Your Questions Answered - Bret and Heather 69th DarkHorse Po...

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**SUMMARY KEYWORDS**

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**SPEAKERS**

Bret, Heather

**Bret** 00:12

Hey folks, welcome back to the Dark Horse podcast live stream number 69. with cats and everything like that you end a segment so many cats, so many cats many cues

**Heather** 00:22

we have to do. Okay. That's not where we're starting, though. No. Yeah. Oh, dog, you didn't get any cream? All right. from Episode 68,

**Bret** 00:35

I remember it. Well.

**Heather** 00:37

We have four questions from last week and then a discord question and then launching into this these questions. Should there be concerns about antibody dependent enhancement with the COVID vaccines? It seems like this possibility is being overlooked by the general consensus of doctors advocating for vaccination.

**Bret** 00:57

See the beginning part of it again,

**Heather** 00:59

should there be concerns about antibody dependent enhancement

**Bret** 01:03

antibody dependent enhancement? I cannot say that I have any expertise with respect to antibody dependent enhancement. Do we know?

**Heather** 01:12

Well, I mean, I feel like we've talked about this, maybe you're just recognizing it in these terms, like the idea of an autoimmune reaction as a result of being, you know, being prompted to promote antibodies precisely for for the spike protein.

**Bret** 01:31

Well, I'm just concerned that I'm overlooking some meaning of that term that I don't don't know.

**Heather** 01:38

So anyway, I'm surprised by this, but okay,

**Bret** 01:39

I can't say, but certainly auto immune. Auto immunity is a concern. There are other concerns. I mean, frankly, this is a complex system, and it could trigger virtually any pathology, cancers are a possibility. I saw paper, I have not had a chance to vet it. But I saw a paper suggesting the possibility of the triggering of prion disease.

**Heather** 02:04

Yeah, Yeah, me too. But I didn't I didn't spend enough time with that to want to talk about today,

**Bret** 02:09

right? Yep. So anyway, yep.

**Heather** 02:13

All right. What might severity of COVID vaccine injections side effects COVID vaccine injection site side effects maybe have to say about the recipients immune system. 76 very healthy, very fit, very trim, but had 36 hours 36 plus hours of chills after the first moderna jab? I don't I I've been I've been waiting for this analysis. And I haven't seen it. And anecdotally, what I'm hearing from people, you know, just just anecdotally, talking to a lot of people who have had the first incidence, the second jobs have both. It seems to vary widely. Whether or not people are having or not having side effect reactions. I

**Bret** 02:56

agree. I heard the same short term side effects. Yep. Yep. No idea. Obviously, we covered in a prior live stream, some very severe side effects, including at least one fatal case. But not

**Heather** 03:09

in terms of correlation with some of these comorbidities. Or, you know, specifically what it might indicate about immune system. You know, we might predict that it would, but I have not seen the analysis. And so it would be pure speculation. Yep. Does wearing a mask increased the viral load on a person due to the infection stage, increasing the chances of a severe outcome that's written weirdly, but I think the idea is, if you're if you're, if you're keeping all of the viral particles that you would be spreading yourself on you when you're out. And given that, as we've talked about, you know, mostly months ago at this point, the both the likelihood of getting it and then the likelihood of a severe outcome, both being dose dependence or density dependent of viral particles, might you if you are sick, increase the chances of being more sick, if you're wearing a mask, which, you know, before, before we even get into that. If that were true, it would be yet another reason that really, when you're sick, wearing a mask in public is not the top thing that you should be doing. What you should be doing is when you're sick, you don't go out in public like that something that you should be doing to protect yourself, and everyone else.

**Bret** 04:25

Yeah, I must say my initial instinct based on the you know, the cartoons in the textbook from which I learned immuno biology. Yeah, is that this is not a concern. But actually, now that I think through it, I can't rule it out completely. I would say I would expect that this effect would not be very large, but I can't say zero. Yep. I think there are other things to worry about too. Like, you know, again, I don't think this would be a huge impact, but to the extent that one of the effects here is to compromise you with respect to The amount of oxygen that you have available, that a mask has an obvious implication for that, that it decreases the oxygen exchange at the mouth. Now it won't be very big because most of what you exhale is going to be outside of the mask. There's not a lot of volume inside of the mask even including what's inside your mouth and nose. But it will have some impact on the total exchange.

**Heather** 05:25

Yeah, no, I agree. I think. I don't think this thing has been. I haven't seen it in sort of cartoon textbook style illustrations, but I can't figure out why it might not be true.

