Your Questions Answered - Bret and Heather 72nd DarkHorse Po...

Sat, 10/9 12:13PM • 1:20:45

**SUMMARY KEYWORDS**

question, vaccines, point, males, monogamy, female, fact, good, means, problem, people, book, thought, find, immunoglobulins, part, live, system, arguing, humans

**SPEAKERS**

Bret, Heather

**Bret** 00:32

Hey folks, welcome back to the Dark Horse podcast live stream q&a section number seven the What did we decide to 7242? Of course,

**Heather** 00:43

it's multiple of nine.

**Bret** 00:44

Yes. That's all 72 trombones. Really? You could have 72 Trump Oh,

**Heather** 00:52

you could Yes, it is a plausible number of trombones. leaving some big parade. Yes. Okay. We are going to start with a few questions from last episode from 71. answer a question from the discord server. And then, man, there are a lot of good questions this week. So we're going to miss even more of the good questions then we usually do. Let's just launch right into it.

**Bret** 01:16

Actually, I made an error during our initial podcast. Can I just say I should have mentioned the Irshad Manji podcast that people should check out which is excellent.

**Heather** 01:27

100%. That's just what you just posted that last night, right? So it's just been up briefly

**Bret** 01:33

just been up halfway, but people are loving it. Great. So in any case, check it out.

**Heather** 01:37

She's fabulous. She's

**Bret** 01:38

really marvelous. Yeah.

**Heather** 01:41

Okay. First question from last week, PDF cert. So this starts with a bunch of acronyms, but they all are meaningful PDFs are here. Hi, that's someone from Portland, LGBTQ slash PLC raising kids. We don't believe in the hostile rhetoric heard or taught here. I'm afraid kids raised with these views. will rebel and 10 to 20 years and join identitarian movements? What are your thoughts? We love the show? So love hearing from people in Portland we've been hearing from for more and more and it just, it's it's heartening. Yeah. And, and I love it. And also, you know, I also believe that even many, many more people than our than we're hearing from or who are saying it out loud, also don't like the hostile rhetoric. And I think that that will be that will be response to join identitarian movements, in part because the lot of the woke stuff is effectively identitarian. I mean, that's what it is. It's just, you know, anti racism is identitarian.

**Bret** 02:43

Yes, anti racism turns out to be racist, right. And it claims to be racist for a good cause. Many of us don't believe that there is such a thing as racist for a good cause. Yeah. But in any case, yeah, I made the argument quite some time ago, I guess it would have been 2018 or 19. That this that we were effectively going to conjure. The exact demon that is being falsely alleged was driving whites into identitarian. Thinking, and this is this is the same. So yes, I think there's a real danger. And frankly, all the folks pushing this, how dare they play with it? It's not their fire to play with. Yeah. And they are putting us all at risk over nonsense notions, many of which are the sort that could be easily dismissed in a matter of minutes, given reasonable people who have room to say, what's true and extrapolate from it? Yep.

**Heather** 03:39

They're going to create a, an enemy whose strength is the likes of which they have been claiming they were fighting from the beginning. Yep, absolutely. Okay, next question. While our cats go to town on the cream in the background, honest question, why do people hate the idea of decolonizing? Certain aspects of education? Is it the term decolonize indigenous people mainly use stories to educate about morals, etc, even engage in rudimentary science? Is it fear of change?

**Bret** 04:11

Well, I will say, For my part, I resent the idea of decolonization because it is effectively a nonsense claim where it is deployed, I don't object to the idea that there might be certain aspects of the way we educate, that could be disaster averted, that it could be improved. In other words, like everything else in this landscape, you know, the terms are garbage by virtue of the way they're being used. They're not inherently garbage. Is there something to the postmodern understanding that it is impossible to escape our predispositions? Now of course that's true, but you can't extrapolate. laid it into a worldview, you can recognize it, that it's a hazard and do something about it. Yes, there's something that we could legitimately call anti racism that would be worth engaging in. Yes, but we can't now because anti racism turns into a manipulative tactic. Is there something we could call white fragility? You know, sure, of course. But of course, the way white fragility is deployed, it's a nonsense accusation designed to prevent people from being skeptical of claims that they should be skeptical of. Yeah. So decolonize? Sure. Is there a legitimate version that could exist? Yes. But the version that we see is simply, you know, I don't know a talisman or something that is being wielded in lieu of an argument. And,

**Heather** 05:45

yes, I agree. What do you do with it? I agree. The cancel so not last week, but I guess two weeks ago, we focused on Dr. Seuss. And so this question from last week says the council called targeting Dr. Seuss, caused increased demand and sales for that one's mild bigot, a beautiful irony or a fiendish plan. does work idiot ology mean to make itself look ridiculous? Thus fueling sense? Love Darkhorse?

**Bret** 06:13

Yeah, a I don't think it was a plan B. It could be a plan. But really? What? That's just

**Heather** 06:23

said that. Yeah, the

**Bret** 06:25

The point is, you know, does it change anything? If it is no, and

**Heather** 06:28

I find that in this case, because it was the publisher, the Seuss Foundation, or whatever, who said, you know, apparently, in response to pressure from from works, to stop publication of what was it six, six of the books? That could have been a hoped for? Do you know, results? Maybe? I wouldn't be surprised if if Seuss needs a PR bump. But

**Bret** 06:54

yeah, but I mean, all of these things are demonstrations of power. Right? Yeah. How much power? Do you have to have to get a publisher to voluntarily pull books? From a wildly popular author out of the catalogue? A lot of power? Does it matter that it was mostly obscure books? No, the point is they're demonstrating power. And I'm not sure what else to make of it, other than this movement has a tremendous amount of power. And they affect things when they can and they've targeted everything. So. So yes, I'm, hey, I'd like to see some evidence. If there's any that suggest that this was somebody's marketing campaign. I don't think that's what it was. But it's beside the point. Yeah, movement has a tremendous amount of power, and it's wielding it. Yep.

**Heather** 07:43

I agree. So we actually had a question from last week. About I will butcher his name Garrett vandenbosch. Dutch PhD virologist says vaccinating during a pandemic would make COVID-19 much, much worse due to selective immune escape. What are your thoughts on this? Thanks to both of you. I just wanted to so we actually had two more questions today. Do you think Dr. Bhatia has appealed immediately and completely stop all COVID vaccines worldwide is well advised. DHP rocks and then Hi, is it true? You're ending in five weeks? If so, thank you very much for the sandy provide during horrendously dark time. Also, are you worried about immune escape as a result of vaccination during pandemic be well, so if you like we addressed all of these in the first hour, but presumably these questions came in before that happened. So no, we're not ending in five weeks. And and, you know, it's complicated, but we talked about, we talked about that. Yep. before. So from the discord this week, we have having a lot of idle dispossessed young men around tends to have a net negative effect on society. What can or should we do to steer them away from the path of desperation? Thank insell stuff, political, religious extremism, sexual violence, porn, addiction, etc?

