Your Questions Answered - Bret and Heather 58th DarkHorse Po...

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**SPEAKERS**

Bret, Heather

**Bret** 00:18

Hey folks, welcome back to the cat fancy pod cast, we are ready to answer your questions about cats. And I don't know whatever else.

**Heather** 00:27

I see no questions about cats. And frankly, I'm disappointed in all of you. No questions about cats at all.

**Bret** 00:33

We are in a goofy mood. It must be Hanukkah. That's what's doing. It's

**Heather** 00:36

Monica. Yep, it is the Festival of Lights.

**Bret** 00:38

Yep. It's a giddy holiday.

**Heather** 00:41

It's one way of looking at it. All right. We're going to start with a few questions from last time. Move on to a question from the discord. We take one question from the discord every week, and then start answering your questions from last hour. All right. What is your take on this great reset idea that is being pushed forward by the WTF that's the World Economic Forum right now. And the Davos group, it seems like a utopian dream at best and the totalitarian nightmare at worst. Either way, it gives me the creeps.

**Bret** 01:13

Yeah, I would say it's, it's like, there are many such things where a great reset might be a wonderful thing. And actually, you would imagine that at this moment where we are suddenly discovering that all sorts of things that we thought were bedrock and unchangeable are changeable because we're forced to it by COVID. That, you know, this might be the moment for such a thing, but do I trust the WTF and Davos, folks to reimagine the world in some way that will be better for us? Or do I expect the totalitarian nightmare is the more likely scenario I would have to say, I fear the ladder?

**Heather** 01:49

Yeah, me too. And I don't I have not really spent any time with it. So I just don't know the specifics. Seems like a utopian dream at best. I would say that doesn't sound like an at best, because utopia is an impossibility. Is there? Are there considerably major re constructions that could be done that could make for a better future? Yes, I absolutely believe so. Do they involve static rules? No, No, they don't. So utopia fails in part because it imagines a static, a static future or static state of being in which everyone is somehow blissfully well, that you know, which trade offs have been obliterated, and so has reality?

**Bret** 02:31

Yeah. Yeah. I agree that utopianism is a problem, but also the, the inability to resist the opportunity to as long as we're making utopia might as well read a little bit in our direction. That thing Yeah, result in a disaster. Almost no matter what.

**Heather** 02:48

Let's see, can we can we borrow the line from animal farm? Everyone deserves utopia, but we deserve utopia even more than the rest of them.

**Bret** 02:55

Yes, we deserve a higher grade of utopia. Our people? Yeah, yeah.

**Heather** 03:00

Okay. Next question from Episode 57. What can you advise on navigating all the equity related requirements seem to be a part of every advertised faculty position in North America?

**Bret** 03:14

I do not know what to answer to this, I am certain that we're I faced with this. It'd be impossible to go through these trainings quietly. Well,

**Heather** 03:25

no, this is not trainings. This is equity related requirements that are part of every advertised faculty position. And I would say Actually,

**Bret** 03:33

this isn't about the requirements that your position that your qualifications be equity based,

**Heather** 03:40

I don't think so. That's not how I read it, that you know, that that would presumably either include or exclude you. So there's no there's nothing you can do to change it. Those characteristics are immutable, except for trans, as I've said before, but with regard to you know, okay, well, you have a recent research statement and a teaching statement. Now maybe you have an equity and diversity statement that you have to write this is what I suspect is going on. And I think in this regard, the reason I included this question, we always get questions about like, what would what would you do if you were stuck in this hell right now. And weirdly, and this will maybe not be surprising to those who view evergreen as a caricature of itself always. As opposed to we who very much loved the institution, but founded game of ball and gamed.

**Bret** 04:28

We loved aspects of the institution, its founding but it sounded like what you were saying was that we found a game a bowl and gamed it, but obviously that's the inverse of what you mean. Yeah, no, you know, but it sounded sounded that way. It

**Heather** 04:41

was it was gamble. It was gamed, that was true all along. Even so we we loved it and found much to be done there that you couldn't do anywhere else. But actually from a long time back and I don't know how long in advance of when I applied and would have been 2000 I guess I started in 2002. So when I applied in 2001, there was effectively an equity and diversity statement already, they didn't call it that. Yeah. But we and I didn't know any other. And certainly none of the other faculty applications that I made had it. And I don't remember exactly what the framing was, but it basically asked you to write about some aspect of your life that you thought made you able to see into other people's lived experiences. And that wouldn't have been the language that they used. And, you know, it may have may have given examples that included things like race, sex, etc. And, you know, the fact is, I don't actually remember No, I do think I know, I think I know kind of what I wrote. And I think I do know what you wrote. And in both of our cases, because we'd spent a lot of time living and doing research in a lot of other parts of the world, and we just had experience actually engaging with people who really didn't share any, almost any demographic features with us. And we engage with them as human beings not as not as exhibits to marvel at it was it felt relatively easy, and almost almost like an interesting opportunity, actually, to say, hey, actually, this is something that most people should should should seek to do, which is engaged with people who really are different from themselves.

**Bret** 06:26

I agree, although I remember, I remember writing it, I know exactly what I wrote. I wrote about my first research giggling in Jamaica. And I wrote about the fact that being the only white guy for 1015 miles in any direction, which I was, for much of the time I was there revealed certain things about being a minority, and it did not change other things, because White was still white. And

**Heather** 06:51

I remember and you didn't live there permanently, you can always go home, right?

**Bret** 06:55

But I remember a member of the committee, alerting me, I think, after I had been hired to the fact that the committee had not liked my statements, really. Which shocked me, because my sense was, I mean, frankly, if I had to write the statement today, I tried the same statement and focus on the same things, because I think it was the right answer to the question. But I think, frankly, there was a desire to see cow tabulation to Yes, exactly. And because this didn't have that nature to it, I think the thing is, I got hired because I was well understood to be a very effective evergreen professor, even if some people didn't like the way I taught. Everybody knew that I was very popular with students and that many felt that they were getting, you know, a kind of educational experience they wouldn't get elsewhere. And so anyway, I got hired in spite of my statement, and I still think the statement was high quality and the right answer so I think that was an ominous sign of what was

**Heather** 07:55

which means an answering in the answer this question, boy, do we not know? Yeah. I just I don't know I never got feedback on the statement part of my application. But that was also a lot earlier. Yes, it was mine. And and the people on my committee were with one possible exception if anything anti woke before welke was a thing but like really highly resistant to any of this kind of thinking. Right? Got it. I mean, you can you can imagine these be you know who these people were? Yeah. They were they just they they held no truck with the kind of intersectionality and such whereas Yeah, on your committee, there was a certain amount of

**Bret** 08:36

that not only did they hold no truck, but not even a small car.

**Heather** 08:39

Held no car. Yeah. What is that expression for?

**Bret** 08:43

I'm not sure exactly. Yeah. Probably. It has nothing to do with trucks? No, I

**Heather** 08:47

expect not. Yeah, yeah. Okay. 34 questions from Episode 57. Brett mentioned earlier in the podcast that the renegotiation of gender roles are long overdue. I'm curious to know what concessions he would like males and females to make respectively Hmm.

**Bret** 09:04

Well, I mean, I definitely feel it's a privilege and an honor to be able to negotiate on behalf of both sides. It strikes me it's very right. No, I think it I don't think it's that kind of renegotiation. And I think you know, this is one of the things I think you and I have slam dunk to this right because our our relationship is entirely non traditional with traditional elements where they make sense right? It is very symmetrical relationship almost to an absurd degree in the sense that you know, we had the same job at evergreen, we continue to have the same job right? You can't seem to avoid having the same role in the universe the same access to health care, all

**Heather** 09:50

of these same children.

**Bret** 09:52

Thank god no, I was I was just waiting. Well see,

**Heather** 09:57

one of the children has killed the power to the computer.

