Your Questions Answered - Bret and Heather 61st DarkHorse Po...

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**SPEAKERS**

Bret, Heather

**Bret** 00:08

Hey folks, welcome back to the Dark Horse podcast live stream number 61. q and a segment, we stand ready and enabled with

**Heather** 00:19

the dogs and the three cats in the background. All

**Bret** 00:22

right, the three cats as well. Sure.

**Heather** 00:26

All right, we are going to start with four questions from episode. Episode 60. Well, I didn't, okay. I think and, and then move on to the discord. And we continue to have tech problems. Okay, I'm there. Evolution doesn't care who is suffering or who's inconvenienced? It isn't feminist or fascist. It's a beautiful, indifferent tragedy. How can we better tell hard truths about our past optimally and kindly?

**Bret** 00:59

Yeah, that's a good one, I would say, really, the hard part is getting people to sign up for the initial foray. That in general, people, once they discover that there is power in an evolutionary analysis, and that it comes with the, the cost of very odd thing going on back there. But once people discover that there's power in the analysis, that actually changes the way they live, which I think is almost inevitable, if you run into a good analysis, people are pretty much up for it. And the problem is, in advance of that discovery, people very often have a sense of what it is that they expect will arise. And they have an opinion on whether or not that's good. In other words, you know, one of the things that's so ironic about, you know, attacks on science on the basis of the fact that there has been racism in science, or that there's the perception that it is hostile to one sex or the other. is the net analysis is just so absurd, right? Yeah. The liberation that comes from the knowledge is vast, and even if there are elements of what's there that you don't love? It's, it's not the bulk of it.

**Heather** 02:24

Yeah. I think that's good. That's a good answer. All right, we'll leave it there. Which colleges, might you advise your sons to attend? If they want a liberal education, unconstrained by critical theory? How might you advise them to communicate with those less constrained?

**Bret** 02:42

Well, I think this is a good time to talk about cryogenics. And the possibility that you may want to put your children into cold storage until we have generated a new Academy that doesn't suck quite so much. That the wrong answer, because it's so

**Heather** 02:59

I don't think so. I don't I like the question. I obviously resurrected it from last week, but I don't have an answer. You know, until two years ago, or so I was saying University of Chicago, it's the it's the first it's standing strong, etc. But there's plenty to indicate that Chicago itself is cracking from within, in many regards. Yeah, I do not, I do not have a good answer at this point. The truly experimental colleges are likely to be just as roiled by this evergreen was one of them. Yep. And the, you know, I think Unfortunately, the sort of the state schools like the ag schools and Such are the schools that were originally land grant colleges are like everywhere, the science departments are going to fall last, and maybe the art departments as well, but the people being hired out of PhD programs in many of the social sciences and humanities at this point, those fields are so captured, so corrupted, that I don't know how you would hire faculty that don't have this, this virus in them. So you know, you if, if you know what field you're interested in studying, and frankly, I don't think it's a great idea to know what 18 to be certain that you really know what it is that you want to be studying, you should be trying to be a generalist at that point. But if you really have a sense of like, I want to do you know, architecture, or literature or chemistry or whatever it is, potentially looking. Sorry. I mean, this is like the opposite advice I would have given 1020 years ago, but looking for a department with older faculty, faculty who may have been may have at least gotten through their own academic training. Before this was quite so pervasive. might be one, one approach But that doesn't that doesn't address the fact that administrators, I did some research a couple years ago, that's published on as a piece called on college presidents in which I looked at the, the demographics of college presidents from a survey that's been sent out since the 70s, every six to 10 years or so. And the the academic fields to which college presidents belong, has been skewing more and more towards exactly these fields that are more and more woke. And that's more true. Unfortunately, the less elite the institution is. And so the r1 is the you know, the big research granting universities, especially the ones whose names everyone knows, are more likely to have someone at the helm who, you know, might be a scientist, and the community colleges are more likely to have people frankly, who got their degrees, their higher degrees, the terminal degrees from Ed schools and schools of Ed are well captured.

**Bret** 06:00

Yeah, I mean, I think in some sense, this battle is over. And the, the trajectory is very clear. And there's nothing on the horizon that the solstice, you know, academia was first to fall, it is the most deeply corrupted of the institutions, I think, and ultimately, something will replace it or it will be resurrected. But that's not on the horizon. So I think I would separate the question at two things, why are you going to college, you go into college, to get a degree, because you need it, that might change to the extent to the people that come out of colleges, will be lobotomized by the insanity that's going on there. Presumably employers will wise up and stop requiring it and maybe even prefer people who didn't do that. And then there's the question of what you will do to substitute for what you would have learned in college? And the answer is that you can do a lot about right, there's a ton you can do to get the equivalent of a college education, without attending college or paying for it. So if we can separate those two things, and correctly read the tea leaves that a college education is not going to be mandatory in a world where what passes for college education is subscribing to bullshit. You know, you can at least just limit yourself to the second question, which is how am I going to end up with skills and insight that I'm going to need and that you can do on your own? So just

**Heather** 07:34

to summarize your point you there's a credentialing issue, and there's an actual skills and knowledge issue, and they are increasingly separable.

**Bret** 07:43

Absolutely, and your tools for sourcing your own knowledge, insight and skills are better than ever. So number of things people will teach you on YouTube is incredible. If you can figure out how to sort the wheat from the chaff.

**Heather** 07:57

The next question is related. What do you consider off? Would you consider offering online courses, resume lectures, syllabus, writing assignments, etc? I believe many would pay market tuition. So we've thought about something like this in the past and it's still you know, it's still a possibility. It's not an active project at the moment but but we have thought about, we've certainly thought about actually doing field trips extended field trips that include curriculum in advance and

**Bret** 08:24

yeah, I think field trips would be the most natural for us the most fun and interesting, yeah. But from the point of view of offering something that you know, college 2.0 there is that that idea is definitely live even though the project is at the moment not

**Heather** 08:41

so can we promise if we do decide to do field trips that no one has to eat McCall?

**Bret** 08:47

You know, it depends if things go really wrong. Yeah, no problem.

**Heather** 08:50

bets are off. Yeah, all bets are off. We'll do everything we can.

**Bret** 08:54

I mean, because well above cannibalism. True. Yeah, yeah. Yeah.

**Heather** 08:58

And we won't note none of the paying customers will be macaws. So we'll keep that line really bright.

**Bret** 09:04

Yeah, I gotta say I think that that that pattern will carry over from the past into the future almost no matter what.

**Heather** 09:13

final comment from lat from Episode 60. regrow a pair? Yep. I'd buy a dark horse podcast shirt with that printed on it. Cool. We'll put it on our list of, of new merchandise to produce we're shooting for at least one new thing a month. So

**Bret** 09:28

it's funny because before you mentioned, regrow a pair, I had a plan for a graphic for grow a pair which was going to be I don't mind telling you hilarious, but regrow a pair I think may have jumped the queue. Maybe a higher priority. Yeah,

**Heather** 09:46

I think it is. Okay, from the discord this week we have. Why are there certain words that are deemed socially inappropriate? What function Do they have, unlike taboos which have practical uses such as don't drink from the sacred fountain also known Don't get eaten by alligators.

**Bret** 10:03

Well, you know that, I guess my guess is it's not one category. My guess is there's certain things that are just bad for us, and therefore, you can put off limits permanently. And then there are other things that are on reserve if you take my grandfather's suggestion that you shouldn't abuse profanity because somebody will need those words. You know, that basically says you don't want to spend the value frivolously

**Heather** 10:31

Yeah, so that's that's what I came up with to that there are at least two categories. Do you think that's it? Or do you think there might be more categories of we've called these swear words, and you should hold them in reserve so that when you use them, it's clear that you were putting emphasis on what you're saying? And then epithets, that really it serves no one but the narrowest tribal? interests of the view, to use and and there there should be taboos, because they're just nasty to us.

**Bret** 11:02

Yeah. Yeah, I think, generally, it's gonna look like that. But what I would say the interesting biological thing is the fact of Tourette syndrome and its tendency to bring forth things that should not be set in a particular context, does suggest that the context is real and non arbitrary. Right, the idea that the mind has a category, you know, and I think this is sort of generally true, that, you know, I always made a point in teaching college, in not changing the way I spoke in class versus outside, right, think it's an issue? I don't think it is inherently hypocritical to have two different ways that you speak. But for me, you're both sort of necessary. Yeah. And, you know, I also don't restrict what I say around the kids. No. So to the extent that there's certain level of cursing, the kids hear it. And I don't think that's normal. But I do think, anyway, the recognition that there's a cat,

**Heather** 12:07

there's no chance of there being a discovery, and they're like, Oh, my God, you're alright. And we both do this. You're this other person in this other life, you have you have a different life. And, you know, your child or your student didn't know that you had this other life. And now that makes me question would be all these other things that I thought were true about you. And like you, like you said, there's not, there can be reasons to have these different venues in which you have different personas. But it does, it does allow, it opens the door to the possibility for deceit in a way that if you're simply a continuous being with a way of being in the world, if you start being inconsistent with yourself, it's immediately apparent to you and everyone around you.

