wet markets. And I think Thank you, oh, are more or less dangerous than western style factory for viruses.

**Bret** 21:31

So I did want to say something about this factory farming business, we are very anti factory farming, there's a long list of reasons that it's not healthy, it's not justifiable from the point of view of the treatment of the animals. It's not healthy in terms of the product it creates, and it's not sanitary. But the danger of pathogens is actually quite dependent on things like the form that the meat comes in and how it is treated. So I made a tweet that I think many must have regarded as curious. Earlier this week, when I said that, I thought it might be that ground beef was finished as a result of the COVID-19 epidemic. And the reason that I singled out ground beef, and believe me, I like a good hamburger as much as the next guy. But the problem of ground beef is that it takes particles that are on the outside of the meat, and it mixes them in. And the only way to purify what's inside the meat is to cook it hot enough that those things would be killed. And so a rare hamburger, takes whatever pathogens were on the outside of this thing, if somebody had some illness coughed into the meat as it was being ground, sold it and then you serve the hamburger raw while you're going to be getting that pathogen in an environment that's actually quite well suited to protect it. And there's just no way to make that safe. If you grind your own beef, does it solve the problem? Partly, but not completely, because still, you're taking things that are on the outside and moving them inside. So the point is, if you have a stake, you're heating the outside hot enough, and the inside is protected by virtue of the fact that it's on the inside. These are not inherent to factory farming. factory farming is bad. It caused the spongiform encephalopathy crisis. Mad Cow by virtue of feeding animals, things they shouldn't have been eating like the brains of other animals. But factory farming is bad. There's no end to reasons we should halt the practice. But it is not the culprit. It's a culprit.

**Heather** 23:32

Our friend Holly mastered, asks, please explain how living in a reliably blue or lively red state should affect attempts at game theory analyses on who to vote for? Well, people our age remember the 96 election, when some of us wanted to send a message that we weren't pleased with Clinton, but didn't feel comfortable handing at that point, handing the presidency to a Republican. And so traded votes if we were living in blue states traded votes with people in other states such that we could send a message while not necessarily change in the election, I'd say we're in a very different place now.

**Bret** 24:20

I think we were in a very different place, then we just didn't know it yet.

**Heather** 24:23

And we're in so we're in the same place as we were then. Well, let's

**Bret** 24:26

put it this way. There has always been a defect in the idea of trading votes to send a message, which is that to the extent that your antagonist and by antagonist I mean something like the DNC for us, actual Democrats, to the extent that they know that you're going to trade votes, so you don't hurt the candidate they want to elect they have no reason to pay attention to. And so the problem is, they have cynically chosen a scenario in which those of us who want to see progress are going to be left with something unpalatable, but better Then the alternative on the other side, knowing that we will then come flocking to them. And my point would be at some point, you have to stop participating in that cynical game. And when you do that, will you hurt the democratic party? Of course you will. But it was they who chose to engage in this game of chicken and responding rationally. And I would argue responding such that maybe two elections down the road three elections down the road, you're no longer subject to that game is necessary. Does that mean it's costless? No, it's very dangerous and destructive, but they haven't left us a better option. So the fact that we choose a bad option, when we don't have a better one shouldn't surprise anyone.

**Heather** 25:46

always more to be said there. But I think we're going to move on for now. The next one, Brett, I feel like I talked to you in an elevator at the Portland La Quinta somewhere between September November 2018, which would have been just after we moved to Portland. Were you there that are my just tripping. I was a big bearded guy with a German Shepherd.

**Bret** 26:03

Yep, I hang out in that elevator. Excellent. Wait, what's a laquinta?

**Heather** 26:07

Is it at a hotel chain?

**Bret** 26:10

I can't imagine I was in a hotel in Portland after we moved here. With a German Shepherd. It's a while ago, it's possible that there was some something and I'm going to remember later why I was there. But doesn't ring a bell. I don't remember the German Shepherd. And

**Heather** 26:33

big bearded guys being a dime a dozen German Shepherds that you remember.

**Bret** 26:37

German Shepherd in an elevator.

**Heather** 26:41

Thank you from the UK for your commentary. Thank you. And event horizon, maybe an evolutionary bottleneck? conversation prediction. Absolutely. Excellent. Tonight, many thanks. Thank you for that evolutionary bottleneck. Of what sort do you think?