**Bret** 10:02

I think they're a little surprised and maybe disappointed to discover that that is, in fact the case. But no, the the answer to the question is, look, lots of things have been altered by this landscape that provides us with certain freedoms that our ancestors wouldn't have had. And it exposes us to some hazards that they wouldn't have faced, right? To the extent that you're just applying a traditional set of norms, it's relatively straightforward, and you just sort of accept the costs and benefits that come with them. In our case, basically, I'm up to see anybody establish what role they want, so long, you know, it's kind of, frankly, a little bit of a libertarian approach. With respect to gender roles, I'm up, but it's libertarian in the sense that I would. And I have argued on this podcast, that libertarians are under imaginative typically about harm. And so the point is, you should essentially be free to do anything that doesn't have harmful consequences to others. But harmful consequences flowing to others are much easier to produce than you think. And so you really

**Heather** 11:16

have an invisible sometimes long term, just like what we were talking about in the first hour today. Yeah, you know, what? what might be the long term consequences of introducing women into military outfits? Right, right. Even you know, if it's not hand to hand combat, there's nothing about the physical nature of the work that is going to be compromised by the fact that on average, women are not as strong upper body strength, yada, yada, yada. Well, might there be long term effects that would render such a force less coherent? In an emergency stupid situation? I don't know. I hope not. But I don't know.

**Bret** 11:56

Well, and it might be different for infantry versus, you know, pilots. Yes. Right. Yes. Very much. So. So anyway, there's something to be navigated there. And it is also highly likely, in fact, I would argue it is very close to certain that even in places where it can be done in such a way that it doesn't harm our military effectiveness, that there are much better and worse ways to do it. And so anyway, a sort of sensitivity to, you know, in the case of the military, I think we have a particularly clear case, which is, this is the place where our aspirations for equality and other such values have to be secondary to our ability to protect the nation from harm, which doesn't mean they're unimportant, but it means, you know, it's just as you don't want somebody bursting into, you know, an operating theatre and interrupting your heart surgery to, you know, count how many people of different races are in the room and try to establish equity. Right? The point is there's, there's a hierarchy of significance. And in the case of the military,

**Heather** 13:07

individual aspirations are not the highest priority, right. And in the campaign,

**Bret** 13:12

I keep trying to figure out how to phrase this, right, the military has, in fact, a been very well integrated for much longer than many structures racially integrated, right? Yeah. Now, that's not to say that's not its History Originally, right. But the point is, it has and it

**Heather** 13:25

was sort of like at a gross level integrated before it was actually like interspersed, integrated, right? I mean, there were separate, there were different units,

**Bret** 13:31

right? And then there weren't. And so there are ways in which people who weren't traditionally working next to each other had been put in that position, and the military figured out how to do it and do it well. It also is weirdly, like the most socialist entity around it neutralizes differences between people at many scales, but then it also creates this hierarchy. So it's like, you know, socialism stacked on top of each other or something. But anyway, the point is it doesn't it, you know, to the extent that the US military is Fighting for liberty, it's like a it's not an it is the opposite of liberty on the inside, right? It is constraining by necessity in order to make it effective on the battlefield, you don't want a bunch of people, you know, doing their individual calculations on the battlefield, right people to function as a coordinated entity. And so anyway, my only point would be there are places for those these discussions and there are the places where these discussions have to be secondary to a mission that is so critical that you don't dare up end it before you know exactly how it works. Yeah, so anyway, with respect to men and women, there's lots of room for renegotiation. We need to be cautious about what we don't know about what happens with all sorts of things. You know, obviously women being in the workforce has been fantastic. The number of things women have accomplished you know, in for example, the scientific mill you is huge, right? So This is obviously a good thing. Did it come without complexity? No. And in fact, we still haven't figured out all of the complexities of how it's supposed to work. So anyway, it's a work in progress.

**Heather** 15:09

And to some degree, we yell at people who try to talk about the complexity. Yes, yeah, absolutely. Final question from a week ago. Are you familiar with wind Hoffs cold exposure and breathing techniques? What are the evolutionary benefits of regular cold exposure and conscious breath work? Also, Brett, you need to learn drums. Let Eric play guitar Heather on keys. I think unfortunately, we'll be best off if Eric is on guitar and keys and maybe drums as well.

**Bret** 15:36

Yeah. Right.

**Heather** 15:40

There was a moment when me on keys would have been

**Bret** 15:43

plausible, but that's not at this point. At this point, okay.

**Heather** 15:47

Well, I just I never I never had your brothers. I had years and years and years of classical training, but I never had your brother's ability to sit down and improvise. I mean, he's, he's, he and I have tried to, to get there. Get me there together and it just hasn't worked.

**Bret** 16:02

Yes. And he the most amazing story here which Eric has talked about, I think on the portal at some length is his sons have who has picked up this ability. And it arrived out of almost nowhere. Yeah, I have if you're listening, I say this with love. But yeah, he was absolutely inept until one day he wasn't and it was like over the course of weeks he

**Heather** 16:29

we saw it so it was testing right around. I can pinpoint it because we were there with with for exams. BarMitzvah? So this is going to be like a year and a half ago. Yeah, ship I think now, I guess two and a half years ago, yeah. Two and a half years ago. And he was just it had been weeks at that point. And he was already just doing extraordinary, extraordinary things. Yeah.

**Bret** 16:51

Well, in fact, when I heard it, I it sounded a lot like Eric, I assumed it was Eric. And then it couldn't be because Eric was over there. And it was like the recording. And so it really it really did come out of nowhere. And it wasn't you know, it's clear that at least one component of the story is that Zev had the music on board having heard it so many times, you know, heard the the various riffs and things on his fingers all the time. Yeah, when his fingers figured out how to make the sounds come out of the keyboard. Suddenly, it was like well, there was a lot to say. So anyway, it's an amazing amazing fact.

**Heather** 17:33

Yeah. Do you know anything we've been asked before about Wim Hof and like I know that I am but I don't know much about the particulars

**Bret** 17:40

though so I don't know whether there's more to it I was on a podcast it's not out yet but psychologist was talking to me about all sorts of things quite a good quite a good discussion. Jeremy Lee Quinn anyway, that'll be out and I will announce it but we were talking about how one prepares for extreme circumstances that he was in fact asking me about how why I did relatively well at evergreen when things came apart. And you know, I talked about developmental preparation, you know, just stuff that happens to you that causes you to have those those skills and immunities and whatever else it might be, right. But I also talked about the process of toughening yourself up right. And there's something about confronting confronting things that force you to go through something unpleasant or difficult in order to just generate those skills whether it's fasting or breath control or whatever

**Heather** 18:46

or man I raised this in the last hour You know, literally at 1130 last night you geared up and took your bike out and it was in freakin cold but it was neither raining nor icy it wasn't that cold it was in the mid 30s yeah

**Bret** 19:01

would have been a mess if it was icy Yeah, but

**Heather** 19:03

I would have I would have you would have asked you not to go Yeah. But you know it didn't look appealing to me. I don't think it looked appealing to you either but you knew the value in it Yeah. And and you know it has you can you in this case like you have some thing that you're counting which helps you make sure that you meet that you get a certain number of these rides and just so that you meet some rubric right? But you know that that thing that you're counting isn't everything that there's every reason that there's value in it

**Bret** 19:33

Oh no, I'm

**Heather** 19:34

just gonna bike to the peak this many times in a month on my bike the river and the peak it that's that's fine and good, but there's also value and I'm going to do that in July when it's easy and I'm also going to do it in December when oh my god I got to also be paying attention to is this the moment I've got better go. Ready to go.

**Bret** 19:51

So actually, it reminds me, there was one year I can't remember what year it was. Must have been 2012 2013, something like that, when I was really trying to push the number of miles per year that I was writing, and so I was really just, I was being brutal on myself during the winter and forcing myself to ride long distances. And it was, you know, as cold as Pacific Northwest. It's not that cold, but it's cold enough to be grueling. And I think I got 6000 miles that year, which is probably my record,

**Heather** 20:26

this would have been also the year that in the spring, you're training for the ramrod. Right. So right around Mount Rainier one day,

**Bret** 20:32

which I didn't end up doing right. My grandfather Harry died and I got sick. But anyway, I trained for it, which involves some centuries and things like that. But anyway, those

**Heather** 20:41

two don't bike century is writing 100 miles a day, which is

**Bret** 20:46

very doable. It's not something you can set out and do without working up to it. It's very doable number, you know, five or six hours of dedication, and then, you know, it's like, sore and hard to walk for the rest of the day. But anyway, I Oh, yes. So I was doing this, I was going all winter, and I really forced myself not to get knocked off the horse at any point. And then at the end of the winter, as spring dawned, and biking started getting easier, and the weather started getting nice. I swear, it was like, wonderful drugs flooded my system. You know, there was something about the process of having gone through all of that unpleasantness that then as it began to ease, it was just like, Oh, my God, this is delightful, you know. So anyway.

**Heather** 21:40

So you're taking your medicine now, as it were. And that's a bad analogy, given the kinds of things we talked about, but you're, you're accepting the down part of the trade off now, knowing that the upswing will come?