**Bret** 05:39

Yeah, I mean, the reason I don't see it as likely to be a big effect

**Heather** 05:43

is that which is different from not likely to be true, but not likely to be highly explanatory and whether or not people end up

**Bret** 05:50

right. In fact, my instinct says it would be below detectable, okay, why? Because my guess is the number of particles that you exhale, and then with a mask, the difference between the number of particles that you exhale, and they disappear from you, versus particles that you then re ingest, right, or re aspirate is going to be small compared to the number of particles that will be sitting on the surfaces in your lungs, for example, as a result of the initial production. So my guess is that you are not virus limited once you're sick. The limitation that decides how sick you are is not the number of viral particles that there are plenty of viral particles,

**Heather** 06:35

like it's not dose dependent from your own production, because your body can your virus can presumably produce sort of as much as it wants. Right? well fed. Right, exactly.

**Bret** 06:44

But okay, that said, Yep. Is it likely to be true that some COVID patients are sometimes infected by viruses that they otherwise would have expelled, and that it results in some piece of tissue that would not have gotten infected getting infected? It's very hard to rule

**Heather** 07:01

that out. Yeah, I agree. Final question from last week. Brett and Heather, what should I be considering to understand the endocrinal logical implications of so called a top surgery on a young woman's long term health, thanks for what you do. And Griff my week. And it shouldn't matter much, but the person writing is at least using a male name. So, you know, I don't know if it's just a just a question. It doesn't appear to be. Well, I don't know. I don't know what that means. Actually. Yeah,

**Bret** 07:36

I know what it means. You

**Heather** 07:36

know what that means? Um, yeah, I, I don't have the like, half hour, the relevant half hour litany on at the tip of my tongue here. But the fact is that that healthy breasts are an important part of a healthy woman's body, and they change throughout life. They change with menses, they change. We have monthly with mentees, and they change with pregnancy, and then they certainly change with lactation. I don't know what simply getting rid of them early on is going to do I know for instance, this is not this is not an answer, but I feel like there's something in this thing I'm about to say that is that is going to that should have impact on the accurate answer here, which I which I don't have, which is that, for instance, women who breastfeed less or never in their lives are at higher risks of I think it's just breast cancers, but it may be actually other cancers as well, or their so called reproductive cancers as well. And so we are what would simply getting rid of those breasts presumably before any breastfeeding happened. Due to that analysis, I'm not sure if it's just breast cancers, presumably it sort of takes care of the problem. But the fact is, this is not just these aren't just balloons pasted to women's breasts, you know this, these are integral parts of the body that have feedback, and we don't really know what all the long term effects are going to be.

**Bret** 09:26

Alright, so I want to back the question up a little bit, okay. hormone is a molecule that triggers a physiological reaction at a distance, right? So it's very much metabolically the same thing as a neurotransmitter except over a long distance. Right? The question really seems to be our breasts, producers of hormones that trigger other tissues. I find that likely but I don't know it to be the case. Or are they simply receptors breast cancer. modified by hormonal information, right? So for example, Pregnancy triggers changes in breasts that are presumably at least partially mediated hormonally. But that doesn't mean that they're generating hormones that are triggering other parts of the body. Though that seems plausible to

**Heather** 10:14

me. I feel like I should know the answer to that. But I just don't off the top of my head.

**Bret** 10:18

Right. So anyway, I think I think the answer is gonna rest largely on that now, with respect to the issue of why not breastfeeding results in an increase in the risk of cancer, I believe this is actually at least partially, maybe entirely a telomere phenomenon. The idea being that the that breasts under ancestral circumstances would have been heavily utilized in the feeding of babies and relatively early in a woman's life, and that the excess reproductive capacity of the cells in the breast tissue, basically being programmed for the ancestral load on breasts, constitutes extra cancer risk in the modern environment, especially if you do something like sign not to have children or use formula instead, and therefore reduce wear and tear.

**Heather** 11:11

Or even I mean, even having kids later, and breastfeeding and having fewer kids like all of these are actually understood to have some increased be correlated with some increased risk of cancers.

**Bret** 11:22

And for those who who are longtime listeners to the podcast, the idea that even just having the same number of kids, but delaying it, and then breastfeeding them results in the residual risk fits exactly the paradigm that we see with respect to skin cancers and sun damage. The idea being that early mutations caused larger proto tumors, which then have a greater statistical risk of some cell in the proto tumor getting a second mutation that activates telomerase. And so that would be exactly predicted by by this model.