**Bret** 26:56

Well, it could be common, you know, ai problem, because it's an event horizon. The point is, we don't know what happens next. And one of the things that is certainly worrying me is that a lot of the politicization of this circumstance, has a kind of saber rattling element to it. And while I think, even though the hypothesis that this virus came from the lab in Wuhan, is much more credible than the mainstream press has given it, credit for the meaning of it, having come and come from that lab is not at all what the Trump administration, for example, seems to be suggesting. In other words, it could well be a scientific error, which would be very much worth our time to consider. But it's not as troubling as the Chinese government is it is not inherently their fault if the NIH was also participating in furthering the research that may have created this problem.

**Heather** 28:08

What are both your thoughts on Justin Amash? I have not yet heard his name spoken. So I'm not sure I'm not butchering the pronunciation. But Justin Amash, as I understand it, is I think, a Michigan maybe former Republican who has just declared that he is going to run for president hoping for maybe he's already been accepted as but I'm hoping for the top spot on the libertarian ticket. He wants to be deep, he thinks that he can do better than either of the republican or the Democrat. And there's already pushback, of course, thing is going to be a spoiler. And if he runs, it's going to be Trump, who's in office for another four years?

**Bret** 28:47

Yeah, well, would he be the spoiler? Or is Joe Biden the spoiler? I mean, yeah, really? This is the problem. And I would argue, yeah, I

**Heather** 28:57

think this guy's no Nadir, but he's, he's gonna end up taking the hit. Even though Biden seems to be a non contender. Yeah.

**Bret** 29:07

Really, it's incumbent on the Democratic Party to field candidates good enough that they win by a large margin. And to the extent that they've been fielding candidates who, to the extent they win win by a narrow margin that's on them not on the would be alternatives. You know, I'm not a huge fan of Libertarian Party. libertarianism is a philosophy that doesn't take you very far. And I think the COVID-19 epidemic epidemic reveals much of the folly behind that philosophy, even if there's an element of it that I agree with, that the instantiation just doesn't cut it. So I don't know. I don't know him in particular, and I, I'm already a bit skeptical of this approach. But I do think we need an approach and maybe Soon enough, we will sit down with some more drinks and talk about something that's actually viable.

**Heather** 30:04

Sounds good. 30 minutes Okay, we're gonna try to rush through a few more of these because there are some. We're just gonna do it. And then we'll switch over Okay, is that do you think Oh, do you think Coronavirus Romanian a person sells for lifetime like epstein barr? Or was it expelled? We just don't know. And I don't know that I have an opinion on this at this

**Bret** 30:26

point. Yeah, it's not really expelled. What really happens behind the scenes is that cells that contain the virus are either self destroyed through a process called apoptosis or are killed by cells that are trained to recognize them. Whether this remains in the system, like one of the viruses that hides inside of neurons and things we don't know, I would say, of all the things that we could know about this virus that we don't know yet. This is why I'm eager to know and I'm, I don't think it's going to turn out to be a persistent, lifelong recurring thing. But if it was, that would be very badness.

**Heather** 31:08

Given takedowns of people question authorities have you considered sinking to an alternative decentralized platform like lbr? Why they make it pretty easy? I'm not familiar with lbr why of top of my head, we certainly are interested in looking for an alternative. But of course, every time you switch, you introduce more complexity into your world.

**Bret** 31:25

So you can categorize us as lbr. Why q? Curious, we are curious, except

**Heather** 31:32

your guest doesn't start with you.

**Bret** 31:37

It's question and that's right. You introduce curious into the discussion, I'm going to plead ignorance.

**Heather** 31:43

Okay, fair enough. I think we might describe ourselves as lbr. Why curious, though, rather than lbr y que,

**Bret** 31:49

questioning

**Heather** 31:50

farriner questionnaire questioning. How to deal with family that promotes ideas, like masks don't work masks cause more harm than good. Bill Gates is a murderer and wants to microchip us all with his vaccines. And I do my own research. I'm sorry. Look. So let me just say we really we want to move through so we can get to some from the next Super Chat. But one thing early in this this wouldn't work right now. But Tucker Carlson was actually pretty early. You pointed out to me that I don't I wish I knew the date on this. But he did kind of a diatribe. I'm very careful diatribe in which he was definitely speaking to his base. But he said long before the Trump administration was doing anything appropriate in this regard. Basically, speaking to his his audience said, this is actually for real, and this is serious. And you all need to take it seriously. And yes, the left has gone off the rails and is arguing about what to call it and getting all upset about people calling it the Chinese virus and the Wuhan virus and all of this, but do not confuse that reaction with the idea that there's nothing real here. And the fact that he did that was a wonderful and important and valuable. And it also gave people a thing that they could say, you know what, here's someone who is often speaking to your priors, who is saying something that doesn't match what you think is true, please listen to this. And I don't know exactly what the equivalent of that is right now. You know, we tried to speak to people across, you know, across the aisle, as it were, and you know, are quite willing to mock the extremists on both sides. But basically, the vast majority of those of us who aren't super woke or racist fools are were interested in willing to talk to I don't know if I have much more than that. For right now. Well,