**Bret** 21:51

Yes. And also, as you point out, there's lots of stuff that you know, there's lots of goodness that flows to you, even as you're just forcing yourself to do something that doesn't really feel like it's that much fun. You get out there. And actually, it feels really good to be out. Yeah. And it feels really good to get back and

**Heather** 22:07

know what i mean this, this fall of Pacific Northwest has been unusual. There's certainly been a lot of rain. But there have been a lot of days and nights that have been clear. So being able to see stars in December in the Pacific Northwest is pretty rare. And we've had a lot of not last night. No, like, No, no,

**Bret** 22:27

it was cloudy.

**Heather** 22:29

Well, and I think also, it's just Oh, the moon was Yeah,

**Bret** 22:32

we're close to it. Yeah, yeah, man. I

**Heather** 22:34

just look into that. I like to know that. I don't know. It's hard to see. Yeah, exactly. So

**Bret** 22:39

yeah, we're just also say I'd noticed that Lex is it Friedman or Friedman? Friedman. Yeah. Lex Friedman. Yeah, it's really close to something that I would say is akin to toughening yourself up he was he's apparently a runner, and he was talking about forcing himself to go out and he really didn't want to, but he was gonna go anyway. Do some six or eight miles, which is a lot of running. Yeah. Anyway, so it's a it's good for effort gotten what we were,

**Heather** 23:07

we don't really have much to say but Wim Hof. Oh, right. And so

**Bret** 23:10

so the question is, is it? Is it that sort of thing? Is it a mindfulness exercise? Or is there something specific about the physiology surrounding breath control and cold? And my guess is there's some of both my guess I agree, you know, could be a sweat lodge could be cold either way. Yeah. And then there's probably something

**Heather** 23:30

specific. Okay, discord question on that we have to get on to this. Today's questions. What effects are had on the brain of a child who grows up malnourished, yet full? Someone who eats chips and beef jerky every day and drink soda pop instead of water? Obviously, this is bad for the health and development of a child. But how does it specifically affect the brain once this child has reached adulthood? Amazing question. I want to say just two little things for us before letting you riff a little bit. But I think we do have to start moving faster through these. Yeah. I'm sure we don't know, is part of the question. And I have one objection, which is chips and soda pop for sure. Not real food, not stuff you should be eating. And I say that as people who have chips in the house, but beef jerky, depending on what it is. Your mom used to make jerky, right, like you would have it on with when you took it backpacking. So like real, real beef jerky, there's nothing wrong with that. Yeah, that's real food. And you know, especially, we're not going to talk a lot about diets right here. But if, if for whatever reason you are trying a very low carbohydrate diet, concentrated concentrated meat well flavored without additives and preservatives, nothing nothing junky about that as food.

**Bret** 24:45

Now I'd say you and I have both come to the conclusion based not only on what's written about it, but just the ability to anecdotally generate a pattern. That sugar is very destructive. Yeah. And you know, I can day in which I have had substantial sugar is just different than one which I haven't. I was gonna say the potato chip thing. I don't think potato chips are a great thing because it's very easy to eat way too many of them. Yes it is. But there's nothing about the potato, or the fact that it's fried.

**Heather** 25:22

I suspect most even though we buy, you know, the shishi, organic potato chips and all of this that that unless they're changing at the oil frequently and using really high quality oil to begin with, you've got a lot of like burn. Yeah, and I don't even remember all the different kinds of fats and what they turn into. Oh, but

**Bret** 25:42

even that, then the point is, it's the mass produced chip. It's not anything inherent about a chip.

**Heather** 25:48

Yeah. If I if we go downstairs and thinly slice three pounds of potatoes and put a bunch of high quality Oh, yeah. Right. Yeah. It's like, it's not the best, you know, it's not something that you should do every single day. But I

**Bret** 26:01

do and it's easy to eat too many of them. But there's nothing inherently wrong with the components. Yes. Yeah. Okay, good.

**Heather** 26:07

So but the actual question, yeah, so those were the Those were my little that was my one nitpicky, concern about it. What affects her hand, the brain of a child who grows up malnourished, yet full?

**Bret** 26:17

Uh, yeah. No idea more worried about the sugar than the others? But also, I would say, it depends what you mean. So there's a brain level in which I think we're going to have to, because we just don't know. Yeah, and I think I don't I think we don't know, I don't maybe none of us know, you. And I don't know, we definitely don't know how to punt. But then there's the other side, which is the mind side. So borrowing from its neurobiologist Siegel, not sure. But the mind is what the brain does, right? It's a great distinction to the extent that you need one here. And the point is, you might have impacts on the physiology and neurobiology of the brain, based on nutrition. And I would say sugar would be the suspect on that list. But in part because the brain runs on carbohydrate. But the other thing is, the wiring of the mind will be different in light of a diet that has, you know, some sort of burst of sugar, for example, that it will rewire the motivational structures potentially. And that I would say is a place to look for consequences that are not so desirable from such a diet is the you know, what it does to your ability to focus and motivate later in the absence of those kinds of concentrated rewards.

**Heather** 27:48

Yep, very good. First question from this last hour. So I'll read this and then we will get back to it next time. Hi, Heather. And Brett, I slit a thought experiment your way via the moderator, email, kayaking and existential threats would be super cool if you could refine it in this episode or a future episode. So we'll we'll get back to that next time. Cool. Here, we have a straight title. Yeah, it is. Here we have a two part question. Or maybe it's just a two part Super Chat. In his portal interview, Eric accused Brett of giving away his power. Do you agree with him on this either than or now? How would you counsel others who might be giving away theirs as well as how to stop doing that? I often find that if I have a problem, I can't solve it myself. And it's much easier to help someone else who's struggling with that same problem. Is that the case for you? love you both. Happy Hanukkah, Merry Christmas.

**Bret** 28:41

Okay, I need to catch up on the second part here, I often find that I have a problem I can't solve myself, it's much easier to help someone else who's struggling with that same problem. It's interesting insight. Is that the case for you? Okay. So, you know, this is this is tough, and you know, you want to navigate family issues on your podcast, how smart is that to do? But I will say, you know, I think a, all of us tend to assume that other people's internal wiring is very like our own. This is the basis of empathy. We've made this argument here multiple times. And this argument is justified at different levels, right? There are things that can make somebody else's mind look very much like yours and things that can make it look very different. And your ability to Intuit what's going on on the other side is predicated on there being overlap in a relevant place. I think there's a way in which Eric does not always understand the differences between us as well as he might and the it is possible that he objectively sees something that I do not see and that he is alerting me to something I don't know. It is also possible that he is sort of misunderstanding what the tools available are and what the problems addressed are and what the strength of some other mode might be. And so I don't know the answer to the question I, let's put it this way, if Eric says it, I'm all yours doesn't make him right. But But I'm certainly listening to any any critique of that sort. And my guess would be that there's a mixture, that there's some part of the problem, that he doesn't see some way in which, you know, the point is, he's, he's imagining that something wouldn't work for him. Or maybe that's not what he's not imagining it. But he's over assuming that, and therefore applying it where it's not as relevant. And then there's probably some degree to which he sees something which is observable from the outside, you know, how Beck's approach works in various contexts. And so you may see a place where to use the economic terminology, I'm not at the efficient frontier. And that is to say I could increase effectiveness without a cost, because I haven't found the trade offline yet. So I don't know.

**Heather** 31:04

Well, you may not be at the efficient frontier. efficient frontier. Yeah. But you're a truly remarkable man. That's a great answer.

**Bret** 31:11

Nice. All right. I'm feeling at first seven points. Now this Yeah,

**Heather** 31:15

yeah. But there's no points associated with this. Have you reviewed the scientific literature regarding avermectin and COVID? Dr. Pierre Corey testified to the Senate in December I can't find articles in the mainstream media discussing his claims other than just state that there is no evidence. I have not i don't i don't know i have some vague recognition of the word but but I don't know it. And we will maybe try to get back to it and look into it. But there are a lot of things to look into. Okay, here's just a series of comments before we get back to questions just get your Vax and enjoy a nice lolly. There are no 100% guarantees in life. Let's talk about something more important like a little Wayne. Doesn't the Second Amendment apply to black people free little Wayne? I don't know what happened a little wine.

**Bret** 32:08

I think this commenter is right. I don't know where I would get a lolly but probably they're widely available. I

**Heather** 32:15

think we can probably sorry salon is on? Yeah, yeah,

**Bret** 32:18

it was only Amazon. Oh totally. Yeah, yeah.