**Heather** 08:57

Yeah, we do big, so huge

**Heather** 08:58

question. Yeah, it's important one. But yeah, so we're gonna do a tiny little bit here. And then we shouldn't be coming back to this. We talked about this a little bit. And in our book, which is still months away, but

**Bret** 09:11

we, in effect, talk around to this question all the time. Right? I would say we have a basic problem. We have several layers of problem. We have a novelty problem, which is that we keep introducing novel phenomena and not anticipating that it's going to cause disaster and this is a major disaster, but it is embedded in a larger a larger issue. There is a motivational problem based originally in the invention of birth control, which I think birth control is a net positive, but it has huge implications for social systems that we did not properly anticipate. And we are now decades many decades down the road and the incentive structure is complete nonsense in part Because of the idea that any sort of self limitation in the sexual landscape is really oppression and that basically the height of sophistication is anything goes when it's not true. So and this is, of course, where Jordan Peterson got into such trouble years ago by invoking the admittedly clumsy term enforced monogamy, when in fact, we come from a culture that has a legal legal prohibition against polygyny,

**Heather** 10:31

also, to the degree that there is social enforcement of monogamy in both humans, and in other species, it's the females who are doing the enforcing. There, you know, to the extent that there are winners from polygyny, which is the particular manifestation of polygamy, which is usually what people when they're talking about humans say the winners are the very, very, very few males who actually end up with multiple female mates. And you can also argue that they're not winning everything they think they're winning, but all the males who are therefore left unmated and all the females who are left with less childcare and partnership and everything else, and the children themselves all lose. And this is actually what I just I happened to be doing research yesterday on the health effects on children of mating systems in other human cultures, basically, comparing monogamous cultures to polygynous cultures. And under polygyny, children fare less well they have they have lower life expectancy and worse health health outcomes. So you know, all all of the hubbub about you know, enforced monogamy Who does he think he is men always trying to enforce monogamy on women like nope, it's been the other way around. And you know, luckily for women, most men are also interested in that because because it's basically it's better for almost everyone, the only people for whom it's not better than in a coherent system of polygyny is a very few men and the sort of polyamorous promiscuous is the term of art. In in evolutionary biology free for all, doesn't work for anyone long term.

**Bret** 12:14

Yeah, it's it's a really bad way to run a society and maybe a good way to generate an army, unfortunately. So we should look out for this as as a hazard. Yeah. And I would also just point out the thing that we've said multiple times, which is you'll find monogamy is very common in birds. monogamy is never perfect in any species in which we look at it. But it is something like 85% of bird species show at least seasonal within season, monogamy and many lifelong. And in mammals, it's 15%. And in some clades, even less, and the implication of this that might even be high. I don't know. I think it's 15 across mammals, and it's lower and bats and higher and some other things, but it doesn't doesn't much matter. Yeah, I know, bats. But the point is, why are these numbers so far off of each other? Why are birds so much more prone to monogamous monogamy? And the answer is really interesting. The answer is that for physiological reasons, the birds are more certain of their own paternity. Male birds are in a much better position to know that hatchlings are theirs than mammals, because mammal pregnancy separates sex from birth in a way that males can't track what's happened weeks, months earlier. So the point is, when males have high certainty of paternity, they are selected to favor investment in mates and offspring. And so what at

**Heather** 13:43

least opens the door for the possibility in a way that the door isn't really even open, absent, high certainty paternity?

**Bret** 13:49

Well, it's open. But the problem is the danger of coquetry is so massive, that selection favors males to abandon so they don't get caught in that trap. And so anyway, you want to see more monogamy, which you should because the benefits to it are so many and at every different scale from the individual scale up through the societal scale. What is the answer? higher degree of certainty of paternity is what causes males to be in that frame of mind. So anyway, interesting puzzle.

**Heather** 14:19

Yeah. So we didn't really answer the question at all, but we'll keep talking about this.

**Bret** 14:24

I thought we did.

**Heather** 14:26

What can or should we do to steer them away from the path of desperation? Yeah, so that was the actual question. I think we should I think we should move on for now. That said, apparently, this question has been coming up a lot in the discord. So I do think we should return to it. We just we will end up talking forever about this. Yep. If we if we stick to it right now. What is your take on the mRNA vaccines versus Johnson Johnson? If offered one tomorrow, would you take it? Assume that demand is greater than supply? So public health is not an issue? This is only a private health question. So thanks for all you do. I appreciate that. The nuance in that question as well, that it you know, it takes the public health question off the table. We haven't talked about this recently. I would far prefer a Johnson and Johnson to mRNA. And I am glad that I'm not in a position to have to decide whether or not I will take it yet because I'd rather not yet. And it's not an offer.

**Bret** 15:28

Yeah, I would say, unfortunately, delay is valuable, because the problem with all of these vaccines is how little we know about what they do. I will say, anecdotally, I hear from a large number of people who are in a position to give first person reports very scary stuff about side effects that have happened, which

**Heather** 15:49

mean, I don't know anyone who's had the j&j right now, this is just Pfizer, Montana.

**Bret** 15:54

But the point is lots of stuff that, you know, I don't think I've heard of anybody who said anything that yet looks like a permanent harm, but that the number of things that appear to happen in the immediate aftermath of getting these vaccines is substantial. And the nature of the symptoms is surprising. And so the question is, you know, as we pointed out at the beginning, we don't know, and we're intervening in a complex system, and you should expect things you didn't expect to emerge because of the nature of that system.

**Heather** 16:26

Yep. And I, I, I still think Johnson and Johnson and AstraZeneca, we didn't talk about today, but I think the blood clotting stuff was a false flag. And not that it didn't happen, but that it was unnaturally high as a result of the vaccine seems likely to have been not the case. So

**Bret** 16:44

you don't fall for you mean, false alarm,

**Heather** 16:46

false alarm? Yes. False alarm isn't quite right. Either that like the idea that this meant that the vaccine was dangerous in this way, I think I think was not was not borne out by the actual evidence. So I still would prefer one of the DNA vaccines to one of the mRNA vaccines. But because Johnson and Johnson has been around even less time than Madonna and Pfizer. I'd like for it to have been around more as much more time as possible before I myself end up having it and because of concerns about long term health size, for those

**Bret** 17:21

who have only recently come to this conversation, I would just say that the part of the problem, too, is that we have a massive vaccination effort and no evidence about truly long term effects. And even a delay of months or years doesn't buy you insight into what it does 20 years down the road,

**Heather** 17:39

right? What do you think is the most likely COVID scenario going forward? Besides vaccines work, and it goes away within the year as everybody gets vaccines? In other words, where's the risk? And how do we spot it? I actually felt and I it was hard, it's hard to separate out my assessment from my hope. But it really felt even before the vaccines were being rolled out, that we were going to end up with this thing becoming endemic in the population and losing virulence and becoming one of these coronaviruses that circulates and kids get exposed to and like they do for colds, and that it would become less and less of a deal. I still hope that's a possibility. I don't know where to put the probabilities at?

**Bret** 18:32

Well, I would say the details of that scenario matter a lot. And there's one way in which I think that's a horrifying scenario. And that the, you know, effectively adding another influenza

**Heather** 18:48

is a cold. While I

**Bret** 18:49

know but within that, it becoming endemic and us being regularly infected by it could potentially be a disaster, or it could, you know, descend into a level of virulence where it would be a nuisance, still a huge setback. But nonetheless, it could be a tolerable one. I think there's a possibility that the vaccine and as ill advised as launching into a massive vaccine vaccination campaign that is not evolutionarily well thought out is it's actually possible that this could work and that the escapees will have downsides associated with them evolutionarily

**Heather** 19:30

that will kind of escape as you're talking about virus escapees virus virus escaping

**Bret** 19:36

susceptibility, but I think it's actually very likely that what happens is that the arms race produces the natural counterpart on our side, which is that you know, we will be generating vaccines rapidly, it will be escaping and we will be chasing the virus and we will learn a lot about the consequences of Repeated vaccination. So anyway, there are a lot of scenarios and I would say many possibilities are open here, including presumably ones we haven't thought of. Yep. But um, you know, cross your fingers that this vaccination campaign and there are ways in which, if it makes any sense, it hasn't been explained to us how it does vaccinating people who've had COVID still doesn't make any sense to me. And it's a lot of people. So why are we exposing them to the hazard of a vaccine? We know nothing about the long term implications of that seems indefensible. Yep. But I guess we'll see. Yep.