**Bret** 33:47

I think you're very much on the right track. And Tucker Carlson is one of these people who is a capable of seeing a great many of these difficult points and be capable of saying them and surviving, what comes back. I'm reminded when when you and I were kids, the saying was only Nixon could go to China, that anybody was farther left than Nixon would have been accused of having communist sympathies or something but the Nixon could do it and in fact did. And Tucker Carlson also has the ability to say all kinds of things about you know, I mean, I've heard him say things that I thought were dead on accurate about class warfare and its meaning in the US and that it has taken place and that it has had big impact and all of that. So anyway, yes, figuring out who you can pay attention to on the other side who is not only hirable, but insightful. Yeah. So I know Greg gutfeld. Just had a big day and extraordinary ratings beat the other shows in his time slot. He's another person who is he's also on Fox right but also on Fox capable of crossing the aisle and very intelligent guy. So anyway, yeah. Figure out who you can listen to on the other side and then make a point of doing it. And then your own perspective becomes richer.

**Heather** 35:07

But I mean, the question is how do you deal with family? So you know, encourage finding those people and but get encouraging family to listen to or watch viewpoints that they have already become entrenched against this is tougher. Yeah, it's a tougher sell.

**Bret** 35:24

I would say. I don't mean this cynically, but turn it into a game, right? There's always a question about, can you Is there a divide, that you are not supposed to be able to cross that you can figure out how to cross and you know, over time, you get better at it, and the divides that you can cross are larger. And it's very rewarding. In fact, you will find, actually, you feel richer and happier, when the circle of people that you can relate to has grown and, you know, don't include bad people. But frankly, bad people aren't a large percentage of the population. They're important, but they're not a big percentage. Most people are mistaken about some things, you're mistaken about some things and figuring out how you can cross those divides and discover what you don't know that you should and teach people something that they should know that they don't. It's it's incredibly rewarding.

**Heather** 36:20

Isn't the reduction in subway schedules similarly as dreadful as reducing grocery store hours of operation, make the resource more scarce increases necessity? Thanks from a reasonable Republican. Yes, exactly. Right. And thank you for that question. app. It's exactly it's not even really analogous. It's the same thing. Yep. And just two more questions. And we'll skip, we'll switch to the questions from this live stream. Knowing those at risk could be an argument for opening the economy. A number of lives lost due to the shutdown is an unknown economies are chaotic systems, thus not predictable. Gambling, the government can provide a central resources, should we suffer an economic collapse is a fool's wager. I'm not sure I totally understand.

**Bret** 37:04

Well, I mean, I think it's, you know, it's a, I think pretty well stated case for your you've got costs either way, let's be adult. And let's not imagine that because we can be sentimental about people whose names we will know, we will know they've died of COVID-19. Don't imagine that you're not creating harm on the other side that might be greater. That's true, I think what is spooking A lot of us who understand what it means for a virus, to have jumped the gap into humans to have created an almost instantaneous pandemic. And to have much about it that we don't know is that the downside of this disease spreading further is potentially immense. I mean, just think for a second about your own argument. And then ask yourself the question, What if, for one reason or another, we cannot rid ourselves of Cyrus Cove to and COVID-19 becomes an annual phenomenon. Let's say that it diminishes in harm for various reasons down to what the flu currently produces. Well, now you've got two flus, you had one, I'm not saying the flu is one thing, but I mean, every year you have flu circulating, if you're gonna have flu circulating, and you're gonna have COVID-19 circulating and whatever new form it takes, that's a major hit that humanity just took. So what you don't want to do is let the thing get any further advanced than it has got, you want to leave it at as much disadvantage as you can, so that your options are greatest, to do something about it. So you're comparing what you're calling an economic collapse. But the fact is, we don't have an economic collapse yet. And we do have places to go in order to prevent that collapse from happening. So are there resources we can draw on that do not force us to allow this virus to spread without restriction? Maybe there are and it's probably worth it because the downside of being stuck with this disease for many years, or perhaps indefinitely is very large.