**Heather** 32:21

Any of those you find the Amazon you might want to just clean off first.

**Bret** 32:25

Yes. And taste just a little bit before you go. whole hog on the wall.

**Heather** 32:29

Yeah, definitely tastes a little wait a couple hours. Check in with your consciousness. Yep, totally.

**Bret** 32:34

Yeah, I was glalie.

**Heather** 32:38

Follow up on still life for Breton. Artists still use reference what they don't yet know how to draw. Think of said references a sample data set used to train AI and supervised learning before it improves upon them?

**Bret** 32:50

Hell yeah.

**Heather** 32:51

Cool. Next comment I just want you to who to know next to watching college football. My favorite thing to do on Saturdays is hang out with you guys in your sauna. Thank you. This site is surprisingly cold for Assad, I must say. But yes, yes. It's

**Bret** 33:06

a chilly site. It's a new thing. It's like hot yoga chili sauna to the next big thing. Yeah. Yeah.

**Heather** 33:12

Thank you for your podcast. Much appreciated. Game Theory is often quoted, mentioned, I would say, never mentioned in my evolution classes, Edinburg and Edinburgh in early 70s. What book? What book? Would you recommend to a beginner D to grasp game theory?

**Bret** 33:29

Yeah, I get asked this so much. And there's just

**Heather** 33:32

there's not a good text? Well, I mean, I don't know she has a chapter. Yeah. So actually, I know, but you do need more. But actually, I've never I've never had any answer to this. And Selfish Gene, which is just extraordinary in every regard. We need a new one read. But But you know, published in 1976, and still the book that will open people's eyes to an evolutionary way of thinking. I do think there's a solid chapter in there in which he goes through some of the thinking on game theory, but that's

**Bret** 34:04

limited in its scope. Yeah. So I don't know that there isn't a good text. I don't know. I don't know what it is. And

**Heather** 34:12

I don't, I don't give it given the way my brain works. If you don't know what it may mean. It's crossed your path. I've I've never read it. I've like I've never been exposed to that book. Because at this point, this question has been asked so many times, I would have come up in my consciousness. I don't know of a book that exists. And I would like to Yeah, it's not one of the many, many books that I would like to write. I'm not going to write a game theory book.

**Bret** 34:35

But I also don't think you need it. Right? I think you can source because so many of these things are just sort of canonical flaws that you detect once you've seen it once. And then the question is, can you map it on to other things right?

**Heather** 34:51

You were just asking to be asked to just simply create a series of six minute YouTube videos of the canonical

**Bret** 34:58

rice well, indeed On the other hand, I might not be the right guy to do it. And I know that David sirach, who was a longtime patron of mine participated in conversations quite an amazing mind. He was working on animations that, that explain these things and you know, little video games that allow you to experience them. Great. I don't know what happened to that, but I should contact him and find out. And actually, maybe we could team up so that his stuff would get a wider audience. And I think it would be great. But even if what you did, I don't know that this will work because I haven't done it. But if you went to the Wikipedia page on Game Theory, and you found, you know, the canonical 810 puzzles that are commonly described, and then you, you know, I'm not arguing that every YouTube video on these things is going to be any good. But if you then went to YouTube, and you looked at a description of these things, and maybe looked at several descriptions and tried to figure out what you could, what you could deduce, my guess is you would very quickly realize that game theory is a way of thinking, and that that way of thinking is something you can bootstrap. And then every time somebody adds a new puzzle, the point is, you already have the language on which it's based, and it becomes relatively simple to just add the new puzzle or the new insight.

**Heather** 36:29

Well, I will say I just did what you just suggested and just Wikipedia, Game Theory, and it does say here, I've never read the book, but that von Neumann who really originated the formalization of game theory with two persons zero sum games, wrote a book along with Oskar Morgenstern in 1944 theory of games and economic behavior. And the thing about game theory is that it's timeless so the examples will be dated, but the actual game theory is timeless. So that might well be away in although being from that long ago, it may be in a kind of language that is even harder to access than game theory language would otherwise be Yeah, or could be just the opposite. Just the opposite. And I don't I'm not I don't know Morgenstern I'm not familiar with one Norman's writing. So I don't know how, which of those will be the case?

**Bret** 37:16

Yes, I don't know. I don't know.

**Heather** 37:19

Okay, next question. I don't know what this means. mimetic theory, Allah Girard, desire scapegoat revelation that's mimetic. Yes, you're right. mimetic theory, Allah Girard, comma, desire slash scapegoat slash revelation. Yeah, comma might fit evergreen. Oh, yeah. Parentheses desire equals to be in your classroom and defund the police parentheses desire equals to succeed in the meritocracy. Is it seen in other primates? Is it really a theory? So I don't know anything about what's going on here. Okay, so

**Bret** 37:58

I'm not deeply schooled in Girard, but I know a bit okay. The the basic idea he's got a model cookies now

**Heather** 38:06

this is dead brand nature, right? Yes. All right. Like fakely know the guy exists. Right? This guy?

**Bret** 38:14

Yep. Yeah. So anyway, he believe he was at Stanford. Is that right? Is that reflected here?

**Heather** 38:24

I don't know. I see. Yeah, just literary criticism, critical theory, who had topology, theology, psychology, mythologies, sociology, economics, cultural studies, and philosophy. Remember, there are graphy institutions. Duke, Bryn Mawr, Johns Hopkins, SUNY Buffalo, Stanford. Okay.

**Bret** 38:42

So I believe he was a great influence on Peter teal, among other people. I know that he was great influence. I believe he was also a mentor to Peter teal at one point. But in any case, he has a want to be careful. I know it was at least a hypothesis. Is it now a theory I don't know that would depend on whether or not has been tested, but a very compelling hypothesis, a model essentially, of scapegoating that there is a need to find a an individual who can basically take the burden of the sins of a society or something smaller, and that these things are essentially projected onto that person who is then treated accordingly. And that what the questioner is suggesting is that I guess I was the designated scapegoat for the the sins of evergreen, and it's not the first time I've heard that argument leveled. And I think there's a lot to it. I will also say that before I was aware of Gerard scapegoat theory, the actual evergreen stuff unfolded and as I've mentioned a few times, I believe it was either the day before or two days before the protest at my classroom that became so famous I had put a model on the board of witch hunting. And if I can do it off the top of my head, hopefully I can model is something like a tiny number of people will initiate a witch hunt, a small number of people will go along with them. A large number of people will pretend it isn't happening and a tiny number of people will oppose it. And the ones who will oppose it become the witches, right? So my guess is, these two things are not so distantly related. And the reason that I put it on the board was not you know, it wasn't first impressions. It, I was experiencing what was going on on the faculty side. And so I was sort of watching myself portrayed as the witch, and it was therefore on my mind, why is witch hunting a thing? Why am I feeling that this is happening to me? Right? What does it mean? And so I was thinking through these things, I'm sharing it with my class, which is what I always did, whenever I happen to be thinking about I was sharing with them. And so this caused a great many students in that class at the point that this thing happened. And I was demonized it clearly as a witch. It caused a great many of them to ask if I might have orchestrated the thing in order to teach this lesson really, really well.

**Heather** 41:14

You are that that good, deeply invested in the education of your students? Right? up and your entire life and that of your family and careers? And yes, yes, no.

**Bret** 41:25

But the funny thing, the punchline to that story, to the extent that there is one is that months later, I would come to understand that the lead protests are the guy who set up the protest at my classroom who organized on video, the kidnapping of the administrators and the keeping them in the room to negotiate the prevention of the president from going to the bathroom all the lead guy put out on his Facebook page a couple days before the protest at my classroom, one of these you won't know because you're not on Facebook, but one of these things where you can have a square of color and it just has like a slogan, it's like Twitter on Facebook, okay. And it was something very close to never before have white men experienced what it is to be hunted as witches or something like this. It was clearly the thing that I was very cautious about saying that I was being honored as a witch because it seemed like that could be hyperbole.

**Heather** 42:24

But the weird thing was, he actually used that language.

**Bret** 42:27

Right? I like it. What had not occurred to me is that anybody would use witch hunt in the positive sense. Everybody knows that a witch hunt is a an appalling groupthink embarrassment. Right? And to see it used positively shocked me.

**Heather** 42:43

Yeah, well, there was a lot shocking there wasn't there.

**Bret** 42:46

Yeah, so much.