**Bret** 12:51

Yeah, I think the problem is, there's a slippery slope there somewhere. Yeah. And, you know, Dick Alexander, my PhD advisor used to make the point that he made it in writing somewhere, I can't remember where exactly, but he makes the point that even you know, there's all sorts of behavior, you know, right down to the super mundane, that isn't, that is deceptive. I remember, he is the example of a breath mint, right? That you are, you know, disguising how you actually smell, you know. So,

**Heather** 13:24

anyway, the point, if that's in biology of moral systems, maybe

**Bret** 13:27

I can't remember, I can't remember where it is, but But in any case, the point is, I don't think anybody you know, it's not like you're really fooling anybody. You know, for one thing, a breath, mint smells like a breath, man. So it's even though it's pretty straightforward, right? And so that's not dangerous. And then there's a point at which you're two totally different people. And that is dangerous. And then there's everything in between where there's some slider. And so for some of us, it's like, Well, you know what, I actually don't want to play the game of what's in the middle, because that has a cost. And I can do the other thing in the context that I live in. But there's certainly roles that you can play in life where you just can't do that.

**Heather** 14:06

Yeah, right. No, and I mean, this. Boy, this, this has been explored so beautifully in literature and by so many people, but the one that comes to mind right away is the Picture of Dorian Gray, you know, having the very different visions that one of which cannot be revealed to the world, lest the facade of both of them fall apart. Yep. All right. First question from this last hour. Alpha fold to near term danger is treating as an Oracle, not a model with assumptions, prion diseases, show folding environment effects folding environment, not input to alpha fold to hidden assumption. What other assumptions, comments that was written in? Without as many of the filler words as I might have hoped for? Yeah,

**Bret** 14:56

I sort of I sort of get the question. I agree. That, you know, protein folding holds potential hazards, you know, prion disease that turns out prions have a whole non pathogenic landscape.

**Heather** 15:13

A lot of interesting epigenetics on protein folding. But I have not gone back into but was researching a lot when we were doing some of our work with being human six or seven years ago, whenever it was just super fascinating what the environment produces what the environment can produce with regard to sort of a latent genetic predisposition.

**Bret** 15:33

Yeah, so the questioner here, I don't know exactly what they're getting at. But it sort of sounds to me like, the environment in which the protein will fold is an assumption of the model that predicts in what way it will fold. Yeah. And it is too easy to say. And in fact, much of what what we and others said was basically as if that wasn't true that there's some way the protein will fold, which of course, can't be the case, because temperature and pH adjust protein folding in a way, you know, why do we manage our temperature and pH so narrowly, it's because your enzymes don't function when they D nature. And so the assumptions are fundamental. So I don't know what the particular hazard the questioner is after here might be but yes, there is an assumption of folding environment built into the prediction.

**Heather** 16:24

Yeah. You what you said just had me thinking about frog eggs,

**Heather** 16:29

of course scores Well, I mean, I actually had forgotten I had not Yes, temperature, narrow temperature range, because proteins denature at temperatures even just a little bit elevated above their optimal range. And I sort of didn't have pH in that same category. And I'm reminded of one of my really surprising findings from my dissertation research that was not in the realm of behavior and sexual selection and territoriality which is what I was most interested in. But the more strictly ecological work that I did where I was trying to figure out what the biotic mostly and to some degree a biotic parameters of these little like these little wells, the frogs were reproducing in, had, like, How were the wells that they preferred, and that they successfully raised offspring in different from the wells that were in the forest that were unused by these frogs. And one of the things I found was that the pH of the preferred Wells was much lower, much more acidic, but like, seriously, like three, like insane, and I did this over a couple seasons with a couple of different pH meters, and I had pH strips too. So this wasn't just like a calibration problem on my on my tech. This is this, this struck me as nearly impossible, and your frog eggs are, these are not amniotes. They don't have all the layers of protection that we mammals and birds and other reptiles have. So just just shocking that these these developing frog embryos could withstand and indeed, their parents preferred to lay them in water. That was such a low pH,

**Bret** 18:02

I think it makes good sense. It's, you know, a little hard to imagine how it evolved. But

**Heather** 18:07

well, niche partitioning makes sense. But that low struck me as surprising.

**Bret** 18:11

No, I think it's gonna be a little bit like the logic of the pH of the stomach. Right? There's a lot of things that would like to parasitize you. But there are very few things that you're going to encounter out here in the world where the pH is neutral, that can survive being put through the incredibly low pH of the stomach. And so the point is, it's an extremely file thing, things can evolve to live in extremes, but the chances that you encounter them in places that aren't extreme is low. So if you can have an extreme environment, it's a safer environment. So if you imagine this very high or low pH, well, sitting in a world of paths, potentially pathogenic things, the point is, almost all of them will fail immediately upon hitting that water.

**Heather** 18:53

And indeed, as you know, I discovered one mantella specific egg parasite, that I had no idea what it was, I find I collected a bunch and took them back home and turns out to have been crane fly larva, so no, nothing adult predated these things. Other species of frogs that also had paternal care that were deposited into the same environment might, they weren't cannibalistic when given the opportunity opportunity, but it was the crane fly larva that were most the most rabid predators of, of these frogs. And the prediction may be a prediction there would be the queen fly adults upon laying the eggs needed to avoid the water that it would have. It would have been maybe dangerous for them because they live in a non highly acidic world, the green flies.

**Bret** 19:41

Well, at the very least, I would predict that the crane flies themselves are obligated to very low pH. Yeah. Well, yeah. And so they are forced to be specialists. By their environment because otherwise it's hard, it would be hard for them to have their own enzymes and things that were tolerant to it but not requiring right.

**Heather** 20:06

But I'm talking about the adults versus Yeah,

**Bret** 20:09

question is the adult laying the eggs in the water of the crane flies, you know, could just contact it briefly, which wouldn't necessarily be that dangerous,

**Heather** 20:18

although, I mean, the adult frogs were hanging out in the water. Yep. So, I mean, they, they were doing something remarkable.

**Bret** 20:26

Well, they may, you know, obvious way to deal with it would be to produce a bass on the surface of the skin that would neutralize the acid.

**Heather** 20:36

Just create a little, little wetsuit around yourself.

**Bret** 20:40

Yeah, a little mucilaginous? Yeah, wet suit. Yeah, something like that.

**Heather** 20:46

Cool. Okay. Recent academic article. So the biggest threat facing humanity is the population cliff. The worldwide birthrate is plummeting, and most likely to continue in that direction. What is your opinion on that? Keep up the good work and 2021?

**Bret** 21:00

Well, you ain't gonna like this, because it's not a complete answer. But here's the thing. We've got too many goddamn people living simultaneously. And I think we are those of you who are long term followers of the podcast will have heard me say many times that we are in some sense morally obligated to see just how many people we can give the gift of a liberated human life. But the key to that is reducing the number of people on the planet to some equilibrium number that we that is sustainable in the literal sense, where it could go on indefinitely. And so that does not mean we are not headed for disaster because we are facing a reducing birth rate. I mean, the population of the planet is still growing. So it's hard for me to see that this is a danger yet. But to the extent that it might reverse.

**Heather** 21:52

Well, in some, some weird countries are experiencing population declines, right? Like Italy and Japan.

**Bret** 21:58

Yep. So am I saying that it just safe and you know, we should not worry about it? No, it could cause catastrophe. And it could cause a lot of things. But long term, we need to be looking to backing the human population away from carrying capacity and making life sustainable. And the thing is, I learned this actually, on those things I learned in high school. That, in fact, the reduction in population in Europe, after the plague, created the equivalent of a burst of wealth, right? Because effectively you had people living very densely, and that reducing the population basically left more for everybody. So in these conversations, we should all be of the mindset that effectively we get richer when there are a few of us here, fewer of us here simultaneously. And if that is the key to making us able to have more people in sequence, then everybody wins.