**Heather** 39:17

Any thoughts on the murder wasps? It's terrifying. It's like it's it's the, it's the plagues. Right? So these these giant wasps have come out of China, I guess, or somewhere in Asia,

**Bret** 39:31

I call them Chinese Communist Party wasps.

**Heather** 39:34

Of course you do. And yeah, I guess we're gonna switch to the other questions that will just take a minute here. But one thing that's super interesting is that like all invasive species, like all introduced species that settle in and become a problem, the would be competitors and the prey of the thing in the new environment I have no idea what to do with it. So honey bees here in the Pacific Northwest, we're in Washington state where the murder wasps have been have been found are defenseless. They have no idea what to do. They get torn apart, they get eaten their heads ripped off their hives destroyed. And as if the honeybees weren't having a hard enough time, and we rely many of our food systems rely on honey bee pollinators. So this is this is a huge, huge problem. That said, in the place where the word of wasps are native, the bees that the murder the murder wasps would eat, have figured out a way to deal with them. And they huddle around them. And they basically choke them they succeed at them by increasing the amount of co2 in the little bubble that they create around them and they increase the temperature and those two things basically kill the murder wasp. So the bees in wherever it is exactly these martyr watched her from have behaviourally figured out a defense against them. And of course in the place where there is no history of murder wasps. The bees are naive, just like all of humanity was naive to the Coronavirus six months ago, eight months ago at this point, and we had no idea what to do. Hopefully we're figuring it out. How is it that the local honeybees could be taught? How to deal with the martyr wasps? I don't know if it's possible, but bees teach each other. They actually show each other how to find stuff through their waggle dances.

**Bret** 41:35

Yeah, hello waggle dance to explain this one. Yeah. So I should point out just as long as you're engaging the full complexity of this. Our honeybees are also invaders. Yeah, yes, newbies are not native. Now I am very much in favor of the honeybees being rescued, for many reasons, may actually be the same species. Yeah, it could be, which means that you could potentially introduce this, it's

**Heather** 41:59

actually the same species, then you can introduce the behavioral changes, and I'm much

**Bret** 42:03

more worried frankly, about whatever else it is probably pesticides that are causing the spectacular decrease in honeybees and potentially driving their hives crazy and things like that. But the real point here is invasive species are a tremendous hazard, right? The murder wasp thing is just at the beginning. But the problem is, once these things get sufficiently advanced, there's nothing to be done about them. So maybe, maybe maybe a high level of vigilance at the moment would allow us to address the murder wasps and get rid of them so that they did not do what will otherwise be inevitable, which is naturalize into all of our habitats. But yeah, it's, it's frightening. And they are, they're also amazing, but I don't really want to meet one here.

**Heather** 42:51

Okay, so how much time do we have left sec? Oh, boy. Okay. We're gonna go through as many of these questions from the current live stream as we can. Is the hypothesis that Sweden strategy will allow them to forego a follow up way of correct? We have no idea. I don't know. I doubt it. But we have no idea. I

**Bret** 43:14

don't know. For one thing, it's not just a strategy. There is a lot of variation between places that is functioning is noisier and we really don't know enough.

**Heather** 43:25

How do you suppose that if Biden gets replaced at the DNC elite don't pick his replacement? How does a game be a solution not equal a viable third party?

**Bret** 43:33

Maybe it does equal a viable third party or maybe it involves one of the third parties that actually exists? deciding to change strategies. There, there are viable paths forward, all of them are going to sound implausible at first, so suspend your disbelief enough to consider them.

**Heather** 43:53

Could a meritocracy ever supplanted democracy and astronauts style multi dimensional dimensional stress test of candidates free from DNC GOP interference? Also, Brett, your hair is a celebration of freedom in lockdown. Hell yeah.

**Bret** 44:07

I don't know what that means. But I like it.

**Heather** 44:11

I don't I don't understand a contrast between meritocracy and democracy. I don't a democracy ought to be a meritocracy. We clearly aren't there. We aim to be there, though.

**Bret** 44:24

Well, here's the thing. I think I see something here, which is a well functioning market is a meritocracy. A democracy could administer a market such that it function well. This is sort of the ideal actually have a game B scenario is that we would create the landscape of incentives such that the market would do an excellent job of creating value without creating harm and that that would elevate people who We're exhibiting merit. So there would end up being disparities and wealth, but they would be the result of having produced well being, which is actually, that's sort of the mythology of our market, that our market doesn't really work that way, it produces an awful lot of harm. So anyway, I do think that they can coexist. I don't know that the meritocracy supplants to democracy, but I think they play different roles.