**Heather** 20:42

What are the evolutionary implications of showering every day? Not being able to shower while camping in nature? It doesn't feel as dirty as if you skip it when you're in the city. Are we the urban Ling's to pure elde? Is there any compromise? Yes, we're to PRL. And it's, it's hard. It's hard to stop doing it when you're when you're interacting with other people who have the same expectations of of sort of smell and cleanliness?

**Bret** 21:10

Yep. I mean, I think the implications are many, some of them are positive, and many of them are presumably negative, there's temperature questions, is it good for you to, you know, to jack the external temperature the way a hot shower does? Maybe it's neutral, right? Maybe it just takes the burden off the caloric burning momentarily? Who knows? It may be that it's related to anomalous stuff like kids getting acne is changing the ecology of what's on the skin through this otherwise, evolutionarily bizarre condition. And that's moderns

**Heather** 21:49

out so that isn't necessarily about showering. But specifically, these injunctions, you know, wash your face everyday twice a day, like wash your face Really? Sure, sure about that. Like if you know, you got stuff on your face, you need to clean that shit off. But with that, in particular, has always struck me as like, it's not at all clear to me that soap belongs on your face ever.

**Bret** 22:09

Yeah, well, there are all kinds of interesting questions too, about brushing your teeth, and what the natural ecology of the mouth would be. But then on the other hand, it is also possible that even something evolutionarily novel, like showering or brushing the teeth might be a positive compensation for other novelty factors. In other words, novel diet, and novel population density, yeah, might cause you to behave differently. With respect to these things, than you would in a natural situation, you could make a similar argument for deodorant. In other words, you know, we're supposed to stink a bit, and it's carries information, but we're not supposed to be indoors packed together the way we always

**Heather** 22:56

have a fabric against our skin as well, which is going to maintain the level of sweat on you, as opposed to having to disperse.

**Bret** 23:04

Yeah, so anyway, good question. And yes, there are bound to be many implications.

**Heather** 23:11

Okay, let's see. heterosexuality is obviously genetic and ancient for reproduction. I can see so called sexual preference being fixed from birth to death in some are even most humans. But on what basis? Can we say it's immutable and all humans rather than being malleable over time? How much of such change would be down to nature versus nurture? Being hetero used to be natural until we observed other gay animals? What about fluid preference and identity?

**Bret** 23:39

So there's a lot to be said on this topic. I will say I do think sexual preference is actually quite flexible in women and for good reason. Right? In other words, a female had homosexuality as a hedge against the fluctuation in the availability of males due to things like warfare and you know, potentially disease given that males are more physiologically fragile. Is it makes perfect sense. And so? In short, why should any female who is capable of producing and raising offspring ever choose not to by virtue of the fact that there is no made available given that a male can produce an arbitrarily large number of gametes? There's no reason so females teaming up to play maternal roles to raise children, I think will have been a common compensation. Male homosexuality tends to be obligate rather than facultative.

**Heather** 24:43

Well, I was going to point to Douglas Murray's chapter on gay in the madness of crowds is actually the whole book is terrific. And you of course, had him you've you've had him on twice and once in, both in the wake of the publication, maybe we're just No once

**Bret** 25:00

once was right on his book tour and the other was when he came through Portland.

**Heather** 25:04

That's right. So both after the book was published, but the first time you spoke with him, was right after it was published and that is his chapter on gay he is a gay man and his exploration in that of whether if why we have accepted why we have been told that we must and pretty much widespread acceptance of sexual orientation is what you're born with. And then there will never be any effect from environment is actually the first time I've seen I've seen that kind of argument explicitly with regard to male homosexuality. Well, he does he does a terrific job of it, I recommend that for person asking this question.

**Bret** 25:47

In the interest of not creating confusion though I am not arguing that it is not development a developmental consequence, I believe it is highly likely to be to develop mental Well, I don't think it is facultative. So that is to say in so

**Heather** 26:00

he argues for but he argues with the possibility of both. And

**Bret** 26:03

there may be there may be you know, I'd be stupid to say not at all faculties, but I would say

**Heather** 26:08

facultative being the opposite of obligate if something is obligated always happens. So it's facultative there's developmental choices to be right.

**Bret** 26:15

And in fact, extreme situations like prison do seem to indicate some degree of flexibility just based on who's available. But the question is, is the parameter set to flip over a lifetime given consistent circumstances or relatively consistent circumstances much less so in males than females? I believe the data reflect that and that it makes a good deal of sense that it should But anyway, like that,

**Heather** 26:43

yep. After Richard Dawkins The Selfish Gene what other book from him would you recommend that complements really well that great title my my other favorite is always the ancestors Dale. His next book was the extended phenotype and it's his favorite book. I have taught with it and it did not strike me as as as important you know, introduces an important idea but I think ancestors tail gives you sort of the macro evolutionary side of things that Selfish Gene goes into the micro side really extensively and you're also a fan of The God Delusion. No, no, no, I'm sorry. No, no, I'm just seeing what you've got on your shelf up here. It's climbing mountain climbing mountain probably got to lose one that's shining at me. Okay. That's not a good one. Good.

**Bret** 27:33

Yeah, till a point. Yeah, it goes off the rails. Sorry. Yeah, yes. The thing about extended phenotype is probably the part of extended phenotype that you really need is actually in modern versions of The Selfish Gene it's like chapter 12 had an ad that maybe he didn't add it maybe it's in there from the beginning but it is in there nonetheless The idea is there so

**Heather** 27:57

I don't I'm not sure you're right about this Yeah, memes are in chapter 12. I think extend Okay. Oh, anyways, we got Selfish Gene there too. Okay, well, you're looking it up. Perhaps I will move on to the next question. Sure. Can you can you listen as your I can't? Hi superheroes this one begins. Is the pink and Himalayan rock salt the same pink that is in prawns and therefore flamingos why pink? Is it one or a combination of minerals? I once went orange working to juice bar with too much carrot

**Bret** 28:30

that does happen

**Heather** 28:32

yeah, that does happen. I don't know the answer to this. I it's quite possible because like the the stuff in the mountains is ancient sea floor like that. The Malia's were the part of the floor of the great south of sea I guess or maybe it was already the Indian Ocean is India cruise north from Gondwana and hit it Asian form the amalias. And so you don't may may well be the same thing. I don't actually know what it is a copper. Maybe it's possibly copper. I

**Bret** 29:06

don't know. You don't know. I don't know. Yeah, I know. It's not flamingos. If that was the question flamingos

**Heather** 29:11

in the salt. Yes. Great.

**Bret** 29:13

What did you find? Unfortunately it's not clear I think it's gonna be chapter 12 or 13 but

**Heather** 29:19

where you where you think he actually talks about extended family Yeah, he

**Bret** 29:22

does. He clearly does.

**Heather** 29:26

Next question, man it is pouring here. Pouring Wow. He just did spring in the Pacific Northwest is the

**Bret** 29:33

app now.

**Heather** 29:37

What are your thoughts on soft sex work like only fans? I find this implications extremely concerning for both the male buyers and female sellers. Yeah, so do I. I find the implications extremely concerning as well knowing almost nothing about what's going on there or what it is.

**Bret** 29:54

Alright. I have a different take slightly. Okay, which is it's very concerning. Except it depends what you're comparing it to. Right? If you're gonna compare only fans to Pornhub, probably it's a huge step in the right direction. But if you're going to compare it to a healthy society with a reasonable view of sex, then it's appalling.

**Heather** 30:16

Yep. Yeah, so it's it's not all relative, but you can do a relative analysis here. And should, yeah. So, yeah, in the index here, we find extended phenotype here. So he does appear to bring it up a couple times. At the end of the book, as you said,

**Bret** 30:38

as I said, as you said, I am the reliable narrator. Sometimes Sometimes this time, I'm the semi reliable narrator who've chosen

**Heather** 30:44

to be reliable this time and the fact that you you're only facultatively reliable makes you unreliable. It's chapter 13.