**Heather** 22:58

Yeah, I mean, we, we do have a couple of different kinds of demographic problems, though, which is to say that the weird countries are aging. So we're going to have an older, mostly post work age group, that requires a lot of resources, and a relatively smaller cohort of people who are still working and contributing to the economy. And then in the developing world, the demographics are almost the opposite, where you've got a whole lot of people who are very much younger, who will all come of age around the same time. And, you know, if, if those people are, are healthy and, and smart enough to be educable, even if they weren't, as as youth because of the conditions in which they grew up, then dispersing the population across across the globe is not, is not inherently disastrous, and could address some of the problem I I haven't really spent much time with this argument. I know of it this idea of the population cliff, I find it hard to believe, but I'd want to spend more time with it before I dismissed it entirely.

**Bret** 24:11

I think the problem is it just simply accept certain things as assumptions of the future rather than leave flexible to being reimagined. And, you know, we cannot let the assumptions of the present force us to keep playing this game until we exterminate ourselves because that's what's coming, right if we keep playing it this way, right?

**Heather** 24:31

universities are laying off many professors due to declining enrollment, largely from COVID and mainly adjuncts. How about we make use of this newly liberated intellectual resource, also marry ninth day of Christmas? I'll just say that last point, as per your suggestion at the beginning of livestream 60, that you weren't sure if you were allowed to say Merry Christmas. We heard from a number of people who said that the 25th of Christmas is in fact the first of the 12 Days of Christmas. And so we were then and Still are firmly within Christmas

**Bret** 25:02

now this is I am going to indict myself permanently in the eyes of many in our audience. But I have always imagined that the 12 Days of Christmas was a myth pretty much relegated to that song and didn't have any deeper meaning than that. Am I wrong? Yes, the 12 Days of Christmas a real thing? Yes.

**Heather** 25:20

I don't know much more than that. But but there are active persistent traditions which, which celebrate the 12 days that begin on the 25th and end on I guess it's the sixth of January.

**Bret** 25:33

So I had all

**Heather** 25:35

them there are there are words I think in Latin for this that I have forgotten, but I'm sure already popping up in the chat.

**Bret** 25:41

I had assumed that what had happened was so the Christmas got to put near the solstice because we needed a celebration holiday.

**Heather** 25:54

There are those two who argue that actually no, this really was Jesus's birthday. But

**Bret** 25:59

yeah, I have not seen a compelling argument to that to that effect. So okay, so it's this holiday, kind of fuse it with the you know, the birth of Jesus and all of this and then, you know, modern times and the Jews are feeling like hey, well, you know, that's not our holiday and so they boost the Maccabees story to be a time of celebration and gift giving. I think it's Christian went up I push up and well I was gonna say arms race, but but Yeah, I

**Heather** 26:27

thought so. But no day, eight days, 12 days, something like that. Yeah, your move Jews that sort of something like,

**Bret** 26:32

Yeah, okay. That's not what's going on now. Okay, why are the 12 days? What do we know? I Yes, we do. But we don't know. We in this room? Yes. So whatever Capstone Yeah,

**Heather** 26:43

I'm sure the cats don't know. Sorry. To the actual question, how might we make use of this newly liberated intellectual resource, that newly liberated intellectual resource being the laying off of many professors, I wish I were more certain that it was a intellectual resource. And that may sound cruel and harsh, but I've met a lot of faculty. And most of them should not be educating your children or claiming to do research. And that's maybe unfortunately true across all manner of fields. I know what faculty sound and look and act like better than most fields. But, boy, is it hard to be impressed with the category as a whole, after spending time with a lot of faculty.

**Bret** 27:29

It's funny, your first sentence I had formulated almost the identical sentence to gently point to the fact that possibly this was not a massive intellectual resource waiting to be tapped.

**Heather** 27:44

So presumably, there are some there presumably there are some very good people who now find themselves who were stuck in adjunct land where you know, who was driving between four different colleges making crap money, teaching way more students than could ever possibly develop relationships with and you know, being basically beaten down by an academic system? That is not that is not interested in actually preserving the intellectual rigor and honesty of of most good people, presumably, some of those people now find themselves liberated, but not even having that work. What, what, if anything, might be done at a societal level? To to help society and to have them send their good, good work into production? Yeah,

**Bret** 28:34

I agree. I agree with this. In the group of people who have been laid off will be some very good 100% people. It won't be a large percentage guy, but it'll be in that

**Heather** 28:45

100% was agreeing with you. 100%? Yes, yeah.

**Bret** 28:49

I had no doubt, yes, zero ambiguity there. What I would say is that there's something waiting to be born or maybe it's not quite maybe it's already there. But the number of people who will go to YouTube or other places for valuable content is large and to the extent you know, I kind of would love to see meritocracy break out. And, you know, I don't you know, I don't know where, presumably those people who don't really know anything and have been laid off from their university jobs, should go do something else. But to the extent that the, the market might provide a mechanism for people who actually were insightful to find an audience, more power to them, and you know, one can imagine communities of such people gathering and who knows maybe that's where the reboot for the academy comes from. Yeah.

**Heather** 29:53

Cool. Okay. regarding a question from last time asked might solve the immortality problem for lineage but not for an individual consciousness which we obviously care about l swacch. Your disease when you could just have kids, the reproduction rate tends to go down as longevity increases. And since we can't rely on an afterlife, it seems rational to extend our own lives as long as possible dimension notwithstanding.

**Bret** 30:17

Yep, I hear ya. On the one hand, it does solve the consciousness problem, because what you know, goes out of date, too. And so the portion of your consciousness that actually is valuable going forward gets edited down. And presumably, I think this is frankly, built into the grief process. When you lose somebody, you do forget all sorts of trivia about them, and you retain the stuff that's really deep. And that that that editing process is is positive. That the problem it doesn't solve is the crisis for the individual who feels the threat of loss of everything they know. And, you know, one of the deep ironies or troubling facts about death is that there's nothing to it. Right? It just, you know, will there be relief from whatever you're suffering from? No, there'll be no relief, there'll be nothing right? And well, you won't be in pain, you won't be in pain, but you won't be general what we cannot say in pain, because you won't be right. The connotation of not being in pain, though, is the experience of not being in pain. It's not great, right? Because you won't not be in pain either. Right? I mean, it is equally true philosophically, to say that you are only in pain, right here. And that is an infinite test, small part of the universe, the number of places that you are simultaneously not in pain is indefinitely large. And so that isn't comforting to you either. Is it? Right, so

**Heather** 32:04

if only I could get one of those other places, right?

**Bret** 32:07

As soon as you got there, you bring your pain with you. So anyway, the point is, yeah, there's something very troubling to a mind that is built to be confused about the importance of its perception. Yeah, right. about well, that can't just come to an end candidate. And you know, yes, you can. And, you know, I used to, when I used to get into these arguments in college dorm rooms and stuff, you know, I would say, What do

**Heather** 32:33

you wear yourself in college? What you mean, when you were yourself? And when I was not with your own student?

**Bret** 32:37

Right? Yeah. Right. But I, you know, I'd say, look, we know what happens after death, we know where you're going, you're going exactly where you were, before you were born. And, you know, the point is, you were there indefinitely, and then you were briefly here, and then you will go back there indefinitely, or infinitely. So

**Heather** 32:58

before you were fertilized perhaps, right, not before you were born.

**Bret** 33:03

Right, exactly. So anyway, the point is, I think this is just a problem that doesn't need a solution. It is its own solution. And does it make sense to stick around as long as possible? Hell yeah. It's a whole sea of not being with a brief intermission of being like, why not get the most out of that thing? Because that's all you're gonna get. It's the intermission. Right? Believe

**Heather** 33:29

it or not, I actually enjoy living with this.

**Bret** 33:34

Yeah, well, I think you know, it is the cosmic joke. And as soon as you're in on it, things get better. Okay.

**Heather** 33:49

We're gonna read a few more from this and then move to the next hour our culture is biased against introverts. Given the talk of diversity and inclusion these days, why is introversion not emerged as a protected class? Should we establish a grievance movement to correct this hell yeah, of course we should you go first. That'd be I've I have not used introversion as as the one but I have used handedness like okay, there's 10% consistent across cultures of us who are left handed and because we're distinct minority the world the the world of tools is largely built for right handers and and, you know, anything that has the potential to have a symmetry in it along a line of access is mostly built for right handers. And, you know, we need to be talking about handedness bias. Well, no, we don't and you know, there are there are privileges and advantages and disadvantages everywhere you look so I appreciate the question as a fellow introvert, but yeah, anything to add?