**Heather** 45:22

A friend who went to evergreen attacked me for joining the Peace Corps saying it was Neo colonial. I didn't get the hate until I saw your vice video. Yeah. I'll just say that there was a lot to recommend evergreen, and that the students that we had almost to a person, were open minded, and capable of doing extraordinary things, and many of them did did that. And we are still in touch with many of them. And as we've noted many times elsewhere, it was not our students who turned on Brett and then us it was other people who were sent by ill intentioned faculty and a few staff members who created that problem. And so your friend who went to evergreen had presumably been indoctrinated rather than educated, which was unfortunately quite possible there. And still is, I imagine. But it was not the it was not necessarily the student body. That was the problem. Yep.

**Bret** 46:21

I love the idea that the Peace Corps is Neo colonial and I think actually, the idea that piece might be neocolonialism next. So look for it. Well,

**Heather** 46:29

if math is evidence, the patriarchy pieces evidence, it's all on keeping right. Yep. So darcars moderator is asking on behalf of Nobel Prize winner, Professor muntanya, he says the virus structure was interfered with. Is there anything on that front? If we were trying to create a shift people holding the power would strategize? Question mark.

**Bret** 46:57

Yeah, let me speak to this a little bit. To the extent that you hear the idea that this virus was altered by human beings, and you think that that is the other side advancing a conspiracy theory, there's a lot wrong with that, there's plenty of reason to entertain the possibility that this virus was altered. And if you do that, and you do it with an open mind, you will find that there's actually a substantial amount of evidence that suggests Not only is it possible, but that it would solve a number of the mysteries surrounding the virus as we find it. So I'm not saying that it is true. But I am saying we have several highly, highly position scientists who are in a position to understand the details of the genetics and the biochemistry who find the hypothesis that the virus was altered credible. Unless you know more than they do, you should probably leave the possibility open at least

**Heather** 48:06

thoughts on the scientific validity of Evo psych us psych being a stand in for evolutionary psychology. It holds great promise there is a good foundation evolutionary thinking at its best, its base, it is too often wielded and carefully and therefore inaccurately and not merely imprecisely. So it is too easy to dismiss, because many of the people doing the work don't quite know the limits and the need to focus on prediction and falsifiability, I would say,

**Bret** 48:41

I'd say it's the right question, but that the history is that it's been too timid and not imaginary enough to get to the full answer. So it's helpful, but I'm frustrated that we're held to small questions rather than big ones.

**Heather** 49:00

What are your thoughts about Fauci not having a client since 1984, about 40 years ago, I warned that he only sees numbers and not people who defines the optimal. You know that that doesn't particularly bother me. The fact of a doctor who isn't a practicing clinician who doesn't actively see patients doesn't inherently mean that he doesn't have insight into what is good for people. There are a lot of different ways to gain insight. And you know, we the equivalent over in our space, is that an academia research is active research with big grant monies, is prioritized much more than teaching, when of course universities are supposedly about teaching students and so it is the fact of him not having patience for 40 years doesn't inherently mean that he's that he doesn't know what he's doing. I think there are other reasons to think that some of what he is suggesting is suspect and he may have some Tourists that are not aboveboard. But the fact of him not having patience isn't one of them. When you say consciousness, do you mean subjective experience? Allah Nagel, your description of consciousness sounds more like metacognition than subjective experience. Is that right? I'm just quickly to the definition and maybe people directly to the Princeton talk,

**Bret** 50:18

there's a reason that we have defined it the way we have, which is that fraction of cognition that is packaged for exchange, and that is deduced from the way people seem to mean consciousness when they invoke it. In other words, when people say that they are conscious of something, how frequently does it fit in that category? And it seems to fit well, subjective experience is implied by this. And one of the things that we talked briefly about in our Princeton talk, and we'll talk more about elsewhere, is the reason that subjective experience would be coupled with the fact of a cognitive thought being packaged for exchange, right? Those two things are related, but it may not be obvious why it has to do with more or less, why it is that we are designed to exchange thoughts between individuals, what we do with that capacity, and the necessity of having a subjective experience that allows you to compare your thought with somebody else's thought to hold them both in mind, and have a place where they can be juxtaposed. So anyway, I hope that was a decent answer.

**Heather** 51:32

Why did we evolve hate?