**Bret** 30:52

I was facultative. And tenure.

**Heather** 30:58

You were facultatively 10 years just wait, you

**Bret** 31:00

were okay. facultatively tenured I actually yeah, that's like we were both we were Yeah, we thought rotatably tenure that these? Yeah, Professor next I should become facultatively.

**Heather** 31:12

Yeah. Okay. Well, you to explain in the simplest layman terms, why different species have different lifespans. Why is a 15 year old dog as decrepit as 100 year old man? Is there any chance we can extend our lifespans? I'm gonna let you do this one. All right. I'm on it. facultatively, formerly facultatively, tenured Brett Weinstein will take on this question of lifespan. Excellent.

**Bret** 31:35

So life. So it's like this, ideally, you'd live in infinite period of time, because an infinite period of time gives you more opportunity to make more offspring and offspring are an important part of the equation of fitness. Okay, just take that as a given of the question. However, there are lots of things in the world that will kill you, right. And because there are lots of things in the world that will kill you, if you imagine 1000 people born in a given year, in which none of them age, there will come a year down the road at which none of them are left due to all of the accidents that you would encounter. What that means is that the number of individuals, you imagine a pathology that afflicts individuals at 100 years past birth, a lot of people will not have lived to have seen it, because they will have died in accidents before then. So it's negative effect on the species will be much smaller than something that has an equivalently bad effect at 50 years. Now, we can extend that analysis out and we can say something that would kill you dead at a million years, has no negative effect, because nobody lives that long. So selection runs into a world in which without any aging, without any senescence, nobody would survive indefinitely. And the later a pathology happens, the less bad it is because lots of people don't live to suffer from it. So what that means is that here's the tricky part, when a gene does two things, it and one of the late one is bad. The later that late one happens, the less than negative consequences, the more likely selection is to include. You're looking at me like I'm not giving this in laymen terms, which is

**Heather** 33:16

well, but you're also not answering the question well, but talking about senescence, but not different lifespans,

**Bret** 33:20

right, but so to finish the explanation, selection will favorite genes that have a good early effect and a late and bad effect. Because the late life counts less than the Early life since everybody's around for Early life and fewer and fewer individuals are around for the late life. What this means

**Heather** 33:37

is bounce less there are fewer late life's per if you if you if for everything in the population, you have a certain number of early lives and a certain number of late lives and you put all those early lives and late lives into a bin. You have more early lives than late lives simply because the original apps come first. Yes, yeah. So counts less is just like a statistical counts less.

**Bret** 33:56

In selective terms selection sees it less clearly. Yeah. Okay. Now, that's the background. Add into that the question of a creature that exists how much less does selection see late life in creature A versus creature B. Now let's compare two creatures like a mouse and a bat of similar size. Okay, mouth and a bat mouse and a bat of similar size both fit into the mouths of the same kinds of predators. But the mouse is much more susceptible to being preyed upon because when one of those predators happens on to it, it can't fly away. Right? So that means that a lot more bats given a certain number of encounters with bad stuff. Right, a lot more Babs live to see there next year, because they have a defense against predation that the mice don't which is flying away. We can make the

**Heather** 34:46

size demographically that's true that demographically if you get to, I'm just going to make up numbers here. If you get to month one of age is a bat you're very much very likely to reach your five and if you get to month one As a mouse, you aren't particularly likely to get to year five. Yes, that's true mortality at every ensuing month beyond the early risks of being a tiny thing are much lower for a violent mammal of similar size, right?

**Bret** 35:14

So there's a pattern, the bigger the animal you are, the longer lifespan tends to be, but within a given size, animals that fly outlive animals that don't fly animals that are toxic outlive animals that are not animals that have a shell outlive animals that don't. So there are a bunch of things that can make you safer, right? Also, things like you live on an island where your predators don't happen to be versus you live on the mainland where they're common. So I'll go ahead

**Heather** 35:44

to softshell turtles have shorter lifespans than their consciousness, their their closest relatives

**Bret** 35:49

don't know. But in this case, we've got a confound, which is are they soft shelled, because they evolved for a niche in which the predators don't exist, in which case, you wouldn't expect them to live a shorter life because they're immune for other reasons. But in any case, the point is, a mouse in the wild, given the ability to live out its life and die of an old age pathology might live three or four years longer actually in a lab mouse or a pet store mouse. However, a bat of similar size, in many species can live to be decades old. In fact, there are examples of bats that have been recaptured after 30 years in the wild, small micro bats. So the point is, the extrinsic risk, the hazards in the environment, the more intense they are, the greater the bias towards borrowing from the ability to live a long time in order to be very vigorous when you're young. And the reduction in those hazards either because of where you live, or because you have the characteristics to resist it, that results in selection, seeing the late life much more effectively and therefore biasing in the direction of giving you the possibility of living longer and reproducing longer. So that's the basic landscape. Dogs versus people, right? So well. So there's a question dogs are? Well, dogs have a wide range of there's another pattern that has to do with dogs.

**Heather** 37:14

Well, there's also, there's also a body size thing we didn't talk about. So I have to get there. So we'd like to lecture we wouldn't really need to get through a lot more questions. So we need to go

**Bret** 37:24

to general body size pattern, all else being equal, bigger animals outlive smaller animals. However, within species variation goes the other direction. Smaller dogs tend to outlive larger dogs. So there's a question about what what dogs we're talking

**Heather** 37:36

about. And that's true for within species, humans as well. And so this is part of what explains the sex differential in lifespan, which is that women on average, being smaller than men, on average, tend to have longer lifespans, right. And there's a question about within species in between species, the ordinary pattern reverse pattern

**Bret** 37:54

reversal, which is a very interesting fact. So let's just cap this off. That's a bunch of information that is relevant to your question lifespan as a response to the hazards that exist to you in the world, and what selection does in response to them. And then the question about, is there anything that we can do about lifespan? And the answer is yes and no. Okay, we have had been fantastically successful at increasing average lifespan. That also means that we have gotten really good at making people younger at more advanced ages, right? So you can do things at 60 and 70, that somebody 2530 years ago might have only been able to do it 50. So we're really good at this right. But we have not been good at at all have made literally no gains, as far as we are aware is extending maximum lifespan. And that is a very dubious prospect, even to the extent that we might come up with spectacular things. There are limits that make it very unlikely that a the life that we can give you extending that number is going to be very desirable. In other words, what if we could make you live to 130? But we didn't, weren't able to do anything about senility, right. That would be an ugly life. So if the numbers right about at 120, right, yeah, right in the neighborhood of 120.

**Heather** 39:05

Maximum human life, right? But

**Bret** 39:07

basically, the short answer is enjoy it while you're here. And don't listen to the people who think that we're right around the corner from extending maximum lifespan because they're trying to get their grants funded.

**Heather** 39:19

Okay, physics professor here. The time between equinoxes during winter is only about 3% shorter than during summer due to the earth having a nearly circular orbit.

**Bret** 39:29

Hmm. So I'm right about the principle but the nearly circular orbit means that in practice, it doesn't matter a great deal. That's beautiful.

**Heather** 39:36

Thank you. Thank you. Thank you. This morning, I drempt. I was hanging out with Brett. I was late for work and had to leave he was disappointed because he wanted to shoot some hoops. I don't even know if he plays basketball. But I certainly don't feel that Tim says this person thing. I don't know if he plays basketball but I certainly don't. But I won't feeling disappointed with a question. The two of you who have affected the hearts mind And now so conscious of so many. How often do you discuss your tremendous reach? And can you now look at the trauma of evergreen as a blessing?