**Bret** 34:49

I'm not really I mean, the irony of us both being pretty severely introverted and yet here we are. Here we are speaking into a series of cameras in front of that Other people so, you know, it is what it is. It's it's an advantage, but it can be overcome. Yeah.

**Heather** 35:09

Biden and ATF, Alcohol, Tobacco and Firearms, right Biden and ATF are alarming gun owners right now seems like a bad time to be antagonizing them. This is another case of the left causing the very thing Civil War similar that they hope to stop. I don't know what this is in reference to. I don't know what Biden or the ATF are doing. Probably I wish they'd stopped. But I don't know what they're doing.

**Bret** 35:31

So yeah, I have no idea. And I don't really want to comment, I would say, you know, the truth is, it is obvious. And I think every reasonable person would agree that we need regulation of arms. I mean, you can't have a nuclear weapon. I'm sorry, no matter how much you want it no matter how much it seems to be included under the Second Amendment, you can't have it. On the other hand, you know, I think the idea that firearms are so prominent in our constitutional framework has a lot to do with a hedge against tyranny that we don't talk enough about, right. And on the third hand, gun, the man, the third hand, we have a brand new set of threats for which we have no conceivable mechanism of self defense, right? We've gotten this whole AI, slaughter bot, future headed our way.

**Heather** 36:37

That's a new word. Nope, it's not I'm sure it's not it's not I don't like it.

**Bret** 36:42

No, I don't like it either. And the people who invented it, don't like it one bit, and they are AI researchers. So anyway, we are in the postmodern future in which self defense has become an incoherent concept. And we're gonna have to rethink these things. But the idea that there's any simple answer, like you're entitled to have whatever arms you want, that can't be right, you can't have any arms. That can't be Yep. So what is the answer?

**Heather** 37:10

Regret comes from living. Wait. I skipped one. Breton. Heather, the simple. The sympathetic intelligence that characterizes your relationship is as rare as it is inspiring. Here's some bucks for the smart report fund. Thank you. Nice. You. Next question. Regret comes from living in a dark past fear from living in a dark future, courage from living in the present, the way to find courage is to be in the moment and deal with things as they are not as they were, or might be.

**Bret** 37:40

You know, that is interestingly consistent, I believe, with the the theme, the first against the wall club. The idea is what imprisons you in the present is fear of what might be in the future. What happens if I actually say what's true, rather than what this mob wants me to say? Right? And really the point I think I didn't say it very clearly at the beginning of the podcast is make your peace with it now. Right? Make your peace with it upfront. Not in the moment when you're faced with that mom, because yeah, then you will cower. And if you make your peace with it up front, and you just say, look, Okay, I get it. There's something frightening, there's a threat, it's real. But I'm not going to live. I'm not going to be governed by that threat, then you will behave differently. And my guess is, you'll be glad for it, and you will navigate better because the last thing you want is your fears governing you in that moment, you will navigate very poorly if you do it that way. Yeah.

**Heather** 38:42

is unconscious bias unscientific? In my opinion, bias has to be conscious. A conscious discernment creates a pattern we were calling recognize that a consciously built pattern of biases from our subconscious. How can bias be unconscious?

**Bret** 38:56

bias? Okay, this confuses me.

**Heather** 38:58

Me, too. My feeling is the most persistent bias will be unconscious.

**Bret** 39:04

Yes. And in fact, you know, the, what we don't say is that most biases are accurate and serve you, right? And the point is, when we say bias, we are invoking it for a category that is understood to be negative. But basically you your conscious experience of the world, is built on heuristics,

**Heather** 39:26

like I'm biased towards not going outside and current conditions without a raincoat or an umbrella.

**Bret** 39:31

Yeah, or more fundamentally, I am biased towards paying attention to the edges of objects and not their middles. Right And the point is when navigating a space right as you're walking around knowing where the edges are, allows you to navigate quickly and effectively whereas you know mulling over the surface detail wouldn't And so anyway, you are nothing but biases and those biases are nothing but good for you except in very rare circumstances, which is why there is such fascination with things like

**Heather** 39:59

exactly, most those biases don't come to consciousness. They just exist and you navigate based, right?

**Bret** 40:03

They don't come to consciousness because they work so goddamn well, right. And you know, it's the occasional optical illusion that reveals that you are wired in this way, something that pivots just between two interpretations that your mind flips back and forth reveals that you're a heuristic machine. But anyway, so the point is, okay, your history eristic machine, and then you find that certain biases, you know, stereotypes, for example, are disallowed, the penalty for them goes up. They may be inaccurate, or they may be accurate. And the problem is, how do you convince a heuristic machine to give up a given heuristic, and sometimes, that must be the case. But I think the point is, this is so much the exception. The rule is heuristics, which are biases, and that means most of them are unconscious. And then you can promote one to consciousness. Like, for example, if there's a particular set of heuristics that obscures something that you now need to focus on, right, if you started studying, why am I forgetting the name of the leaf tailed Gecko, you replace your a playitas, right? You're a playtest as a lizard that sticks to the surfaces of tree trunks in such a way that it's almost impossible to see. And if you look it up on the internet, you will see pictures and you'll think that's impressive, but it's nothing the camera actually reveals these things where the eye misses them routinely,

**Heather** 41:27

gorgeous Malagasy, Gekko, they've been known in the Patriots. So if people are great people, they'll know your players. But the

**Bret** 41:33

point is, you can learn to find them. But in general, you learn to find them by taking the thing which you profit from every time you walk by a tree and don't focus on the details of its bark, right? That you can start focusing on the details of its bark, and you can look for these animals. And if you started studying them, it would be like, oh, I've got to find those things everywhere they are. So now I'm going to focus on exactly the thing that I've been productively ignoring for my entire life. Right? So you can promote a bias to consciousness if you need to. And that's very often what we do. But let's not mistake bias for those things that we promote to consciousness because they are negative in some way, right? biases, how the system works.

**Heather** 42:12

Cool. How's the Super Chat alternative app coming along? Have you considered setting up streaming through stream labs for donation? Unlike Super Chat, and it's not take any cut? love you both? So we actually just talked with the awesome guy who's making Super Chat alternative. Getting close. I don't know anything about stream labs. Just never heard of it. There are. Okay, our producer, also our eldest son says it wouldn't work that great for this, and I quote, but I'm not sure why. So, but yeah, hopefully. I don't know. Maybe within the month, we'll be doing our first trial. Yep. Yep. One more in this one, and then we will. We'll move to the next hour. Why did some dinosaurs grow so big? What was different from the world today? Was it climate, co2 levels, food supply, more fertile soil that made it favorable for some of these amazing creatures to reach such enormous size?

**Bret** 43:13

Yeah, well, there's a question about why be big at all. And so

**Heather** 43:19

let's put it that way. We have we have giant vertebrates now. But they're in the water.

**Bret** 43:23

Yep. They're where they are freed from gravity. Yeah,

**Heather** 43:27

exactly. As soon as you come out on land, you got a whole other set of gravitational constraints, which the earliest tetrapods had to deal with and be modifying all the sensory organs for different indices, refractive indices of light versus water, etc. Air versus water.

**Bret** 43:42

So here's the real question. And this is one of the reasons that I argue that we have the definition of fitness wrong, that our definite illusionary fitness, yeah, be by Sonata maizing it with reproduction? You're effectively inviting the following paradox. Why would something like a bear not choose to be 1000? creatures of smaller size? If it's got the resources to be a bear, then why wouldn't it choose to increase its fitness by being divided up more? And so I think the point is what what we say frequently is that the meaning of evolutionary fitness is about persistence. And one of the contributors to persistence is population size. And so that's why reproduction shows up at all. But it is not the only way. And so in some sense, a bear is better able to both persist and to a to put its descendants in a position to persist by being one coherent entity rather than many entities. So the question then is why did some dinosaurs like Brontosaurus make that calculation at Even bigger scale Yeah. And I have no idea My guess is it has to do with the intensity of competition and that basically well

**Heather** 45:10

and also the arms race between predator and prey

**Bret** 45:14

presumably an animal that big had very low risk

**Heather** 45:19

this this is my point that you know a small Brontosaurus can get taken out by a comparable sized or you know group hunting carnivorous dinosaur yeah but at some point you're just too too big to fail

**Bret** 45:37

yes to big endian and you know elephants elephants are like this baby elephants are vulnerable but right your elephants are not. Yeah. So anyway, yeah. Why the scale difference? I don't know. There are some things that were very large relative to their counterparts in the present during the Carboniferous. Yeah, I think it was the Carboniferous.