**Bret** 51:35

Why do we evolve hate? You know, this? This is one of these questions where it's not obvious to me why? It wouldn't be obvious why we need hate. Right? We need hate in order. I mean, it doesn't have to be called hate. Maybe it could be designed in other ways. And you could feel it differently. But we need something that allows us to categorize a certain number of things and figure out how to oppose them. I think the problem is hate gets a bad name, because often it is opposed to things that don't need to be opposed. And therefore it seems like a corruption. But at some level, I wonder if what's going on is that you need something that functions this way. And when it is misapplied, it gets named and discussed, and when it is not misapplied, it goes without notice. And maybe that's the way to fix it.

**Heather** 52:29

I don't know what this next question means. But I said I'd read them in order. So here it goes. How much money does the audience need to raise for science for Brett to get a perm?

**Bret** 52:38

What makes you think I don't have?

**Heather** 52:42

Yeah, many Americans?

**Bret** 52:44

I don't know the question. Let's find out.

**Heather** 52:46

All right. Many Americans are tired of the professional politician in quotes. What do you two want to see on the resume of a candidate, presidential candidate? What do you want? What do you two want to see on the resume of a presidential candidate?

**Bret** 53:04

I think resume is the wrong approach. But there are some characteristics that I think I'm amazed that we don't demand

**Heather** 53:11

them before you answer. Let me say that much like my answer about Fauci, and like your description of Plan B, and our description of the fourth frontier and what you can't map it out and say exactly what you're looking for, you're looking to get out of Foothill, I would say there are a lot of different ways that you can get there. But having been driven from an early age, to be in a position of power. And having that be really your claim to fame is unlikely to be a diverse enough set of drives and experiences to make you an excellent leader. But beyond that, there are going to be a lot of different ways that you can get there.

**Bret** 53:48

You said Plan B?

**Heather** 53:50

Did I? Yes, you did. Oh, no,

**Bret** 53:52

no, we hate those guys. Just they're almost as bad as the people's front of Judea. Where's that the popular peoples from? It's hard to know. So let's just say this. I'm a president. I do not care personally. Where on the political spectrum, a president is at the moment, there are errors in which I might, but at the moment, I want somebody who's very smart. I want somebody who is self skeptical, who is patriotic, and who is capable of playing well with others. If you have those characteristics, as far as I'm concerned, we could elect you. Right? Doesn't matter if you come from the right or come from the left, because those things would cause you to behave in certain ways relative to the way the nation is governed. That would be very positive for us. And the place where we part company if you're on the right, and you have those characteristics, the place where we actually differ over what should happen next is far down the road. So Let's get there. Let's put the patriotism First, let's get somebody who's clever enough to understand how difficult this puzzle is into the office. And let's give him give him some some leaf.

**Heather** 55:14

Two questions. Could you talk about your female coyness theory from evolution perspective? Let me just asterisk that and say, that's not really ours. But we can talk more about that. But maybe we should save that for another time, because I'm sure it will come up frequently. And when do you plan to share your male gayness theory? Brett?

**Bret** 55:35

That's a good question, you know, back in the day, which is to say, months ago,

**Bret** 55:42

I was inclined to figure out how to rent a hall and deploy that hypothesis so that people could entertain it and evaluate it.

**Heather** 55:54

Maybe upload it later for viewing?

**Bret** 55:56

Sure, of course, your course. Problem is renting a hall. Does that still exist? Is that a thing?

**Heather** 56:02

Yeah, but it will again, it will it will.

**Bret** 56:05

So you say this.

**Heather** 56:07

But I say this.

**Bret** 56:08

And the reason that I wanted to talk about whether this is across an event horizon is there all sorts of things which seemed like, of course, they will return and I have a sense they will return at some level. But I also wonder if we look longer out, whether some of these things are just finished,

**Heather** 56:23

some of these things are finished. But people saying, Ah, people never sit in restaurants again, or go to live theater. I say you haven't met people. Like that's, that's those things aren't over.

**Bret** 56:36

Yeah, they're not over. On the other hand, I gotta tell you, I don't know where we are. I don't know how restaurants are safe. Yep. Right. They can't be safe. If somebody who coughs into a bowl of salad, a big bowl of salad they've made for the whole restaurant can't throw it out because they'll get fired. So

**Heather** 57:00

you've just decreased salad consumption. considerably

**Bret** 57:04

more for me. Okay.