**Bret** 40:09

Yeah, that's a complex question. I don't, I will certainly play hopes, but not well. So that settles that wasn't the question. Was evergreen a blessing? I think. NET NET? I'd have to say. For us it was but

**Heather** 40:30

yeah, and and given what the school is continuing to do, right. Sure.

**Bret** 40:37

Couldn't have couldn't continue there. We were living on borrowed time for at least a year as it was. So I'll put it to you this way. I'm happy with what we're doing. I'm not happy with what has happened to our security. Right. But that's really the place that

**Heather** 40:52

except as you know, see, earlier point, we were apparently without knowing it. We were facultatively tenured all along, right. We thought we had obligate tenure. And we were actually facultatively tenured? Oops, yeah, our bad. I don't think so. It turns out that when your institution goes woke and disloyal on you, the security that you thought you had, which is one of the big benefits of being in the system ain't worth anything.

**Bret** 41:18

To his credit. Eric pointed this out. Before evergreen had gone upside down. Oh, yeah.

**Heather** 41:23

Like specifically this about tenure? Yeah.

**Bret** 41:27

didn't look like a secure job to him. He was right. Yeah. What can you do when he's right? He's right.

**Heather** 41:34

Yeah. Why don't we prefer unhealthy food for healthy food? Also, did the tongue evolved to give preference to certain flavors found in higher calorie foods? Or was it a cultural thing and you could teach a newborn to prefer broccoli over cake?

**Heather** 41:55

It's not it's neither in the tongue nor the culture per se. You know, it's there's there's mechanistic stuff in the tongue. And there's cultural preferences for certain kinds of food in some places, and the East Asian cuisines don't tend to have nearly as much sugar as as say, you know, French cuisine, which isn't sure rich in a lot of places, but obviously, they've got a patisserie culture that exists less so in, say, Japanese cuisine. But it you know, it's this, the simplest answer. And this I feel like, again, we should spend many episodes talking about food. And we have one chapter in our in our book on it is simply about the sort of the least interesting level of answer here is that we are craving the things that were rare in our ancestral environment and which are no longer rare. And why aren't they rare anymore? Precisely because we crave them. And so corporations can make money off of making them available and charging us to access them.

**Bret** 42:52

Yep. So the point is, it's not that these are the unhealthy things, it's that the fact that we did not evolve to limit our desire for them, because there was no need the world limited our desire for them, right? means that we do too much of them. And that that does bad things to our physiology.

**Heather** 43:11

Yep. Is it wise to pursue a relationship that is hindered by the Atlantic Ocean and closed borders, I met a woman from France online, she shares my worldview and enjoys authors that were formative in my thinking, here in Oklahoma, where I am, my worldview makes me a black sheep.

**Bret** 43:32

I would say there is no basis for questioning, when you found the right person on the basic basis of geographical undesirability, either this is the right person and your desire to be with them, will eventually overcome all of these obstacles, and it will be all the sweeter when it does. Or it's going to turn out that your mind is fooling you. And this will no longer seem so smart. And you'll both move on and that but to the extent that your mind is telling you, this is the right person and dam, these lock downs and oceans and stuff. You'll figure out a way and if it takes five years, you know, chances are really good that you could decide this doesn't make any sense because of the geography and then still not find somebody in that period. So yep, I'd say stick with it. If it seems right.

**Heather** 44:32

What are we at timewise 45. Okay, let's get four more here and then we'll go to the next this hour. That does just a comment. The dog that does not behave in a racist manner would still be considered racist by benefiting from inherently racist system.

**Bret** 44:51

Right now, do we want to hold the dog responsible for the kibble that it eats? blissfully unaware of the racism in the world?

**Heather** 45:00

lack of awareness of a problem does not render you unresponsible for that problem.

**Bret** 45:06

In the dog's case, I'm going to argue that there is a certain defense to be made

**Heather** 45:11

responsible isn't that word? No, no. It was just trying to sound woke. I'm not experienced in it.

**Bret** 45:18

Right. Not sure that that provides them the advantage. It should.

**Heather** 45:26

Okay, another comment. In the past, the diluted were diluted now the diluted are distilled hence their power.

**Bret** 45:35

Yeah, that's how it looks if you concentrate. Oh, wow, terrible.

**Heather** 45:42

So this question comes with a link which I have not yet gone to our vaccine selection pressures, like in bird flu possible.

**Bret** 45:55

I wish I knew that that was a reference to Yeah, I don't I don't

**Heather** 45:59

I don't, either. Yeah, it's a it's a paper published in virology in 2016. But I don't have time to figure it out. While we're all right on here. Well, we

**Bret** 46:10

will look at it and if it's sufficiently interesting, we'll return to it.

**Heather** 46:15

Okay, why can't I get my computer to do this? There we go, Oh, that's really bright, is publish or perish a contributing factor to the problem and academia. Scholars would not scholars, with nothing interesting to say, instead publish and promote critical theory, which becomes a course of discourse. Yes.

**Bret** 46:35

Yep. Yeah, that's not the only way in which it's a problem. But yes, it's a massive 100% massive problem.

**Heather** 46:41

Yep. And actually, one more since two of those were comments, or the questions, is it desirable or and or beneficial to increase the world mean IQ to 130? Why or why not? Can CRISPR or Elon Musk's newest endeavor, neuro link a brain computer interface? accomplish this in the future?

**Bret** 47:01

Yeah, in principle, be lovely to increase IQs?

**Heather** 47:05

Well, I guess, I mean, I guess I'm sort of thrown by like, IQ is defined as 100 is the mean. So it doesn't like the question doesn't doesn't? We can fix the question because right, but the than it does, it just raises the question of like, what exactly like what would be being raised? Right, like so you know, if, if people are getting smarter than me, and IQ remains 100. But 100 in 2021 times is not the same thing as 100 iq in 1921 times. So that is just that is definitionally built into what IQ means, you know, how it is, how it is how the metric is, how the quotient of intelligence quotient is being figured how it's been calculated, but smarter, like, what all is IQ measuring, and what all would be increasing. And those are a couple of giant questions. And I feel like I could begin to take a stab at answering it. If I said, Okay, here's 12. Here's 12, things that IQ is measuring is trying to measure is is stated to be measuring. Which of those things do you think the world would be better off if we could improve those? And I certainly I can't, on the fly come up with what those 12 things are.

**Bret** 48:18

I got the one that I want to see increase. Okay, go for it. extrapolation. Careful extrapolation. I want to see people become a lot better at this. I'd like to see them become 40 times better at this but double would be a start right. extrapolation is is so much at the heart of what's gone wrong the failure of extrapolation so I'm not convinced by neural link I am convinced that we are software based creatures and that our ability to extrapolate has gone up meaningfully across populations between populations. It's gone up right over history and that means something so this is possible but I don't think it's going to be a genetic intervention. It's not going to be CRISPR right it's not going to be CRISPR it's not likely to be crisper and it's not likely hope it's not CRISPR neuro link but how about just not wasting people's time in pointless counterproductive school Why not give them something else this is gonna this is gonna sound Radway

**Heather** 49:27

yet game some

**Bret** 49:29

educational action that we took art we took the time that people spend in school and we use to to educate them in something like I don't know extrapolation.

**Heather** 49:39

That's insane. Yeah, that's great. What is the evolution of we're going to the next hour now?

**Heather** 49:47

What is the evolutionary reasoning behind a problem like chronic dry eyes do people who make money for eyedrop companies procreate more?