**Heather** 45:57

That seems too long ago, but things like giant sloths, which is much more recent.

**Bret** 46:01

Yeah, that's much more recent. No, I'm talking about things like giant dragon flies

**Heather** 46:05

or and, like trilobites. Some really big. No, not so much. I'm

**Bret** 46:12

not sure I think Yeah, stick with dragonflies. Yeah, we'll stick a dragon flies giant dragon flies, hopefully in the Carboniferous and we'll hear from our paleontological counterparts. Yeah,

**Heather** 46:21

I don't, I don't have piercings in my head, but also some really big amphibians, for instance. Yep, yep.

**Bret** 46:27

The dragon flies. Okay, we'll

**Heather** 46:29

stick with Dragon plays. I

**Bret** 46:30

think we're about a heavily oxygen enriched environment. And so this was a downstream consequence of

**Heather** 46:41

them breathing their legs well

**Bret** 46:43

of the basically the production of oxygen by photosynthesis. And so they had this very high oxygen period which I think results in fires that result in the Carboniferous being Wow, am I gonna say a bunch of wrong things simultaneously? And we hear from our critics, but But anyway, yes, so I don't think that that I don't think anything like that is contributing to giant dinosaurs. Yeah,

**Heather** 47:11

I am on aware of anything like that, either. Yeah.

**Bret** 47:16

So it's some other phenomenon like

**Heather** 47:18

yeah, I mean, there was like you did have I think the truth is ocean in the middle, you know, before the break up of Hmm, boy, yeah, I'm gonna I'm gonna screw it up, too. I think you know, Laurie, Jen Gondwana had even split, you know, pengy and split and you still had the tub this ocean around which the shallow shores of which had some of I think the early dinosaurs, but

**Bret** 47:42

I did I think it's gonna be later than that. Yeah. But anyway, all right. We are making things up done sabotaging our credibility with the loose paleo. paleo.

**Heather** 47:53

That's not why you come for paleo. First question from this hour. What if any recessive traits? Could the child of Beauty and the Beast show have given exactly no thought to beauty in the beast? Yeah, I just don't I barely know I've seen vignettes? Well, I mean, it's I did I actually forgot that it was like a Disney thing. But it was like it's it's a fairy tale from long ago.

**Bret** 48:21

I just I just the question.

**Heather** 48:24

Well, yeah, what might be revealed? That, you know, what, what? What might Beauty and the Beast actually have in common that gets revealed when brought into homologous?

**Bret** 48:35

I mean, the answer is anything because recessive? I mean, so I just don't understand how you would limit? Yeah, yeah. Could be anything. Good question. Yeah, yeah. Yeah, there could be almost anything lurking. Yeah.

**Heather** 48:49

Two part. Question. Could agriculture have emerged in the tropics? And two, is there a parallel to be drawn between how humans competing mainly against their environment versus against other humans may have led to different cultures and innovations in temperate versus tropical zones? Okay, with regard to the first one, agriculture did emerge in the tropics, agriculture. convergently. We humans convergently evolved agriculture several times. Yes, once in the Fertile Crescent of Mesopotamia, which is the story that most of us are most familiar with. But also at least, it seems twice in China, one of which is getting to the subtropical zone in the south. And I can't remember that I have to remind myself of what the main crops were, it was like it was rice, I think in the south, and it was one of the great one of the other grains in the north. But you have certainly two maybe three evolutions of agriculture in the new world as well. And often when people say tropics, they are implying lowland tropics, but the Andes, where the Inca Where are the tropics, even though it's higher elevation, and so more of a temporary seasonal regime, but the incans invented agriculture. And so too did the Maya

**Bret** 50:09

will actually the incans will have inherited.

**Heather** 50:12

No, I don't think I think the evidence is not that they inherited it, actually. But, but probably probably the Maya and Aztec toltec olmeca. This is one evolution. So

**Bret** 50:24

it's very hard to tell you have a bunch of different habitats with different populations in them, which could all be one evolution by virtue of the fact that you wouldn't have evidence of one person transmitting the idea.

**Heather** 50:36

No, of course, not one person. But if if memory serves, and I'm not, I don't, I can't pull this up precisely. And I don't know what paper it's going to be in. But if I remember correctly, there's just no evidence. There's no archaeological evidence of any kind of agriculture in northern South America that you had like that, you know, Colombia, and Venezuela and sort of down the West Coast, and then you get evidence among the Inca.

**Bret** 51:04

But you have to Kanako to West in there to the west of the Andes, in northern South America, the first of the great temple building cultures. Okay, so anyway, I think I think the main character is going to be late in the story, which doesn't mean that they're not the same population that was was in the Andes. So this this would have been the foothills of the Andes and who knows Do you want aku may not be the first and they may have picked up agriculture from Central America? Well,

**Heather** 51:46

that's what I'm saying. There's apparently no archaeological evidence that there is strong suggestion that there were two new world tropical evolutions of agriculture at least Okay, so whether or not the Inca were the first word they are that's that's not that's beside the point here. That somewhere Andes ish, and somewhere Mesoamerica ish, were two separate evolutions of agriculture, it seems.

**Bret** 52:09

Yep, I still I don't see a way that tiwanaku is not basil to the Inca.

**Heather** 52:19

I don't know anything about the tiwanaku. But that doesn't change the conclusion that I just laid out in May you know, it, there may be something else there. But you haven't said anything yet to suggest that there's a reason to throw over the two different evolutions of agriculture neotropic?

**Bret** 52:34

I don't think that I don't think there is a reason to throw it over. In fact, my guess is it's going to be more than two, because you also have lots of modern evidence that is emerging in the Amazon itself, right, which is, it says agriculture is so different in that environment, it's liable to be a third, which doesn't mean that an individual didn't transmit the information or a small number of individuals didn't transmit the information in a way that we'd have no way of knowing. So how many evolutions Is it really?

**Heather** 53:02

So anyway, growth reversion of the tropics? It did, it did. It's not the the ones that we know from the tropics. And you know, I think there's at least I think there's at least one known evolution in Africa as well. Although I know that evidence far less well, I know for sure, two and China, one Mesopotamia to at least a new world and i think i think there's more than that. But you know, just even that we have with good evidence that it couldn't have been communicated yet separate evolutions, including some in the tropics.

**Bret** 53:39

I think there's definitely an Africa on the I think so too.

**Heather** 53:43

I don't know the eggs. I will not have the example.

**Bret** 53:46

But anyway, yeah. involved evolved many times. And you know, at the very least, we know that the new world was completely independent. And we believe that the new world tropics Yeah, we're an origin point in the New World, right? At least one

**Heather** 54:01

yeah, cuz I mean, there's I'm not sure if there's any North American pre Columbian

**Bret** 54:09

Yeah, there is Mississippi Valley. and the like.

**Heather** 54:13

So I know there's a lot of there's there's, there's, there's like selective harvesting, but is there ag I believe so. Okay. Also, then maybe the Southwest? Yeah. Anyway, is there a parallel to be drawn between how humans competing mainly against their environment versus against other humans may have led to different cultures and innovations in temperate versus tropical zones?

**Bret** 54:38

Well, you know, this this is a tough question. I don't know that temperate versus tropical is what you want to do. Certainly, Incan agriculture and Mayan agriculture were radically different by virtue of the Highland lowland distinction. So you know, the intense terracing that the Inca had to do. And you know, other things like What would you call it? evaporating off water to get salt, things like this. So, you know, there are lots of distinctions based on what habitat one is doing their agriculture in, you know, rice paddies, not rice paddies, but potato, corn grown in terraces, and all in the high Andes and all. So yeah, they're distinctive. I don't know what conclusion to draw about these patterns, and whether there's anything consistent between continents. But now there are patterns.

**Heather** 55:37

What can international relationships, no, start over? What can international relations, learn from evolutionary psychology? I'm a master student, tired of sociology theorists who say war is a social construction? Do you have book recommendations? I have only read Alexander's Darwinism and human affairs so far.