**Heather** 57:09

A, I don't know if this is a link I can't quite tell. Not as not a question. COVID-19. lockdown risks. 14 million extra tuberculosis deaths study. That number seems like it couldn't possibly be true. But clearly there's a hypothesis in here. With regard to a lockdown, risking a lot of TB deaths. I don't know what the relationship is, as prayer is clearly asking us to investigate. I think we need to see more before we can be expected to go hunting for this. I often have to keep a dictionary next to me during these but I love feeding my brain. Oh, and then a cute sign up. Thank you, doctor and Mr. Hiring. Fair enough.

**Bret** 57:51

Fair enough. Yes.

**Heather** 57:52

What does your youngest have to do? What does your younger son do during these live streams? How do you guys manage and limit screen time on various devices for your kids? Well, of course in the live streams, we have actually no idea what Toby does. Now I mean this on this particular live stream, I know he he got the potatoes in the oven so that we would have something to go with the amazing brisket from last night when we when we get off here. He sometimes goes on electric unicycle ride, he no doubt plays with the Menagerie that we have living with us. Did you just

**Bret** 58:22

say electric unicycle? I did? That sounds crazy. I know your circus music in my head.

**Heather** 58:31

What else does he does? What else does he do? I don't really know how do we manage and limit screen time and various devices for our kids. This This, again, is probably a whole a whole hours or more topic. But in some ways, another of our kids had. We didn't put we didn't enforce hard and fast rules. We tried to model behavior that seemed right and kept them from access. Neither of them had smartphones, actually until we moved here. So that would have been or not even smartphones with that phobia. And Toby hates it he doesn't want to have a phone at all still. But our feeling is we live in a city now you got to have one in case we need to get in touch with you You need to get in touch with us. So you know everyone's got screens now all of us have screens we live among way too many screens. But

**Bret** 59:20

yeah, I would say you know we a we delayed contact with things longer than almost anybody we know. When we have granted contact, we have tried to shape that contact in a good direction. So you know our kids do watch some television now but it's all with us things that we've chosen that we think they ought to see

**Heather** 59:48

sometimes we may not choose perfectly. We may not

**Bret** 59:51

choose perfectly in fact, in this case with the lockdown, you know with the kids sort of coming of age. We showed them risky business so they're now both men. Because that's how it works now Yeah, that's how it works. That's how it works now. But in any case, yeah, we try to shape their, their encounters with this stuff. And then we spend a lot of time talking about what it means and the hazards I guess

**Heather** 1:00:16

I mean, that's that's the big thing. And you know, we, we we have a lot to say about this and also about parenting and childhood more generally. But we've been, I believe we actually came to understand not too many years ago that you and I both had independently without ever talking about it. Only notch talked about one subject with our children. And we were otherwise I mean, you mentioned earlier Sex, drugs and rock and roll like we talked

**Bret** 1:00:42

about sex drugs and rock and roll that's breakfast Congress and that's not to

**Heather** 1:00:46

say that it always makes them totally comfortable always makes us totally comfortable. But we've been pretty forthright about all sorts of topics that most parents try to keep from their children death You know, I've talked about my father's death on this podcast night and that was episode six. And they were present for it and we spoke a lot about what it meant to be grieving at what it meant to be dead and they were

**Bret** 1:01:09

present for it and they were present for the actual start of the cremation.

**Heather** 1:01:14

Yeah, yeah, the

**Bret** 1:01:15

point of it. Yeah. So

**Heather** 1:01:16

there are a number of topics that I have are strangely taboo in our culture that should not be and while screens is not exactly in that category, we have also been very we've talked with them explicitly about when when we struggle when we spend or spending too much time on screen and session I guess I should rather than leave that as a as something for people to wonder about the one topic that we both avoided talking about with until they were until very recently was suicide Yep, that neither of us thought it was wise to introduce that as a concept that they should even have in their heads until they were a little bit older and they're now just last month they would turn 16 and 14 Okay, what's our time Zack? Okay, we're gonna do just a couple more here and then we will it sounds like the tech stuff is mostly resolved so we should be back on Saturday,

**Bret** 1:02:14

the duct tape and baling wire have held throughout to broadcast now so that's good

**Heather** 1:02:20

Yeah. Just saying thanks. Your presence is valuable Thank you. Regards from Poland is three I'm here Hey man, thank you. I think this one is gonna make you chuckle but aquatic ape theory take it away you know, I thought you were gonna bring this up when you started talking about other returns to the sea. But it would have been tongue in cheek because neither of us think so. Yeah, this You and I both I know I did. Always whenever I was teaching vertebrate evolution at least and sometimes when I was doing animal behavior, some other topics and students got to choose their own research topics for for literature review papers rather than empirical research, which we also did. Often someone would research the aquatic ape hypothesis it being more or less that the the east coast of Africa looks different at the point that humans were evolving and becoming fully human which no doubt did and that we were basically waiting around being somewhat aquatic and that this explains a number of our current anatomical physiological no doubt cultural features and it's silly

**Bret** 1:03:24

i don't i don't buy it sir. You know I sort of mirrors actually it mirrors exactly this story. The bear Yes, the bears fishing about in the shallow tap these See, the more aquatic they became the more effective they were at hunting, yada, yada, yada. So anyway, we get the argument. It's not like the argument doesn't work, but we just don't think the evidence suggests that that's what happened to humans.