**Heather** 42:49

from an evolutionary perspective, why is a sunset beautiful? Why is anything beautiful? And do you think animals other than humans find beauty in things?

**Bret** 42:59

Such a good question. Yeah. You have a Okay, so one, I don't know what why since sunset is beautiful. And it may not be that the sunset itself is beautiful. It may be the beam. I mean, it obviously the sunset. Beauty is subjective. So the fact why is the sunset, something that we regard as beautiful, it may be that there is something about paying attention to the sunset, that we need to be rewarded for in order to, you know, to just take a proof of concept. If there was something about monitoring the exact effect there is the exact location on the horizon where the sun goes down, and being able to infer patterns about the year based on the transition of the Sun across that landscape, then you might be called upon that is to say, you might be rewarded for paying such close attention to the sun, that you're actually watching it right when it had the horizon so that at the point that

**Heather** 43:54

it fell just left to the oak tree, right, right. Whenever it falls just left at the oak tree, if we don't harvest within two weeks, then we lose the crop,

**Bret** 44:02

right? Something like that. And in fact, all of these Stonehenge like celestial clocks that are built in stone around the world, there's one at Inka Parker, manga perca, in

**Heather** 44:16

the current era, and Inca coming together in southern Ecuador.

**Bret** 44:20

Yeah, but these things are all over the place. And these things are basically physical structures that allow you to know where to stand and where the ray of light has to come through in order to hit that thing that tells you exactly where in the year you are, which is a way of solving a problem, that in Europe, when people were trying to calculate a solution to the problem, they inevitably got wrong because it's not an integer, right? number of days in the year is very easy to get wrong by some number. When you do that, you get a calendar that works pretty well and less so over time. It's really useful to have an empirical check, right? So it may be that that's it is that it's it's calling us to check in with the sun. As it sets often enough that we are able to detect where we are in the year and recalibrate.

**Heather** 45:05

And the bigger question is that in general, the things that are beauty beautiful, that we find beautiful is our is our subjective overlay over those things that are objective really good for us or have been good for us and rare enough in our history that desiring them desiring them desiring them didn't cause problems as they often do now,

**Bret** 45:25

right? So it's a it's a proxy for value. Yeah, I think the the important thing here, maybe the new thing here is that there is a hypothesis fairly well advanced about beauty being a proxy for value. In other words, a landscape that we would regard as beautiful is one that is liable to be productive and hospitable, right. So that kind of thing causes you to feel good about it. And it causes you to be more likely to settle there than a landscape that isn't beautiful. And we'd be more would be harsher.

**Heather** 45:57

It's interesting, though, like, you know, so Heron, Dune scape, of which there have been, you know, many, many gorgeous photographs taken right? is beautiful in the same way, like a modern modern architecture is, yeah, it's beautiful for its darkness for its spareness, not for any sense that like that could actually support me.

**Bret** 46:15

That's interesting question, why is it anything other than ugly? Yeah, given how frighteningly dangerous it is, right? But okay, so you've got beauty is a reward system that causes you to feel favorable to things that are likely to be good for you. And then in the case of the sunset beauty is a proxy for it's a reward for getting you to pay attention to something that is informative. It's not that the sunset is good for you, or bad for you is that the sunset is informative, which is good for you. And your

**Heather** 46:42

sense of beauty. Keep tags it to memory, yeah, perhaps greats like that. If you could a machine learning at any single problem, what would it be? And how would you formulate the question?

**Bret** 46:54

Wow, is the assumption here that it would be successful? Yeah,

**Heather** 47:01

I think so. Okay, I think I know, I know the problem, I don't Yeah, I would, I need to think on this, I don't have anything off the top of my head,

**Bret** 47:07

the fourth front here, we have a problem that we have to solve. The problem is we need a steady state that feels like growth, so that we don't kill ourselves pursuing growth. And that steady state has to solve the problems, it has to be anti fragile. It has to free people to be to seek meaningful, meaningful things to do with their time, in other words, so somehow we have to step off of the treadmill that has us pursuing new niches because they're not out there. And we have to stop bludgeoning each other over technological progress. But we have to not frustrate the human desire for progress that is built in. And that's not such an easy problem to solve. So if machine learning could figure out how to do this, and if it could avoid, you know, the fly in the ointment of the fourth frontier idea is that, to the extent that anybody figures out the solution, it's not clear that they beat somebody in competition, who decides it's not an important problem. And so I don't know if the intent of the question was that machine learning would be able to search any tractable problem. I believe this problem is tractable, it's hard to find a good solution. But if machine learning could help us find it, or at least tell us where to look, that would be amazing.

**Heather** 48:40

Next question. People tested positive for HIV with Australia's vaccines because COVID-19 RNA has 18 fragments of HIV in it. COVID-19 DNA was sequenced. It'll be RNA, but wait. Yeah, let's sequence by Indian scientists who found the HIV. Yep. Media heavily censored this finding. I N said I don't know what I and as I said that Coronavirus is lab made, people won't get to parts. People won't get full bone HIV from the MRI mRNA vaccines, but they will get enough RNA to test positive for HIV. Because COVID-19 has HIV in it data will help your immune system.

**Bret** 49:26

Well, there's a lot in that. And there's a lot there that at least maps on to the history here. So there were two.

**Heather** 49:33

So the only thing Well, I don't know about the second half of the first question, which is the claim that the reason people tested positive for HIV is because COVID-19 RNA has 18 fragments of HIV in it. Well, I don't know. Let's put it

**Bret** 49:48

this way they were and I'm going from memory here. I have long since left the HIV connection go cold because it was very difficult to interrupt. But there was an Indian paper, which I think was retracted, which argued that there was HIV sequence in SARS, COVID. Two. And there was also a very nuanced analysis done by the French co discoverer of HIV. in which he claimed that there was HIV sequence.

**Heather** 50:29

This is months ago. No, this was back in

**Bret** 50:32

March. Yeah, yeah, yeah. So anyway, I never knew what to make of it. Right. I also don't know whether there is any mechanism that could naturally include HIV sequence you could you get a convergence? Probably not. There's some other mechanism which where there would be exchange of information just annihilated? Yeah, I mean, they're not even the same type of virus. So anyway, I don't know what to make of it. It is certainly possible that a laboratory that was attempting to create a virus for research could borrow themes from two different kinds of viruses. That's right. And so I have no reason to believe that this happened. Other than that, a controversial but highly accomplished, French researcher, argued that something like this was the case and that there was a paper then retracted. And what does one make of a paper that was retracted and also controversial, but may or may not have been accurate? Yeah. So I don't know what to make of it. But anyway, I would say that the second part of the question about whether or not that means, you know, people won't get full blown HIV from mRNA vaccines. I don't believe even if these things trigger HIV tests that there's any danger of getting any level of anything like HIV mechanism here. Yeah. And what's more, the key thing that's missing that will prevent anything like HIV from happening is reverse transcriptase. So people who followed all of these live streams will remember back at the beginning, I made an error that I then quickly corrected, where I had assumed that coronaviruses reverse transcribed and inserted themselves into the genome, which they don't do. So this is a special trick of retroviruses. And because Coronavirus is our mRNA viruses that don't reverse transcribe and HIV is a retrovirus that does, there's, I would argue, essentially no danger of picking up anything aids like even if the sequences are there, because without that enzyme, and we don't make that enzyme, as far as I know. I just don't see I don't see the hazard. But it is interesting whether or not those sequences are what these two groups claimed they were right as HIV sequences, which then raises all kinds of interesting questions.

**Heather** 53:09

Yes, it does. Okay, let us do two more here. And then it looks like we've only got a few in the new hour. So we might be able to get through all of the next hours ones, unless suddenly we get a lot more. Okay. Might we just be tiptoeing around the possibility that democracy is becoming ever less efficient as global issues become ever more salient in relation to local ones? Is tech not is technocracy, the only way to steer such a big ship? Well, I hope not.

**Bret** 53:40

I wouldn't say that democracy is becoming less efficient is becoming less coherent. And the reason is becoming less now maybe that results in efficiency. The reasons becoming less coherent is as you hint in your question. You've got issues of scale, you know, you are allowed to, we have some issues, some matters of scale built into our democracy, we can vote on state issues, local issues, and federal issues. We cannot vote on international issues except indirectly that our state can sort of navigate them in theory on our behalf. But we have lots of issues in which our well being is actually dictated by things that happened above the scale of nation. So the, I would say the subtlety of the connections between cause and effect, the scale of our industrial processes, all of these things. Oh, and the fact that not only, you know, the founders feared that the common person was not going to understand the issues well enough to govern well, which is why we don't have a direct democracy, at least one of the reasons and so we were supposed to get a chamber of thought thoughtful people and experts to navigate these things on our behalf. And the problem is, you know, we've got a chamber of lawyers, right? That's not enough. Actually a great group to be navigating difficult issues of, you know, cause and effect and a complex system. And it's still true. Chamber of lawyers. Yeah, yeah, I think this, I think it is mostly lawyers be interested.