**Bret** 55:57

Good one. Yeah, very good. book recommendation,

**Heather** 56:04

I would say one recommendation that I'm going to pull up that may send you two more, but you go first, I

**Bret** 56:09

think the key insight is that between you have the same process unfolding at all scales, between lineages and nations tend to be lineages. They're not always ours isn't. But they do tend to be. And so the point is, look, there are two fundamental bases for collaboration. One of them is genetic. And the other is effectively reciprocity. And to the extent that nations face the same questions as smaller groups, it makes sense to bias the world in the direction of reciprocity, because the other thing leads to genocide, and warfare and collaboration, because it's profitable, is exactly the opposite. So we, you know, I don't know how much more there is to say than that how this unfolds is something that we don't have a lot of literature on, because, frankly, everybody is so damn stubborn about admitting that this is really the nature of conflict between populations. Yeah, everybody. I mean, you know, apparently, Dawkins is doubling down on this about his skepticism that there's anything to say about, you know, human relations of this nature. And frankly, I think it's just a fear of the part of the answer that's obviously unpleasant, but the degree to which, you know, which do you want? Do you want a model that forces you to look at the ugliness of evolution and its drive to spread one set of genetic Spelling's over another? You know, would you like to hide from that and continue to suffer from it? Or do you want to recognize it, and do away with it and if you want to do away with it, I don't I don't see how we're going to go around understanding what it is and why it happens and how you would have to structure things to prevent it from unfolding repeatedly.

**Heather** 58:08

So with regard to recommendations, there was an article by Robert sapolsky who's terrific that he that published in the January February 2006 issue of Foreign Affairs called a natural history of peace This is something I used to include in the course backs from my animal behavior students quite good. Similarly there was was it the I feel like there was a Jared Diamond article as well. That was quite quite good and sort of on topic but with regard to longer things so ball skis newest book, I mean anything by supposedly I think it would be relevant here but behave is quite good. And then also, fronds fall I think it might be pronounced de WAL, all of his stuff as well. And this you know, again, so supposed to be mostly worked on baboons. devall on on chimps. So it's not Evo, psych these these are. These are people working on our close relatives, not other humans, primarily. devolves peacemaking among primates also might be a place that you could find some some good ways to respond to the social constructionist in your midst Yep. All right. I can't find anything on my computer at the moment. Here we go, Oh, my God. Could city state ruination being evolved dispersed a strategy for ideology in societies where there is free and relatively convenient travel and relocation traffic you could city or state ruination being evolved dispersal strategy for ideology In societies where there is free and relatively convenient travel and relocate shot at Yep, cool.

**Bret** 1:00:07

Yes, yeah, in fact, I have heard consternation in certain circles about liberal do bitterness, wrecking cities as a result of well intended apocalyptically foolish policy. And then people being driven out people of means who were in a position to cause those policies to be adopted, moving to places that aren't ruined, and then voting for the same thing. So anyway, there's a question about whether or not one calls that a strategy or whether it's just an inadvertent pattern, or could be both in different contexts. But yeah, I think the thing that you're arguing probably might exist does exist. At least it's a hazard.

**Heather** 1:00:56

Next question. 90% of the women I know have severe hormonal issues, including me. Do you think the cause is lt BCP? I don't know what that acronym stands for. I was trying to look it up. I didn't have time, you didn't talk long enough. lt BCP environment, diet, chemicals, etc. Anyone or several of them help. For sure, we are sick as a sort of weird. Again, acronym, Western, educated, industrialized, rich, democratic population, because we have messed with our environment, including our diet, and, and certainly the air we breathe as well, quite a lot. And there are their estrogen mimics in our plastics and our water supply. Pesticides, which is how it gets into our water supply. If you are eating anything, but the freshest food that is as close to haul as possible, you're likely getting some of these from, from the packaging, or actually, the ingredients of said food, the more shelf stable food is, the more likely it is to cause and technological disruption. I wish I lt BCP, I suspect is another sort of hormone disruptor thing. Oh, it's birth control pill, like long term birth control pills. That's what that's gonna stand for. Yes, that too, unfortunately. Yeah, I would, I would love to talk about this at length at some point, actually. As for help, long term, hormonal disruption is hard to recover from, especially if it started when you were very young. But freeing yourself from as many of the possible parameters of your evolved system as possible is is the way to go. And it's not necessarily going to be comfortable, and it certainly won't be easy. And obviously, you know, long term hormonal birth control is simultaneously a great freedom that has allowed women to actually move into intellectual and creative space in a way that was very, very difficult until recently, and also a problem for for both individuals and society. Both of those things are true. I was on I was on birth control pills for decades, myself. And at some point, I realized and sort of with a start what like, Oh, my God, this, this cannot be safe, actually. And, and went off them. But yeah. Trying to get to a pre industrial set of inputs to your, your diet and your exposures as possible is a good first pass. Anything to add? No. Yeah, that's right. A lot more to say yep. When you say we must win in reference to the world culture, are you concerned that the we win, you lose mentality contributes to the polarization? You know, I've thought about this before, and I actually will actually use I'm gonna pull something up, you start talking? Yeah, something I don't

**Bret** 1:04:24

I don't think so. Because I don't think we have to win over any individuals. But yes, perspective wise, these two things do not coexist, right? either. We're going to turn the world upside down over a postmodern view of how reality functions or we're going to establish a kind of bedrock about how we figure out what's true and how we modify it to improve our model. And, you know, reality is under attack by people who have an agenda that requires them to uproot our tools. I don't see any way Yeah, we could find nicer language than winning. But no, we have to win, right reality has to win and those who are obligated to it are going to have to make that happen. Now, ideal way that that could happen is we could persuade people and at some point, we persuade enough people, and those who are attempting this will stop. Right? So I'm not arguing for something that is the defeat of individuals. But you know, there's right and there's wrong. And we, we cannot surrender reality of any of this nonsense. Yeah,

**Heather** 1:05:41

that's right. So I wrote a piece I can't share my screen at the moment because of the problems we're having here. But on medium if you just search for me on medium, a piece that I published November 2018, called grievin studies versus the scientific method was formulated as a response to someone who on AI in responding to James Lindsay, who many of you will know as a friend of ours. said one more major Rovio will send the authoritarian nonsense in higher ed up in flames. I hope you're right about this. But the rhetoric is growing evermore entrenched. And people make up excuses for the cases they can't explain. Someone on Twitter says to me, why must this be worded in conflict, flames and victory over an enemy by asking the spirit of inquiry? So this is that same? This was exactly the same question. And I began my response, which is fairly long here by saying word choice is important. It's always people. And so you're right to wonder, Is it necessary to use language that implies competition? In this case? It is I say it is there's real conflict here. It is not the scientists and other practitioners and practitioners of enlightenment methods and values who created the conflict, however, nor are we defending our privilege by resisting the forces that are coming at us. And then I provide lots of evidence of the conflict is being created on the other side, and therefore, to not to pretend that the conflict isn't there or to rollover and you're basically taken entirely defensive stance is to guarantee losing, we didn't create the competitive environment, but here it is. And frankly, defending truth, reality, science, enlightenment values is something I'm perfectly happy to, if I have to, you know, get in the trenches about

**Bret** 1:07:25

Yep. I think the last thing that I would say in in reflection here is that those of us who must win this, it's winning it for everybody. Yeah, the people who are pushing this stuff don't realize that they are creating a unstable system that will collapse on them, and it will cause starvation and warfare and probably genocide. And so for their own good they need to lose. That's just the way it is.

**Heather** 1:07:55

What are your thoughts on Jordan Peterson saying that evolution is a conservative force, for example, the same snake circuitry fuses up when in danger.

**Bret** 1:08:08

It is largely a conservative force, but it doesn't mean you know, it's the perfect balance between these two forces, right preserves that which works in an innovates where something is possible,

**Heather** 1:08:17

it's not going to innovate something that already exists, why why would any, any functional system so yeah,

**Bret** 1:08:22

it's not gonna innovate, to innovate something that exists over there, innovated over here, but yeah. But I think the point is, the Wisdom is in recognizing the balance between these two forces, right. And to the extent that something is near perfect, you will find evolution not changing it. And to the extent that something is really suboptimal, you will find lots of change. And what more could you ask for? Yeah, it's a really effective system.