**Bret** 49:56

Yes, they will they procreate better do they Undoubtedly, they have more reproductive options based on having conned us into buying. I don't know, I lubricants or whatever. Now

**Heather** 50:09

that's ridiculous. Of course they don't. You don't think I have a ticket? Like you're basically arguing that anyone is a successful salesman, as better reproductive.

**Bret** 50:19

I'm arguing that anybody who is successful in the market, all else being equal, has better reproductive rights.

**Heather** 50:25

So then compared to all the other people like not not,

**Bret** 50:29

not overall, right? No, I'm just arguing. Yes, I'm arguing that there's a reason that people, people pursue resources.

**Heather** 50:38

Yeah, I think your chronic dry eyes is probably largely going. My I think there are a lot of modern hyper novel reasons for this. But my best guess I haven't thought a lot about this, my best guess which would be pretty easily tested, is that this is about our climate control and going back and forth between climate controlled and non climate controlled spaces. And, you know, the test for that would be you know, do people who either live in, you know, say in the tropics with open, you know, flow windows where they just got screens on their windows, and so we're never moving back and forth between either heated or air conditioned and outside spaces, or living outside entirely. Are they less susceptible to dry eyes? I I predict that they will be.

**Bret** 51:21

So I certainly agree it's going to be a novelty effect. It's almost certain to have an environmental component. I am also now this week wondering about changes in skull shape and other musculoskeletal issues that may affect the way things that are supposed to be circulating. are entering and leaving the skull and things like that. So the possibility then there are things about the way we sit around in chairs and fail to do stuff that gives proper feedback. He said,

**Heather** 51:53

Well, definitely sitting around in a chair to the other person dumbly sitting around in a chair. Oh man room with him.

**Bret** 51:58

Yeah, there's nothing there's nothing better than talking smart about stuff that you're doing dumb. Yes.

**Heather** 52:08

I don't know what this question means. I'll read it. As ethologists explain opsonization by immunoglobulin, do immune cell in ages compete to comrades selfish genic competition resource competition. So that last part isn't Wait, wait, wait, what options? Yeah. opsonization by immunoglobulin.

**Bret** 52:31

So immunoglobulins are antibodies opsin is a pigment that is central to vision. Yep. I don't know about opsonization.

**Heather** 52:43

Yeah, is the process globulins Okay, here we go. Here we have an overview published in 1998. And the Encyclopedia of immunology. That's not really helpful. Optimal phagocytosis requires the presence of both antibodies and complement components on the particle that's not helpful. Really, maybe particles opsonized with idg or IGA antibodies can activate complement through the classical pathway resulting in binding of fragments of complement components to the particle

**Bret** 53:18

Okay, I get that actually.

**Heather** 53:20

So, what was physical before I clicked on it was opsonization is the process wherein microorganisms and inanimate colloids eg liposomes and particulates are coated with host produced proteins and lipids immunoglobulins complement factors, facilitating the binding of the opsonized bacteria or particles specific receptor molecules present on phagocytes for instance, neutrophils, macrophages, DC is how a DC is.

**Bret** 53:47

So what they are saying so, so opsin, apparently does not refer.

**Heather** 53:52

Yes, that's that's what it refers to,

**Bret** 53:55

is the in crusting of microbes with immunoglobulins. So immunoglobulins, or antibodies, they molecularly stick to stuff. The antibodies come in five different flavors, that is to say, what's going on in a tail, and not the sticky n, tail, and very much

**Heather** 54:11

like IGA, IGA, G, A and G are the different flavors.

**Bret** 54:15

So the different flavors have different implications. They're talking about the complement cascade, which is a very interesting cascade of molecular events. And the upshot of this is that the what they're calling opsonization, the encrusting of something like a bacterium with ID, D, and IGA do they think immunoglobulins then results in phagocytosis by

**Heather** 54:44

magiging, AGM ritm. So

**Bret** 54:46

in crusting of the microbe is triggering these macrophages which are like in Amoeba like cells of yours. You have these Amoeba like cells wandering your lymph, looking for things that have been in crusted and then ingesting them. And then digesting them they have digestive enzymes that they then so imagine you've seen how COVID using cartoons of how COVID enters a cell right by binding the the h2 receptor and then being pulled into the cell while that same kind of mechanism is used by these macrophages to pull in and then enclose in a membrane the things on the outside like the bacteria that have been opsonized I now know the term and then once inside and a little vesicle That is to say a membrane bag inside the macrophage, then the digestive enzymes which are also in a little bag, inside those two bags fuse and those digestive enzymes which are basically I think they are very low pH, local, mean meaning aesthetic result in the tearing apart of that thing. So in effect, the bacterium is evolved to deal with the pH is that are usually found in the body and then the body exposes them to very low pH is in order

**Heather** 56:10

to low pH is a feature. It produces the cleaving or the tearing apart.

**Bret** 56:14

Yes, yeah, it basically is so electromagnetically intense that it pulls stuff apart. Like imagine you you know, you've had magnets so strong that if you you know move them near a car pulls the door off, right? So that cut Yeah,

**Heather** 56:30

I feel like you've done this.

**Bret** 56:33

Totally, I have and so don't mess with me, because if you ever stopped the magnets, man, don't I that explains what goes on that one quarter of the house and why everything else is constantly in motion in the direction Yeah, one corner of the house.

**Heather** 56:46

So do immune cell lineages compete comrades, immune cell,

**Bret** 56:50

lineages, pseudo compete? Yeah. Okay, so the differences because your immune cell lineages have all but identical genomes, they don't have a basis to really compete, but they have an interest, as does your entire body in them competing, pseudo competing for their affinity for pathogens. So the way the process works, the way the process works, this is the most amazing thing you've ever heard. And it is called adaptive immunity. It happens through a process called clonal selection, in which your immune cells give birth to immune cells that aren't exactly identical to them, and therefore have different affinities. And those that have more affinities give birth to more daughter cells that have a variation in affinities, and those that have the most affinity give birth to more. And the point is that process results in your immune system, getting really smart about how to recognize an invader, which is how these vaccines work, right? They trigger this system to get good at reacting to these things. It's how you get better from a disease that you've caught. And so anyway, it's pseudo competition, because even the losers in that competition want the winners to win. They don't want to win if they don't have the right formula. They want they want the right formula to win out.

**Heather** 58:08

Awesome. Here's my attempt to explain why I like Brett, enjoy arguing. It's like panning for gold and rapids. People think you're wasting your time and they scoff when you show them a handful of flakes. But hey, still gold.

**Bret** 58:28

Yeah, all right. You accept that?

**Heather** 58:30

So I've got this. So yeah, I can't see who's asking the question. So I don't know if any of these are

**Bret** 58:35

ready to just say that that person only thinks they like arguing and really they don't like arguing nearly as much as they imagine

**Heather** 58:42

the gauntlet has been thrown the husband count. Heather, you once alluded to the female analog of domestic abuse, which I took to me in the kind of soul and ego crushing meanness and emotional vampirism. That is the mode of female bullying. What are your thoughts on why gets little attention and any advice for someone who suffered through it? So I'm wonder I guess, I guess what this question is, I would I would zoom out a little bit and say, this term that is widely used now which I don't like but in order to compare it to the right thing over and female space, I was like, you know, toxic masculinity is way over ascribed. But it is a real thing. And domestic abuse is a typical manifestation of that and there are other less gross manifestations, but that's an obvious one. It's a male typical form of using power over members of the opposite sex. Given that that exists, is there what are the chances that there's no analog of toxic femininity in which female youth women use female typical forms of power? to you know to have power over the opposite sex. And let's see the question was ego crushing meanness emotional vampirism? Female bullying? Why does it get little attention, it's more covert. It's more, it's more subtle, you know, like the way that men tend to deal with things either between themselves or in service of, you know, trying to, you know, force a woman to get something done, you know, in its toxic form is going to be through physical activity. And that's easy to see, it's easy to describe, it's easy to call the police in and have them take care of it if if you're lucky enough to be in a situation where you can do that. And the covert stuff the behind the scenes, the using social pressure and, and gossip and, and basically, behind the scenes words, that don't leave any marks is potentially very, very powerful, but much harder to point to much, it leaves less of a trace, both on bodies and in terms of just in terms of the outside world. And people who begin to discern out like everything here is kind of feeling like it all goes back to that person over there. I think she's the source of all these crazy stories and all of our lives are kind of unraveling, that takes a lot of sleuthing, it takes more sleuthing to uncover that, that sort of thing. So that's part of why it gets a little attention at the moment. It's also you know, we're just just like, we're not allowed, you know, we have to believe all women, and we have to believe that no black people can be racist. And you know, we're being told we have to believe these things that are patently untrue. We're just in a moment where it's hard to talk about the ways that that that women also caused grief for the world just like men do. Except you know, it doesn't look just like men because men or women are different. Any advice for someone who's suffered through it?