**Heather** 55:16

I, I feel certain that it was mostly trip I'm not it feels to me like it's been changing as

**Bret** 55:23

well, it would have to change an awful lot for not to be a majority of them. But But in any case, the problem is the nature of these questions is very hard to navigate, the public isn't going to get it, the Chamber of lawyers isn't going to get it. And to the extent that the Chamber of lawyers is being replaced by others, it's not being replaced by people, you know, experts in complex systems or any other relevant discipline. So anyway, yes, we have a problem. We've got difficulty for us to navigate. And we have a governmental mechanism that is not built for an environment in which our technology can up end us in the way that it now can. Yep.

**Heather** 56:06

Okay. A recent NPR poll said that 65% of Republican men were planning to take the vaccine as opposed to only 34% of republican women. What do you think are the psychological reasons for this divide? Well, that's surprising to me. Yeah, I would not have predicted I would have predicted the other direction. Yeah. Now. So it's, it's always a little dicey to come up with the explanations for a result that you find counterintuitive,

**Bret** 56:35

right? And that you don't even know might be right. Great. But let's assume that the report is correct. That at least those are the percentages. Yep. Here's one idea. So this will say hypothesis, which doesn't mean that I think it's likely to be true, it means that it isn't, it is testable, and it might be true,

**Heather** 56:51

and it fits with the supposedly observed pattern,

**Bret** 56:55

right? So I'm gonna say a bunch of offensive things that I'm not saying are true, but if they were true, would then increase the likelihood that this hypothesis was predictive. Go forth. So republicans tend to be more conservative than Democrats. Is that offensive? Not yet, okay. Conservative is going to involve a certain amount of tradition, especially with respect to things like gender roles, does that then imply that a larger fraction of republican women are either at home or expecting to work from home in a more traditional capacity by traditional I just mean, back to the 50s? I don't mean long term, in which case, you could make a very rational argument that the general sense that there might be a hazard with these vaccines, and the understanding that there is a hazard with Coronavirus would result in a distribution of the willingness to take it that reflected the likelihood of contacting it. In other words, if you work from home, then your risk of contacting somebody with COVID-19 is lower. And so your cost benefit analysis would favor not taking it. Yep, yep, saying it's a hypothesis that, in principle could explain this pattern that is observed. And it is testable? Because it predicts that if we were to go back into the same population, that the tendency, either you can go back to the same population, or you could test in another equivalent population, whether or not the likelihood of taking the vaccine was correlated with the tendency to work outside the home.

**Heather** 58:52

Although in your original formulation of the hypothesis, you said, do not work outside the home or have aspirations to not work outside the home?

**Bret** 59:02

Yeah, well, you could correct it for that you can say do you expect in 10 years? Yeah, to be working in the home?

**Heather** 59:08

In which case so and yeah, it would be those two categories?

**Bret** 59:11

Yep. any correlation between expectation of working in the home and resistance to the vaccine would be sufficient to establish this hypothesis? Yes. containing a fraction of the truth.

**Heather** 59:23

I don't think it's right. But it's just Oh, right.

**Bret** 59:27

I just wanted to work

**Heather** 59:28

Yeah, and I got nothing else. So let's move on into. into this. Oh, my goodness. This our what a species with what a species with no or rare predators be able to evolve human level consciousness. Would they at one point get outperformed by Woody, weaker species? Same question for non violent animals that don't hunt like elephants.

**Bret** 59:55

species with no predator So, human level consciousness immediately

**Heather** 1:00:04

sure what the connection is between not having predators and consciousness. I think that actually the model that we have in this part of the model is almost is it was was well developed already by Dick Alexander at the point that we were working with him in grad school in the 90s was that it was exactly our this, this sort of not exactly an arms race, but like this, like, you know, we establish ecological dominance, which allows us to focus on each other as our biggest competitor. Well, it is a nice human lineage. Rather than that it's more like the cycle between like, you move into a new space, and you have to dominate your environment before you can return to seeing each other as your biggest competitor. Let's see what the consciousness is part of what facilitates that. And it's like the consciousness predates the lack of predators, not the

**Bret** 1:00:56

other way around. Well, I don't think Dix model included consciousness in the snow, it didn't mean it, it was about why human cognitive capacity had grown disproportionately, right. The idea was simply at the point that nature is not your most pressing concern. Darwin's hostile forces point you have taken care of Darwin's hostile forces, and therefore you and other human groups are the biggest factor in each other's success. That is to say, the hostility some other group could, you can dominate the landscape. And some of the group can take it from you that the arms race is between two human groups with similar levels of cognitive capacity, and they just add each other up, which would then feed into your in my model of consciousness and its relationship to language and novel problem solving and all of that. But I think the, I think the simple answer to this is, until you've got language, human level consciousness is inconceivable. That does not mean consciousness is inconceivable. But human level consciousness is inconceivable short of language. And so that's not directly related to predators. It's related to whether or not you have a problem set like our human ancestors did, where they had this arms race and thinking outside the box was the way you got ahead of your human competitors. So I think I think predators are looming too large in your model, and that other humans are the thing you really need in order to, to amp up such a thing.

**Heather** 1:02:31

Next question, is just a note to me, Heather, I sent a private question on Patreon. It's long has some identifying info. Could you please help us some advice? I value in Brett's opinion on this? Thank you. I've made a note to myself to take a look. So I'll do that next. Hopefully, it's not super timely. We have a critical deadline Wednesday. So if I don't do it before Wednesday, I hope that's okay. But I'll do it soon thereafter, if not before recording. So this is from the same person who wrote about the equity requirements. for faculty regarding equity requirements, I was indeed asking about equity statements and requirements from my psychology research to target equity. Thanks for answering. So this, it's a bit different than what I was what I was reading it as. And, boy, if you're actually if I'm not reading that correctly, how I how I interpret that is I mean, there's an honorable, there's an honorable interpretation here, which is that increasingly we are coming to understand that the the weird capitals, all capitals, Western, educated, industrialized, rich, democratic country, people, especially weird psychology undergraduates, who have been the subjects of almost all of the major psychology experiments, and therefore are the people on whom most of the major psychological findings of the 20th and 21st century are based, are not actually representative of the rest of the world, that we are actually outliers that we are we are, we are the weirdos. So you know, we're sort of accurate, it's an accurate acronym, in which case, we really should be encouraging a lot of different kinds of subject pools for such research. That said, it's a hell of a lot easier if you are faculty at a university to get to get psychology undergraduates to come in and take and participate than it is to get people from your surrounding community. And that itself is a lot easier than it is to become, you know, a field psychologist and go to the Arctic or the African savanna or wherever it is else that you might go and discover things about the brains of such people who live in such places. And yes, absolutely, we should know so but I was actually for the book. I was just reading some, you know, really foundational amazing work from the 60s on how Culture affects the development of the visual cortex of our actual ability to perceive things. And you know, we know this and we've known this for over 50 years. Of course, there are going to be all sorts of different truths about how it is that we perceive reality honestly, and how it is that we convey it, and discuss it and share it, depending on what our developmental environment was. So there's value for sure and not having weird psych undergrads be the subject pool for all of these psych experiments. But being forced to expand your pool. Because of because of that need is potentially more onerous than it's worth as an individual researcher. Excellent. phenomic trait studies recover microevolution. Deep time genomic gene studies match flamingos with grebes and worse mismatches. Genes work great for crime fighters. Why not for paleontologists? I'm not sure I think it's possible. There's something here that I'm not reading. But I think phenomic isn't a word I recognize. And I wonder if we mean phylogenetic or phenotypic. And I wonder if instead of paleontologists he means follow Genesis or phylogenic system systemic tests? And I want to interpret it that latter way, but since I'm not sure that's what Yeah, what do you think? What do you think is meant here?