**Heather** 1:08:51

Why did introversion and extraversion emerge as traits to be selected for? Are there any advantages you've noticed in today's landscape that are shared by introverts? So this is another topic that I feel like we could spend probably a whole episode on. You and I have talked privately before about thinking that actually these these categories as much as we immediately recognize them, aren't aren't really granular enough? That like, you and I are actually using really different kinds of introverts. Yep. And the majority of the world being extroverted, I'm sure is obscuring a whole lot of diversity of ways that people are extroverted as well. And one thing that seems true across the introverts, I know and m is that the desire for introversion Well, two things is not does not mean that you don't like being around people. Yeah, right that but that you also both crave and really need to die alone in order to do that. reenergize in order to do the work that you want to do. And then it's that time alone, where you tend to innovate often. And, you know, we can we can do it, we can effectively kind of be alone together. And well, but it's still not the same thing as being entirely alone. And that I suspect that I don't know how tightly but to some loosely to tightly will map on to introversion extroversion, is sort of being a unit Tasker versus a multitasker. And there is of course, lots of new research suggesting that lots of people think they're multitaskers are actually not very effective at it. And that you know, being driven to be around other people all the time may mean that really, you know, your your talent, your skill is in the energy of the people and, and getting new people together and all of this. If If your talent is in bringing innovation into the world, there was a good chance that even if you're not comfortable with it, that you're going to need some time without the other influences to you know, get them out of your head and just focus. And so this sort of introversion on unit tasking, sort of a recognition of the need for unit tasking, I think, well, we'll map somewhat as character traits.

**Bret** 1:11:17

I agree with that. I'm also not sure how ancient any of this. Yeah, I think that there's something about modernity that has freed us to bias in the direction of some level of sociality, that happens to work for whatever reason, but you know, I don't I don't think a hunter gatherer I don't think I don't think this distinction would occur to a hunter couldn't, right, you, you know, the people that you know, you encounter them as regularly as you encounter them.

**Heather** 1:11:44

I mean, I expect there'll be variation in terms of like, Oh, she, she likes to spend more time alone than the rest of us. Yeah, that's a little odd. Like I expect that that kind of variation would exist. But it wouldn't be so discreet. Yeah,

**Bret** 1:11:57

I don't, I don't think it'd be, it wouldn't be like this. And so anyway, there's a question about whether something that would have some natural variation has been amplified into a, you know, population level distinction. Just because we can choose and it doesn't have profound implications, necessarily on how we function in the world, because so much of the world has been offloaded to the market or whatever. But anyway, so. And also these things, it seems to be very flexible. Right? I was certainly a shy kid. And I've gone through a period, you know, just the simple fact of what has happened to our life since 2017. has made me much more extroverted just by you know, forcing me into lots and lots of social contact. Yeah. So anyway, I'm not sure what it is or what it means.

**Heather** 1:12:50

Yeah. Now this I mean, there's more to be said there, but maybe we will move on. We have been joined by our eldest carnivory. member. 13 hour and 30 minutes. Okay. Well, we have we got a lot of questions this week. We're not going to get through nearly all of them. Let me quickly scroll down and pick three more, shall we?

**Heather** 1:13:20

I don't know enough about the next one. Okay, so I am a transplant recipient, working with physicians on restructuring the medical model, by implementation of self awareness as a means to health care versus sick care. Any suggestions on facing the shadows? I'm not sure I know what that means. I don't know what that means, either. Unfortunately, the next several days. I think there's something really deep here, but I'm not sure.

**Heather** 1:14:00

I mean, necessarily. So what I'm going to do is go back to a few from the previous hour, and then I'll pick a bunch a few of these up for next time, ones that I already knew were good. psychedelic therapy will likely be legal and widespread pretty soon. Given the mystical components of the experience, it seems there will be some amount of religious backlash. What are some ways we can mitigate this clash?

**Bret** 1:14:26

Well actually wonder if progressive liberal folk won't actually adopt some of this stuff. adopt some of what stuff psychedelic stuff?

**Heather** 1:14:38

I mean, they're experiencing it.

**Bret** 1:14:42

Are we talking about something different? If you won't find churches, employing mushrooms, there's something I don't know about.

**Heather** 1:14:54

Maybe I just missed what you said. You want to say what you what your claim was. I'm wondering

**Bret** 1:14:57

if instead of a backlash from Just people against psychedelics if there will not be a fusion of the two things. Okay,

**Heather** 1:15:06

I thought you said the the left and the woke would adopt the psychedelics. No.

**Bret** 1:15:11

Okay. So no. So anyway, I don't know. But certainly in conservative circles, there will be lots of fear and consternation, frankly, I'm not sure that there isn't reason for it, because these are tremendously powerful chemicals. And in the context, in the proper context, they can be very useful in upgrading mental architecture, as Michael Pollan points out, in a haphazard, frivolous recreational context, they can be destructive. And I don't really trust civilization to do this. Well, I don't know that I trusted to do the medical part of this well, especially in light of the way the medical apparatus demonized this stuff for the longest time as if it was inherently destructive. And the idea of, oh, now it's medical, right? strikes me, as you know, well, you botched this your last in line from the perspective of rationally figuring out how to employ this. So I don't want to see it medicalized. And I fear that that's where we're headed. On the other hand, you know, the the folks who said that marijuana legalization for medical purposes was a gateway to full legalization. We're right. And I'm not sure what to make of what the net effect whether as we've talked about before, I think legal pot is just fine in the ancestral form, but in the very strong form that it exists now. Ironically, the concerns about marijuana which were initially fabricated nonsense are now much more realistic.

**Heather** 1:17:03

Yeah, we let market forces changed the plant, and then we legalized it, and now it's a totally different drug from what it was and it actually does have associations with psychosis and such. Yeah. Which it did not I would

**Bret** 1:17:14

love to see a an enlightened non medical approach to psychedelics, which can include therapeutic value, but

**Heather** 1:17:26

well and also mean to the question about mitigating the clash between site psychedelic therapy and and the religious you know, as, as a way as a way to find God, you know, as a way to find your spiritual self and dissolve the ego and, you know, be your best self. This These are some of the ways that, you know, the shamanistic approaches to psychedelics are used,

**Bret** 1:17:53

of course, in other contexts, and the problem is our culture doesn't have that history. And so, can we import it? Probably not? Are we going to get there from the medical side? I have my doubts. Can we bootstrap something new? Yes, but I don't trust us to do it. Yeah, I think we're gonna botch it. I think we're gonna, to the extent that we are free to do anything, we will bias towards the recreational and frivolous and that that is dangerous.

**Heather** 1:18:21

Yep. Okay, penultimate question. Why did it evolve for humans to see beauty in things that are normally dangerous to human flourishing, such as a lion or a fast desert?

**Bret** 1:18:37

That's a great question. Because in general, the answer is that beauty is a heuristic for hospitable pneus and value, right?

**Heather** 1:18:46

I feel like we talked about the desert thing recently, and we didn't get anywhere maybe.

**Bret** 1:18:50

Yeah, I mean, I think it's a good question. I you know, I'm tempted to say exactly the kind of thing that I scoff at when other people say which is Oh, that that sounds like an epiphenomenon you know, you have a heuristic that sees beauty in a fertile valley where you might, you know, find the soil hospitable. Yep. And then it sees something that it's not built for and it reacts positively to it but I don't know. I don't know let's just put it this way.

**Heather** 1:19:19

Well wonder. So finding with the word of a lion, these are two very different examples, right? The a biotic thing that we find beauty and which cannot have a response to our finding beauty in it is a very different thing than the biotic thing which could evolve away to recognize our response to it and thus change its behavior in response. You know, finding beauty in a lion could be about just all right, like recognition of the power of that thing. Another hypothesis, I think, completely untestable would be that we came to find out wild cats more beautiful once we domesticated, smaller cats that we could we could see in the larger more dangerous cousins. Beauty that was maybe not as as visible to us before.

**Bret** 1:20:14

Well, building on the first part of your answer, I'm wondering if you know, I'm thinking about why, why do we let's take something that's not in either category? Right? It's not a fertile valley that might be profitable. It's not an dangerous thing. That is paradoxical. But what about the beauty of a an extraordinary acrobatic routine? Right, or some dance or something? So that's not an opportunity. Right? It is not a hazard. It is a recognition of how tightly engineered something is. And maybe the point is, it's an it's an amplitude measure of something significance, right? desert is significant. Right, a desert? That is, you know, a vast sea of sand dunes. Yes, certainly not something to be engaged casually. So focusing on it, and looking at the detail of it makes some sense. So I wonder if it's like, it's an incentive to scrutinize before you walk into that desert, you might want to scrutinize it right? Before you go up against that challenge. Or you might want to see just how in control of their weapon they appear to be okay. Okay, something like that. I don't know. That's, that's the best I got on short notice. Yeah.