**Bret** 1:02:03

I recommend the Arctic Monkeys saw Marty Bohm. That's what I recommend.

**Heather** 1:02:10

So I don't I don't know the song or at least I don't know by the name, because I don't know. Well,

**Bret** 1:02:13

obviously a stretch I don't experienced this phenomenon. And so I don't need the song. But it's quite a cliche to say that, that addresses this particular phenomenon. I like the idea of vampirism, by the way, I think that it's, it's a good one. But anyway, the song, The song is Arctic Monkeys are deep. They're they're very deep band. And actually, they're very insightful about all sorts of things, including sexual ethics and stuff like that. Anyway, this song is about internal relationship dynamics. And, anyway, I don't know that it has any advice about what to do. But it's sort of recognition

**Heather** 1:02:54

that other people can see the thing and have experienced the thing that you're experiencing is important, right?

**Bret** 1:02:59

recognition that it is a phenomenon. Yeah, right. Rather than, you know, being so zoomed in that it just feels like you have to respond to the details of it. It's Yeah, you know.

**Heather** 1:03:13

So I mean, listening to the song, so that you don't feel like you're alone in the world. Is that that sounds like good advice. You know, I've, I've written about it, I think I talked with, with David Foster at rebel wisdom about it as well about toxic femininity. But I think, you know, it's, it's easier if, if I don't know why I'm assuming you're a guy to want to just go hang out with male friends and talk about this thing. And you know, that, that can be useful, for sure. But it also can lead down the path to some of the toxic forms of sort of MiG tau and MRIs and stuff that that we're also seeing something that I also talked to David Fuller about back when we had that conversation a couple months, years ago, God whatever time but I would say, you know, find, find women who don't do that, right, like, you know, try try to have women in your world with whom we are friends. And, you know, it sounds like you're interested in having someone who is more than a friend as well. There are plenty of us who don't engage in that stuff, just like there were plenty of women. Plenty of men who don't beat on women. Yeah. And you know, there are minor more minor forms of toxic masculinity that don't involve beating and that's more common and they're more minor forms of toxic femininity that don't involve you know, emotional vampirism, and that's going to be more common and you know, the more minor it is, the more common it's going to be in the population. But there are plenty of people of both sexes who don't involve in the pathological version of the thing. And and they're worth finding You are encouraging a serious deep dive discussion based on Dr. Geertz current publications. He's the Dutch horologist, we talked about in the first hour, who would you suggest is the dream panel to participate? Yeah, when we were first talking about this just before the podcast, and you said this, I thought, I don't know who should be on it. Yeah.

**Bret** 1:05:25

I'm going to punt on this one I don't know should be on it either. And I would say that the big obstacle, and it's unfortunately possible that the people don't exist, right? Because the phenomenon. Almost every field is stuck in one way or another because of the financial dynamics involved in how they work, right? What this results in is people either succumb or they're driven out and they do something else. And so you would expect a field that was hell bent on saying dumb things, would have lots of competitors saying smart things. And in fact, what it does is it creates a kind of idea desert, because you need high immunity to the nonsense of the field in order to persist in light of it, and you don't get to participate in the dynamics that actually make a field worthwhile when it works. Right. You know, you get benefit from your competitors, pointing out what you don't understand your thinking gets better over time. And if you're, you know, excluded as a crank on the outside, you don't get the benefit of that. So anyway, the point is, I very much hope that those people exist. They may not have the credential that you expect them to have, by virtue of the fact that all the people who do are Yes, participating in the system have corrupt incentives. And so I don't know, I'd love to know what that list look like probably we could come up with them, you know, you would want you know, Nassim Taleb types whose expertise may not be narrowly focused on the topic, but is a good generalist thinker who's capable of spotting

**Heather** 1:07:01

a lot scientifically savvy generalists? Yeah, without perverse financial incentives. Yeah. But other

**Bret** 1:07:07

times, actually, I want to revise my answer slightly. The fact is, none of this stuff is on learnable. Right? If you have the people, if you gave people the room to acquire the immunological knowledge that they need in order to process that part of the conversation, that's not that hard to do what you really need is the people capable of doing the extrapolation and free of the incentives,

**Heather** 1:07:26

but you'll acknowledge that that would preclude them staying in their own lane, wouldn't it?

**Bret** 1:07:31

Yeah, we're not talking about lane stairs. We're talking. We're talking about you know, people who don't even see lanes, right, their lane blind.

**Heather** 1:07:42

If there might be something there.

**Bret** 1:07:44

Lane blind Lane? Yeah, lane blind.

**Heather** 1:07:47

Yeah, actually lane blind lane blind. Yeah, I

**Bret** 1:07:50

have had bouts of lane blindness. Oh,

**Heather** 1:07:53

well, when driving I don't recommend it. But for us, Zach, our 16 year old driver.

**Bret** 1:08:01

I've never seen a lane I didn't ignore Oh boy.

**Heather** 1:08:05

I read next question reads I read about a study that found that having a full bladder makes you better at critical decisions. I'd like to see that reference. Are there any other examples of situational processing power besides me feeling 20 IQ points dumber when a gorgeous woman walks past

**Bret** 1:08:26

Well, first of all,

**Heather** 1:08:28

I seriously don't believe that find it. No, I

**Bret** 1:08:31

don't believe it at all. No,

**Heather** 1:08:32

I the opposite. Yeah. If anything? Yeah,

**Bret** 1:08:34

my thinking is atrocious when I really got to go. But I will say I saw this week. Others will have seen it too. Like I saw it on Reddit, a an orchestra in which every member of the orchestra ate a habanero pepper and then they played I actually don't know what the what the song was, but I was better. No, but I was disappointed that they didn't massively screw this up. These people were professionals. I've been there. They played

**Heather** 1:09:04

they didn't screw up the music. Yeah. You're not telling the experimenters?

**Bret** 1:09:08

No, I was I was expecting a, a mangled version of this piece by virtue of the fact that personally amounts were on fire, right that their mouths were on fire. And I cannot imagine playing the violin through that.

**Heather** 1:09:24

Well, I can see violin being easier than flute.

**Bret** 1:09:28

Well, in fact, there was an awful lot of commentary about all the reads that would have been destroyed in various instruments.

**Heather** 1:09:34

I don't know if read succumb to capsaicin. I don't think they do,

**Bret** 1:09:36

but I think you can't use them again. But anyway, so that was an interesting. I don't think they played better. But of course in orchestra, really good orchestra plays, you know, very near perfect, right.