**Heather** 1:03:50

Greetings from Peru. Hey. Are you familiar with Martin noacs? No wax eusociality research with yo Wilson? Yes. No. aquas just fired over Epstein ties. This I did not know. Think they ever talked about Neo con blackmail paddle cults with regard to global human eusociality there's a lot in that question. Yeah. Wow, you really crammed a word in started Bart fast the best?

**Bret** 1:04:20

No, I didn't know that. No, I could have been fired. I didn't either. I'm not a fan of the work that would have no ACC and Wilson overlapping. I think they've both made an error. I had a conversation with Novak about this. He's actually pretty nice guy. But nonetheless, I don't think the group selection is know where they are and how they ended up there. I think they have a piece of the puzzle, right? But they have a mechanism that isn't right. And they, they have talked themselves into a corner. So anyway, this is the group selection discussion. It does have to be sorted out. I do think that there's an answer. That's fairly straight. forward in is fully satisfying. Stay tuned.

**Heather** 1:05:03

Okay, we got three more questions, two of which are just comments. So we'll get through these and then we'll sign off. Guys, we can't afford to give up Trump. The oligarchy is worse, you can have your status quo candidates back in 2024. Thanks for everything you do. That's what we want. We are shills for the status quo. That's what we're hoping for. Look.

**Bret** 1:05:20

I actually I hear I hear this person, a guy. Yep. I hear you, Scott. I really do. And, you know, Heather will back me up on this that the night that Trump was elected, I told her he could be the greatest president in history. And he has disappointed me primarily because he didn't decide to do it, I would have been thrilled actually, if he was willing, having done the impossible, which was get elected in that environment. Having done the impossible, if he had stepped up to the plate and said, You know what, I'm going to be the greatest president in history, I would have been there to back him.

**Heather** 1:05:57

What does that mean? This is exactly what you were just saying with regard to his response right now. Right? Like he, he had just been handed a victory that no one maybe not even hit he expected. And this, he didn't expect he didn't want, he has no idea what to do, etc. But in both cases, he could have been behaving in some way that so stymied expectations in the status quo, that he could actually have broken a lot of the entrenched systems that are actually breaking the rest of us. Yeah.

**Bret** 1:06:29

So Scott, let me just say, he did the impossible. I think he deserves credit for having done the impossible, he broke through the duopoly. Having broken through the duopoly, his fatal flaw is that he cannot step out of the political modality that allowed him to do it. And this is not personal. He can't be in that office any longer. Why? Because the things that we are playing with are so volatile, so dangerous, that we need somebody who is capable of putting their own interests aside, and it was his inability to put his interests aside that actually allowed him to win in 2016. So anyway, again, it's not personal, but we need somebody there who's got the unusual characteristics that will allow them to, to do the job in a way that all of us on planet earth are depending on.

**Heather** 1:07:28

Amazing stuff, guys, thank you looking forward to more info on how game be in fourth frontier are going to take us away from oblivion. Oh, yeah. Final question. can correct and human evolutionary mismatch be a panacea for society? Can we reconcile this with modern rapid technological progress, like ancestral health.org? I'm not familiar with that particular website. But this sounds like exactly the theme of the book that we are working on a second draft of right now. We published about a year from now. Yeah.

**Bret** 1:07:58

So in short, it's not too late. As far as we know, it is not too late. And there is a way for human beings to grapple with the novelty that we have created for ourselves. That said, it's not simple. It's not a slam dunk that we will get there. And I think at the core of your question, is the issue of whether or not individual solving their problem at their individual scale scales up to solve the global problem, and it doesn't. We have to deal with this at each of those intermediate scales. And it's possible, but it's going to be, it's going to be interesting work, but it's going to be difficult. So let's get to it. All right. All right. Well, this has been great. And looks like some of our technical issues have abated, at least for the moment and we will see you next time. All right.