**Heather** 1:21:46

So change my mind, we're gonna do two more of what I know. All right, with the puffer fish toxin example, do you think this could apply to humanoid evolution on alien planets, aliens would look like us to suit a similar evolution selection. Only if that Goldilocks planet that we found was really exactly the same, not just in terms of de vida parameters, but had all of the same initial conditions along every step of the way, such that the point that humans were evolving, we had the same competitors and parasites and predators and all this, and the abiotic stuff alone, you know, same type of star, I mean, the same kind of spectrum with the same gravitational effect, same size, same density, same math, all of this stuff. And that we can do it. And yeah, and and even then, you're really unlikely to get there,

**Bret** 1:22:34

right? Because the scale at which you're imagining, they might look like us the sort of sci fi scale in which, you know, alien is kind of hot, but she's got like,

**Heather** 1:22:42

x router inch or something. Yeah.

**Bret** 1:22:46

But, you know, first of all, how much does a deer look like a kangaroo? A lot. But not enough for it to meet the standard of this question. Right?

**Heather** 1:23:01

You don't think a deer would find a kangaroo hot?

**Bret** 1:23:05

That I can't speak to. But that my point is you've got two creatures that look very different and function very differently. But you know, and that's sort of the level at which selection is reinvented a different version on the same theme. Yep. But anyway, so my point would be that said, you know, look at the facial structure of a deer and a kangaroo. There's a lot of analogy, right? And in fact, there are lots of things in Australia where we say, Oh, it's a marsupial mouse, right? You know, and the fact is, it's not, or, you know, a sugar glider and a, and a flying squirrel. These things are convergently evolved, and they do have a certain similarity, but they don't look alike in the same way that you're asking about. And so anyway, my point would be, look, I'd expect certain things to be very common on other planets that are anything like Earth, or maybe even not, with that caveat, like, you know, how we're

**Heather** 1:24:06

gonna use that sense light, right? Like, and how many molecules that have the capacity to smell if you have the right receptors,

**Bret** 1:24:13

right? And, you know, two eyes makes sense, because binocular vision, she says to your ears make sense, right? Because you can detect differences in timing and amplitude, the tell you what direction to look, the fact that all of the sensory organs are very close to the processing Oregon, right? That makes sense, too, because you don't want the messages to take a long time to get there and having you know, you don't want the brain processing visual information from the elbow. That's not good, right? The brain having visual information about its immediate environment is sensible. So what I expect that creatures on another planet might have a head. Yeah, and that head would be the concentration of sense organs that weren't about the surface of the body. Yeah,

**Heather** 1:24:56

that we would not upon meeting them have to be instructed as to what As the head end right right like it would become immediately apparent

**Bret** 1:25:03

it'd be hilarious though for some reason yes right but anyway so yes they will look like us very likely a creature that had the basic structures you know the basic evolutionary history similar to ours would probably end up looking superficially similar in the sense of you know organs and where they'd be and all of that but how different could that look? Oh my god, hollywood sucks at this way more different

**Heather** 1:25:32

well in part because it's restricted to using eight actors

**Bret** 1:25:36

Yeah, whatever less so well, because you got CCI okay. Yeah, you've got lots of room for aliens to look like whatever they need to look

**Heather** 1:25:46

like let's be really union busting. Alright, one more question and then I'm going to get that hemiptera and that's been plaguing us

**Bret** 1:25:54

Oh my god. Oh really suck three people who know what I'm after and in our audience are currently laughing out loud.

**Heather** 1:26:03

Yeah. My sister in law got COVID that was barely affected and back to work in a few days while my brother got the vaccine I was in bed for two days. Why does COVID affect people so differently?

**Bret** 1:26:16

Wait your brother so

**Heather** 1:26:17

it's it's not quite the ultimate question Why does COVID affect people so differently is one that I think we want we can address here but sister in law got COVID barely affected back to work quickly brother and brother got the vaccine and was in bed for two days. You know, getting the vaccine and and getting COVID are not identical.

**Bret** 1:26:40

Not even close now. I have heard anecdotal stories of people getting very sick from the vaccine and these are the mRNA vaccines, right? That is worrisome, independently worth

**Heather** 1:26:54

but I do believe that all traditional vaccines there is some tiny number of people who do get sick from them.

**Bret** 1:27:02

Right But the point is not a lot of people have had this yet. The number of anecdotal stories of some massive fever or anaplastic reaction or incapacity doesn't sound like any vaccine I'm aware of those are very rare cases in general so i don't

**Heather** 1:27:21

i have not tracked I don't want to speak to whether or not it seems unusual at this level of at this rate because I just don't know what the background rate is I don't know what the numbers are

**Bret** 1:27:29

Yep, I agree. As to why not to isn't Yeah. Let's talk about why people get differently sick Yeah. Let's just take the simple puzzle that a virus has to solve in order to succeed its mission and its mission is to infect an individual such that they infect other individuals right? So it wants to get to tissues that are capable of taking virus that are that is output and putting them into the world in a place that they will get breathed in or whatever so it comes in in some random place in your in your lungs let's say it infects some patch of

**Heather** 1:28:11

which I would imagine is where it lands right yeah hail right and

**Bret** 1:28:15

you know so based on what we said earlier, some number of these particles can get into you and get just regular garbage collected without any specific interaction with the the adaptive immunity system but some particle let's say gets through this lands in some place creates a patch of cells that are now producing virus while the viruses interest is in being expelled into the world but being expelled into the world probably means its primary job is to see how many tissues it can move into that have the potential to expel it into the world before the immune system gets the better of it, which is the inevitable end if you don't die from it. So the point is an individual's illness is going to be very idiosyncratic where did it first get through that it actually was able to reproduce Where could it get from there how quickly did the immune system get the idea and begin to fight back at a level that made its job difficult? And so all of these things will be will create a different symptomatology

**Heather** 1:29:20

Yeah, your your individual history, the more recent history potentially of your own immune system, how how busy it is doing other stuff, you know, have you recently been exposed also to cold virus or you know something else then, you know, it's some some of its capacity is busy on other projects, and you're likely to mount a slower defense and potentially get sicker for instance.

**Bret** 1:29:42

Also, the fact that we have no evolutionary history with this particular virus means that the immune system doesn't necessarily know what the best reaction is. In other words, a lot of your symptoms are actually your defenses, right to the extent that you are fatigued and have have a fever, right? Your fatigue may be about getting you to lie down because there are certain things, certain properties of your immune system that work best, or some of them only work in that configuration. fever is probably about creating an environment to which the virus is not adapted. And unfortunately, neither is the rest of you. So it's makes you incapacitated. So anyway, the fact that our immune systems are experimenting on reactions might mean some of them guess right, and you don't get very sick because they do something that hampers the virus pretty well without interfering with you and other things overreact and, you know, through symptoms that aren't very effective at defending against the pathogen. So anyway, there's lots of room for it to sink, for idiosyncratic response. And there's lots more room based on the fact that there's no evolutionary history here. So it's not like yet another cold virus where you have, you know, the same reaction because your body knows exactly what it's dealing with. I would say that's, that's it.

**Heather** 1:31:03

I think that's good. All right. That's it. I think that's it.

**Bret** 1:31:07

That's it.

**Heather** 1:31:08

That is it. All right, well, this for this week. It's January 2, it will still be January, but will no longer be Christmas, the next time we meet

**Bret** 1:31:18

Wow. Yeah, that's totally true, isn't it?

**Heather** 1:31:20

Yeah. So I am actually one more question. Here is the comment. Remember that orthodox and Greek Catholic churches celebrate Christmas on the sixth of January. So that would be the 12th day if you're starting counting on December 25.

**Bret** 1:31:33

Interesting. Yeah, I did not know these things. Yeah, that's

**Heather** 1:31:37

partially because you were not raised in any way in a Christian tradition.

**Bret** 1:31:41

No, I was not. I was not. Okay.

**Heather** 1:31:44

All right. So again, first against the wall. stuff is up on the store, which you see here on the screen, and you

**Bret** 1:31:51

don't need the stuff to join the club. Just make your peace with what might come. Yeah, yeah,

**Heather** 1:31:56

you don't need the stuff to join the club at all. But you can join our Patreon. You can look at the clips channel for shorter versions of things that you've liked, and might have a easier time sharing than an hour and 40 minute long conversation. What else to say here is good stuff.

**Bret** 1:32:17

Yeah, yep. I will give people an hour before I send out the invites to tomorrow's evolution discussion.

**Heather** 1:32:25

We're gonna make it a post right here. I'm gonna make it a post if you were to join your Patreon anytime before 10am. Pacific tomorrow. Yeah. Can you see the posts, right? That the this is these? This is the this is the premium level. These are the $250 conversation. Yep. Then you could join in and with you for a two hour conversation tomorrow.

**Bret** 1:32:43

Yep. All right. Excellent. Well, everyone and we will see you next week.