**Heather** 1:09:55

And they're explicitly practiced. It's not there's no improv. Yes. Okay, but situational processing power,

**Bret** 1:10:03

but the flip side of this equation? Yeah. Is there are those of us who in a crisis become very clear headed. And I think it's a personality trait. I don't know what percentage of the population has it, but I, it is real. And the point is, it is obviously borrowing from somewhere, right? Like your emotional processing may drop to zero as you're trying to, you know, figure out what to do about the the fire or you know, the sliding down the face of whatever it is or, but that capacity exists in some I believe it is induced in elite forces. And so that there's probably a way to bootstrap that capacity. And it's not the same thing as having to pee. But but it's, you know, it's a neighbor.

**Heather** 1:10:53

Yeah, yeah. There's only Hunger Games. Try that again. This is a tough word. I mean, you look, I'm gonna do it. I'm gonna pull it off. But there's only Hunger Games ism, and anti Hunger Games ism. The only solution to past Hunger Games, this discrimination is anti Hunger Games, just discrimination.

**Bret** 1:11:24

Yes. Were there? I think so. Okay, yeah.

**Heather** 1:11:32

Let's see, maybe two more questions. Is there an evolutionary basis for the uncanny valley? Do near peer competitors pose a different threat and warrant different fear response than other dangerous life forms related to Neanderthals?

**Bret** 1:11:48

This is a great question. Yeah, it is. I would say you there is a question about whether or not the uncanny so for those who don't know, the uncanny valley, is the observation that things that look close to human without looking human are actually repulsive, that there is a a sense, you know, so there's a gap, there are things that look sufficiently far from humans that we don't process them that way. They're things that look sufficiently close to humans, but not close enough that are repellent. That could be the result of a closely related species, there have certainly been periods in human evolution in which there might have been multiple, closely related species living in close proximity. I doubt it pretty long time ago. Yes, Neanderthals would be a case, but that was one part of the human population that would have encountered them. And I think the uncanny valley is a phenomenon reproduce across populations. And so my guess is it's about something more local, like the we process a lot of stuff, what we call beauty, for example, is at least partially a result of us processing information that would tell us if they a developmental environment, like an in utero developmental environment was with a good quality environment or a compromised environment. And you can imagine that that might have a heritable component. So that is to say somebody who had it rough in utero may have had it rough in utero, because the genes surrounding the in utero environment weren't good, which means that their offspring would likely face the same disadvantage. And that would be a reason that you would find us built to reject such mates if there were others. So it may be that it's the same process that causes us to seek beauty, because it indicates something positive that may be heritable or may otherwise influence the well being of the offspring we would produce with somebody that we would be biased against a bunch of things that would be hazardous. And that this is basically that phenomenon. As things look less and less like your stereotypical human, there's more and more reason to suspect something is off. I

**Heather** 1:14:08

feel like there's a lot of places to go there probably should just move on. But yeah, it made me think of both Dennis ovens and hobbits on florists, a bit and also of what happens often with closely related languages, where you end up with, for instance, in the Latin languages take Spanish, French and Italian, or Spanish and Italian. sound more alike, right? The pronunciation sounds more alike. And so if you weren't, you might imagine that they were each other's closest relatives, and they're not right, it's Spanish and French, if memory serves, especially Italian are more distantly related to one another. And so there's like a repulsion, a fast evolution towards incomprehensibility between the more closely related languages.

**Bret** 1:14:51

Yeah, although I think that one's a little different. I mean, maybe it's analogous, but in that case, I made sure that you're closest if you're set reading from another population than what you'd really like is for them not to know what you're talking about. Yeah. Right. So that you can

**Heather** 1:15:06

Yeah. compete more so within species is going to be different. Yeah, different, but I can

**Bret** 1:15:10

see an analogous argument. I just don't it's not a slam dunk. That makes sense. Yeah. Yep.

**Heather** 1:15:22

To last one last question. Then one last comment. trepidation about the long term effects of these novel vaccines seems disproportionate. Is this just based on the precautionary principle?

**Bret** 1:15:36

Yes, and no, I would say I don't think it's disproportionate. Obviously, I guess at this person is commenting on our trepidation. I think so. I don't think our our trepidations are disproportionate. Obviously, they'd be smaller. But I think the point is, once you have seen what complex adaptive systems are like, and how difficult it is to predict what is going to happen, and then you see, oh, no, we've got a complex system within a complex system within a complex system. So you have to spell that out. You've got the population level, what are the dynamics of the virus and the immunity in the population, you got the individual Oh, my God, that's a biological complex system in which it is effectively going to be impossible to know what a novel phenomenon is going to do. When introduced into that body, we have to find out empirically and the duration over which we'd have to look is extremely long. And then oh, my God, on top of that, you've got this thing is interacting with the immune system, which is actually the one system in the body that literally evolves within the scale of weeks to months. The point is that level of complexity interfacing with each other guarantees that there will be phenomena here you simply cannot predict, especially given our very early stage, and even understanding the way these things work. So what are the chances that there's going to be bad stuff? it's higher than you think I don't want to say that I want to be a cheerleader for vaccines, because we're so good at wielding them. And we're so wise about what kind of harm they're going to do. But I know we're not. Right. So three complex systems, three complex adaptive systems layered on top of each other, where one of them is the immune system. And when it goes wrong, it's liable to be to create an autoimmunity or cancer or something like that. That's a lot of hazard.

**Heather** 1:17:29

Yeah, in such a situation we prefer tried and true.

**Bret** 1:17:32

Yes. And even then, even then, our point has been, don't do this. Our point is you've got competing bad situations, you've got COVID on the one hand, which is worse than people think, and you've got the vaccines, which are less well understood than we are pretending and those two things now, you know, this is the situation you don't want to be in where you have to make a decision that you know, you don't have any good answers.

**Heather** 1:17:57

Okay, final comments, an addendum to the question about why we like unhealthy food. The most dangerous foods more or less do not exist in nature, like any considerable amount of vegetable oil, which is inherently unstable. Another reason that we have not evolved over strength on on eating the stuff that's available now it is has been created for us, I guess that was that was partially and I thought, what what I said an answer.

**Bret** 1:18:22

Yeah, I'm trying to figure out if that's actually different. We have concentrated that basically, you've got a system in which there's no break, because you wouldn't encounter it in such concentrations in nature that you would need to restrain yourself. Yeah, right. I mean, we're not like this with water. Right? Why? Because large concentrations of water are common. So the idea that you would get to a lake and just drink yourself to death right now we've got to break that so that you're not thirsty anymore,

**Heather** 1:18:49

right? You're done here.

**Bret** 1:18:51

You're done here. And you know, we don't have that for something that would have been extremely limiting, right, like sugar that's just not concentrated out in the world.

**Heather** 1:19:01

And but I think I always default to the hodza. But I think it was the hodza among some other African peoples who specialize on finding beehives, finding honey, and there is gorging after you get done a but the fact is that happens once in a blue moon, right? Like you don't end up with honey. Every week, you end up with honey occasionally, and then the gorging happens and that's okay. It works.

**Bret** 1:19:27

And also it's honey, if you die, you die.

**Heather** 1:19:34

We may be done.

**Bret** 1:19:37

Don't Don't eat too much, honey. I didn't mean it. It's good stuff. But you put your interest. Think of it as a lake that you can stop drinking.

**Heather** 1:19:49

Well, that's it for this week. I

**Bret** 1:19:51

think that's it for this week. Yeah, we're declaring it over a day early. It's not a day, right.

**Heather** 1:19:58

Yeah. So Again, any questions that you have to Darkhorse that moderator@gmail.com? Please consider joining us at either of our Patreon right now the question asking period for the private q&a that happens at the last Sunday of every month is open at my Patreon for another until noon tomorrow, Pacific time. Yeah. I guess Yes. Yeah, pretty much.

**Bret** 1:20:28

All right, everybody. ignore your lane.