**Bret** 1:06:31

I'm not sure what is meant. So I would say that, I think that there is a reason to distinguish micro and macro evolution. And I would say it is speciation. But the I would argue that the distinction is overdrawn. And that in effect, what you get is micro evolution produces macro evolution. Now we talked I think in a recent podcast about the question of whether or not as I have argued, in various places, speciation is adaptive rather than an epiphenomenon. plays into that, but nonetheless, the way you've drawn it, you've got micro evolution as effectively. Well, you wouldn't have the question on the screen here anymore, but

**Heather** 1:07:27

sorry, looking up the graves work.

**Bret** 1:07:30

But in any case, I wonder if you haven't drawn too much of a dichotomy that doesn't deserve to be drawn. And that if they're, if they're not really just the same process at different scales, and therefore, one only needs to modify their thinking accordingly.

**Heather** 1:07:46

Yeah, um, so I will say that, so I remembered, you know, I used to teach the systematics of vertebrates. And I remember this green Flamingo thing. So Zack, you can put up my screen for just a second. This, I think, is the research to which the person is referring this 2001 paper, the Royal Society called convergence and divergence in the evolution of aquatic birds, which Yes, indeed finds that flamingos and grebes are sister taxa, which seems incredibly surprising, given they don't look anything alike. And sure, it's possible that in this case, the DNA are misleading. And this isn't, this isn't actually accurate, but it's also quite possible that that it is thing, some clades just evolve very, very rapidly and we don't know you know, maybe presumably, if they really are sister, the most recent common ancestor of the flamingos and Greaves probably looked a lot more like one of those than the other it would be unlikely for both of them to have shot, you know, change tremendously. But you know, you have you have living taxa that look a lot like they did 200 million years ago, crocodilians, probably, right? sharks, for sure. And then you have things that have changed incredibly rapidly. So I also I just did a very, you know, this in terms of just like, checking the logic on the question, I just did a Google Scholar search on the paper in question and then did an looked at the forward. Here's Zach, if you could show my screen, because this is just something useful that people can do. So I just went into Google Scholar and plugged in this paper. And so here it is, it's been cited 166 times, which isn't a ton, from 2001. And then you look at where it's been cited. And I've just done this, so I have not. I don't have time to assess this right now. But one thing that comes up right away is that it looks like there are no modern citations. Nope, there are there are modern citations. 15 modern citations since 2016, but it falls off dramatically. So does that mean that newer work has has placed that estimation, I don't know, with, you know, half an hour of devoted focus here I could I could figure out whether or not we meaning systematists think that that result was was wrong either because there is a problem in the heuristics used by the systematic software or the data were bad or the analysis used to few birds or whatever it was to few taxa.

**Bret** 1:10:23

Okay, but as a to your point about the possibility that the work is actually robust. Yeah, look up these three critters and show images hyrax

**Heather** 1:10:37

go right. Okay. Let me just get them all before before it's actually anything Okay, so we're gonna do high rack racks to do yeah, we go. I think everyone knows what an elephant looks like but

**Bret** 1:10:54

and how about a dugong?

**Heather** 1:11:04

Okay, so you can show my screen Zach. These are dugongs.

**Bret** 1:11:10

Do gardens which are already in this their relatives.

**Heather** 1:11:14

See cows like hippopotamus, kids?

**Bret** 1:11:17

No. No, they're elephants. Yes. Okay. How elephants, hyraxes and sereni. I

**Heather** 1:11:23

think the plural is high reeks. And the way everyone knows what elephants look like we also know there's two different two lineages of elephants but then the hierarchs

**Bret** 1:11:33

There are also a couple lineages of hyrax

**Heather** 1:11:37

but elephants is good gripped by that it's monophyletic it's not that the highlights are more closely related to African elephants and

**Bret** 1:11:43

I think all of these each of them are monophyletic you know the hyraxes are a good group. The sirenians are a good group and a good group probably city anzar Yeah, and anyway, they are robust I believe the work is robust it says they're actually each other's closest living relative

**Heather** 1:12:00

which doesn't know which way that goes or is that I probably told me at the base there

**Bret** 1:12:03

I think the higher annexes are basil and really yeah, interesting. I believe so.

**Heather** 1:12:10

I thought it was hi rakes and elephants. I just like to say hi rakes. Okay. Cool. Um, three more questions. And then we're done for the for the week here. I don't usually like jazz, but I like the campfire song. How do we plan for American unity going forward?

**Bret** 1:12:35

How do we plan for American unity? We're just going to do it. I mean, that's the thing. turns back the mF green is back. Up dreams being true bugs? Yeah.

**Heather** 1:12:46

Nope, really, totally suck. Yeah, they totally suck. I'm gonna throw this one out the window,

**Bret** 1:12:50

you're gonna have to. Alright. Alright, well, with her throwing him out the window. It's now time that we can talk about her and she will be in no position to respond.

**Heather** 1:13:04

Just have to get the windows back on here. All right,

**Bret** 1:13:07

I was answering a question about what we do about American unity. And the answer is, we are going to have to, to fight for it. Because obviously the duopoly is more than capable of defending itself with one hand tied behind its back based on its immense power over policy and narrative.

**Heather** 1:13:26

And even one brain tied behind its back.

**Bret** 1:13:29

I'm not sure they've got one brain between them. But But nonetheless, I just don't see any alternative. We have to we have to bootstrap it. And at the moment,

**Heather** 1:13:39

it's on pause before the inauguration. Is that right? Yeah, effectively. Yeah,

**Bret** 1:13:42

it's on pause until it's so you know, exactly what will you be doing now? Yeah. So anyway, yes, stay tuned. You will, you will see things happen at the point that there is opportunity to to make trouble.

**Heather** 1:13:59

Yeah. All right. Two more questions. I am doing a debate tomorrow with a party who thinks that children aren't mature enough to decide their gender and everyone should be on blockers help oh my god that I actually have not heard something true twisted into that conclusion before someone who thinks that children aren't mature enough to decide their gender their exploring identity that's what children do and therefore everyone should be on blockers so a blockers is about sex is about transport trying to transform the all the parts of sex that you can without actually getting to anything fundamental because you can't

**Bret** 1:14:42

so wait oh my God thinks that children should be put on blockers pee

**Heather** 1:14:47

so this is going to be puberty blockers is gonna be close. It's not cross sex hormones. Actual blockers.

**Bret** 1:14:52

So I mean, look, there's only there's only one argument against this and that is who the hell do you think you are? Yeah, who The hell do you think you are that you know so much about this stuff that you are in a position to disrupt normal development?

**Heather** 1:15:07

You know, this reminds me of this reminds me of in researching the book I came across a movement in the early 20th century among American medical doctors who had their they were worried about the appendix and as this vestigial organ and couldn't figure out what it was good for. And we're not going to tell that whole story now. But it turns out, it's actually good for a lot of things. And it depends on on your environmental context. But they then wet I dare say it's like eight or 20 steps further, and they decided that not only were they so certain that the appendix was not good for anything, but the large intestine was actually useless. And they were advocating for just getting rid of it, because it's clearly not doing anyone any good. This this is that kind of batshit naivete is even

**Bret** 1:15:51

worse. It's even worse. I mean, you know, it's kids, it's development, like

**Heather** 1:15:55

they're going to destroy people they're going to destroy people's is just

**Bret** 1:15:59

completely unacceptable. And I mean, just even even at the point that somebody formulates such an argument says it out loud, and doesn't immediately understand that what they've said is insane. We got a serious problem.

**Heather** 1:16:12

There's something there's something in this and I ran into this with sort of like, really damn, faculty, who had been semi trained in humanities or social sciences, but not like the legit Humanities and Social Sciences. These are just dem postmodern critical theory, humanities, social science types, who seemed to really believe that everything about the universe was created at the point that humans started talking about that thing like that. That's actually the the foundational premise of a lot of this stuff, you know, you're talking like, Well, you know, of course, Darwin, Darwinism is racist. Now, it's not well, these people who were talking about it were racist, like, just because the thing has been abused by idiots and racist doesn't make it idiotic or racist. And, you know, children are interested in figuring out who they are, and in being transgressive, and in exploring liminality. And in, in doing all of the exploration, that is what children are about, that's why we have the longest developmental periods relative to our lifetime on the planet. You should therefore conclude exactly the opposite. You don't mess with their development with giving them exogenous drugs, you don't do it unless it is absolutely 100% required by for some reason that is distinct to them, for which nothing else has worked. And everything else that should be tried first includes everything from diet, to exercise to light regime, to family situation, all of these things. You don't start with drugs, and hopefully you never you don't end with drugs and except the rarest cases. That's insane. Yeah, that's, that's insane. One more question. Yep. Totally different. Oh, no, actually not a little bit. Children. How to evaluate COVID vaccines for a two year old and a five year old? I'm usually pro vaccine but apprehensive given the novelty of the mRNA mechanism. For what it's worth kids are homeschooled. I would say no, I mean that in fact, I think even even the authorities who are pushing this for absolutely everyone are saying under I've seen actually a couple of age ranges. But I've never seen anyone advocating for under six year olds. Yeah. And, you know, and homeschool. They're at low risk anyway. But like, absolutely not for tiny kids.

**Bret** 1:18:35

They also will not have tested these vaccines on kids. So right. As far as I'm concerned, kids should be exempt for multiple reasons. Yeah.

**Heather** 1:18:42

Not only aren't they getting COVID, but they're actually apparently not even transmitting it. So it's not even that they're vectors, and they themselves don't get sick. But you know, yes, there have been a few cases, but not only at the schools, mostly COVID. Free. But when there are outbreaks, it's going between adults, and very rarely are the children even involved as vectors. So like, just keep it away from the kids.

**Bret** 1:19:05

Yeah, keep it away real negatives. And really, I think we should set a fairly high age. I've seen 16 Yeah, but I'm not even talking about I'm talking about how do you hedge against the kinds of unknowns that come with a vaccine like this? Yeah. One way would be to decide that the people who are in least danger of getting it and suffering severe consequences, be the ones who are exempted so that you don't create a catastrophe? Yeah, I would be I would be inclined to exempt people below 30.

**Heather** 1:19:37

Well, the argument then goes, you know, this, this is complicated. Maybe the group that should be getting mass vaccinated first or the so called party animals, you know, the people who are at the center of social groups when people you know, people like Nicholas Christakis do their, you know, social network types of analyses that the people who have many, many, many more connections and anyone else are the ones who are most likely to be spreading it. If they have whatever that additional like magic ingredient is that makes them super spreaders, which may have nothing to do with their social behavior, and it may have everything to do. I think if it did have everything to do with the social behavior, we would know that already, though.

**Bret** 1:20:17

Is there? I don't know. Is there any indication that super spreader pneus is about some individual characteristic rather than an environment that super conducive?

**Heather** 1:20:28

Well, this is this is I think you just sort of asked exactly the question that I was trying to get at as well that I think that if it was just behavioral, that that would be clear by now. And given that one of the few people who's really on this is Nicholas Christakis. And he is rock solid in terms of his analytical skills. And this is exactly squarely in his wheelhouse. Because he's both a sociologist, you say, social networks, and also an MD, and actually just came up with this book that I haven't seen yet. And this year about COVID-19. That we would have some sense of supersport is really being a behavioral thing. And because I haven't seen that, I think that there's going to be something else sort of epidemiol ideological about individuals, that is making them super spreaders. But I don't know and I don't, I don't think we know, but I know that I don't know, my suspicion.

**Bret** 1:21:25

And it may be that there's something on top of it is that, you know, you're going to get people who are particularly productive in terms of aerosolized particles. Yeah. Because of the moment that they are in contact. So in other words, if you imagine an event, there'll be some fraction of the population that is at maximum productivity of aerosolized

**Heather** 1:21:47

just because of the place and the trajectory of the disease relative to their own body, when they go to the thing running, go to the restaurant, or the party or

**Bret** 1:21:56

whatever, you know, you got asymptomatic symptoms, jump productivity, and then it's going to drop off.

**Heather** 1:22:01

So the prediction there is that everyone is a super spreader for like, 12 hours in their disease progression, but most people don't hit No,

**Bret** 1:22:08

I will say, I would say, let's take three items that would combine to create a super spreader event

**Heather** 1:22:14

got super sprinter event or individual,

**Bret** 1:22:17

same thing, okay? You've got somebody in their maximum productivity of aerosolized particle phase, you've got and event that creates the conditions like a low volume room without proper circulation, and an activity that causes maximum production. Okay,

**Heather** 1:22:41

sure. But you just blackbox the thing we were talking about? I don't think so the first thing in that list is, you know, they're, they're at their most productive. So this, this fits with what I just said, which is that you think that everyone has the capacity to be a super spreader if they happen, if it happens to be at that point, that trajectory, right disease. I, that is certainly a hypothesis. I would not put money on that hypothesis. But I think it is more likely there's something either either behaviorally about some people that makes them that and there's a there's a long period during which they could be super spreaders, or, more likely, there is something else that we do not know about their particular genome phenotype development, something that interfaces with COVID-19 particularly makes those individual super spreaders regardless of what else is true.

**Bret** 1:23:29

Well, it could even be that it isn't genomic, and that it has to do with the accident of what tissues are. Good fourth,

**Heather** 1:23:37

fourth hypothesis yet,

**Bret** 1:23:38

it's tissues that are expected, especially likely to produce aerosolized particles, for example, but I guess my point is super spreader event is gonna be a combination of things. And two of them might have nothing to do with idiosyncrasies.

**Heather** 1:23:50

Absolutely. But that's why I asked you when you started this, I said, Are you talking about the super spreader individual or the event? They're not the same thing? Well,

**Bret** 1:23:57

they are because in each case, they're inherently the same, because in each case, we have a super spreader. The fact of a super spreader event, which involves at least one individual who's spreading virus in some circumstances, the sequester

**Heather** 1:24:15

event includes a super spreader individual, but they're not the same thing. There's it's a nested set. Now

**Bret** 1:24:19

my point is, there's no way to have an individual and no event, right? The individual is intersecting other people.

**Heather** 1:24:27

Oh, well, no, I think that that these hypotheses differ in that some of them assume that you could be an individual with the capacity to be a super spreader who doesn't find the right event? And that what you are, what you're suggesting is that everyone no matter what if they end up COVID positive has some period of time when if all of the other parameters are right will become a super spreader individual, but that that isn't that there is nothing unique about them as an individual that makes them a super spreader.

**Bret** 1:24:59

I think we know that That's not true because there are you know, there's a vast range of productivity. In other words there are mild case. What do you mean productivity of what aerosolized particles there are lots of cases in which somebody is expected to produce very few of these things over the entire course of their disease, but

**Heather** 1:25:16

some of the super spreaders have apparently been asymptomatic. So it's not just about, you know, the current model of its aerosolized particles and that's how you that's how you spread it. So well, it's it's way more chaotic in terms of, it's just not clean.

**Bret** 1:25:33

Well, I'm not saying it is I'm a little bit doubtful about an asymptomatic person being a super spreader, maybe you've seen something I haven't seen,

**Heather** 1:25:41

I've seen some stuff and I also have one very strong anecdote of just an entire an entire workforce at an office with something between 10 to 15 people getting positive after one person who had just breathe in a room for a couple of hours without a mask and never showed any symptoms and then they all went in there masked for for a meeting for an hour, and every single one of them came out positive within I can't say it on air, okay. That's not a published thing. No this that. So I've seen some stuff and I have to dig it out. But this this anecdote is a situation that I know of personally, okay. And it the person one of the people involved and I were talking about it and you know, they were they were shocked like no one expected that someone who was asymptomatic could have gotten so many people sick and he never came down with symptoms terror came down with symptoms and almost none of the people who then tested positive came down with symptoms either and none of them got really sick but all of all of them did him and none of the people that that office worked with beyond they shut down completely for two weeks and all of us and they didn't they did not get any of the their people who they work with as in terms of the business that they do sick because they were very very careful to immediately quarantine anyway, got it

**Bret** 1:27:06

yeah all right.

**Heather** 1:27:09

Oh, that was long Yep, here we go. It is almost four o'clock here on the west coast, which means it's almost certainly later where you are if you're listening live

**Bret** 1:27:19

and to people in Hawaii, Lucky dogs.

**Heather** 1:27:22

Yeah, the weather's probably better to yeah doubtedly Yeah, so you can see on screen you can get much you can go to either a Patreon has joined the discord conversation, get access to private q&a that we do once a month, two hours more intimate than this because we actually look at the chat going on. It's many fewer people. It's been fun. We've been enjoying those and your Patreon for some longer, more more private conversations.

**Bret** 1:27:57

You know, get yourself a mug and when it hits five o'clock, have yourself a Portland mug shot.

**Heather** 1:28:03

yourself Portland mug shot.

**Bret** 1:28:05

Yep. All right, I think I think we're there. We will see you next week. Ciao.