**Heather** 11:55

Yep. All right. discord question for this week where the the people participating vote on their favorite question that has been proposed for the week. How do we this is somewhat longer than usual? How do we deal with the denigration of women who prefer to be housewives. My wife has spent nine years in university to become an architect, only to realize a year after finishing that no one told her it was acceptable to be a homemaker. Her reaction was to cry and tell me she feels that by doing this she will not contribute to society enough. This seems to be a net negative in my humble opinion that we are brainwashing young girls with Marxist ideas of everyone being a good worker rather than driving people towards their ideals. So I talked about you know, the the larger issue of choice often a feminist based choice only refers to abortion. But the larger issue of choice I think it was in my conversation with Kelly j keen on biological woman's hour that the posted a week and a half or two ago, which I which I recommend that you know, we should we certainly don't want to go regressive back to like mad men era 1950s. This is what's expected, like the I like the habituation that I read in the last hour. And we also don't want to go sort of full abandonment of motherhood, second wave feminism, working outside the home, whether or not there are any good options for you where you want to do it is the only thing to choose both both of those are, are insufficient as choices that women should be allowed to make. And, frankly, I heard a story similar to this. Not not exactly this. But from between. Well, actually, I'm not gonna say who it was, but you know, some, some well known some well known people who found themselves in this very situation. And I have to say that unless it's a unless it's a very different generation, I don't recognize it. I just I don't recognize the world that Dennett one is the language. No one told them that it was acceptable to be a homemaker, or brainwashing young girls with Marxist ideas. Everyone being a good worker, like I don't recognize either of those things at all, from anything I've ever seen or experienced. You know, for me, I was like, you can be anything you want. And, you know, I love being a mother, but I was I was never driven. I didn't play with dolls. It was just not it was not the thing that was interesting to me, as as a child to imagine that life for myself later on. Even though if you would ask me, I probably would have said, Well, sure. I expect so I don't know. We'll see. Right. And there are also you know, many girls for whom they think that that is the thing that they want, and then they discover some passion, and they discover that it's actually not the thing that they want to do later on, and maybe they Do become mothers and that also should be legitimate. So I guess I, I'm a little recoiling and also resisting the narrative built into this question of, of this landscape of women as workers and men as workers and everyone just need to work because I, you know, I think I think our economy is forcing this on people. But I don't think this is coming from on high. And anyway, I think we're being forced, you know, both, both parents in double parent homes are being forced to work, because they can't pay the bills otherwise, even when one of them would prefer not to be working. And that's a damn shame. Like, we should not have that be being the case. But you know, if, if you're spending a lot of time in school thinking, and, you know, if your education is any good at all, all of it should be about considering why you're doing what you're doing while you're there, what is it you're hoping to accomplish in the world, and I'm saddened and disheartened that you would get to the end only at the end of it, would you realize that you actually had a choice all along,

**Bret** 16:07

I would also point out that at this moment, we are facing a situation in which all of us whose kids are in school, are now watching a, a pathogenic view on the universe being inflicted on children, and there's a certain amount that you can do over dinner each night, where you make them immune to taking this on, but increasingly, school is becoming less and less valuable. And the role of a parent in getting proper software into the kid's head is growing more important, more important, and at some point, you know, the point is well, you know, is a household in which one parent takes on the role of making sure that, you know, the kids are well oriented to the world, and keeps them away from the nonsense, you know, is that is that the, the household of the future? And then the question is an economic one, how does such a household float,

**Heather** 17:12

but I don't, I mean, I don't, I don't think that household. Frankly, all else being equal, will produce children as, as able to navigate all of the complexity of the world, as if both of their parents are actually doing parenting. And, and take a step back from your hard hitting 80 100 120 hours a week careers. You know, it's it's really hard to make this argument to, you know, a lot of people and a lot of careers, it's just, it's, you know, the world is not set up this way. But frankly, we did it. And, you know, we were, we were blessed with a lot of things that were true, right? We both had, we were both college professors with a lot of flexibility in our schedules. And we could, we could schedule things in advance such that, you know, when one of us was in class, the other one wasn't, and such. And we had really a truly amazing on campus daycare situation where we could go part time, such that, you know, for a few hours a day, a few days a week, when we both really needed to be working, you know, our kids could be there and be socialized as well.

**Bret** 18:22

We lived close

**Heather** 18:23

enough to campus, we were bike there back and forth, didn't

**Bret** 18:25

need to touch the car during an average week. It's not to say that we didn't get in the car, but the points commute time was zero or near to it.

**Heather** 18:33

Yep. Yeah. So I mean, everything about that situation was like, you know, and, and we were both thrilled to be parents, and excited to be part of the raising of the children. You know, there was there was no sense. It's no one's favorite job to change diapers, but there was no sense that it was your job or my job. It was our job, because this kid and it needed to be changed, and it wouldn't be reasonable. Just know the reason now I'm really pleased to find but true, but But yeah, there was no there's no reasoning with the baby.

**Bret** 19:06

Okay. But then the point is like, we've got an economic problem, which is the two incomes are necessary to raise a family. Yeah, we've got a school is going crazy. And therefore, you know, it's not obvious that the wiring of children should ever have been offloaded as far as it was not obvious that that was a good idea. Yeah. But nonetheless, the insanity of the moment is revealing, you know, that, you know, are all the reasonable kids going to be kids whose parents rescued them from a educational system in freefall? Right? I mean, that that strikes me as plausible,

**Heather** 19:43

most and most parents can't afford too much.

**Bret** 19:45

So the question is, what will happen and then maybe that inner interfaces with COVID in a weird way, in the sense that the world has just discovered that a lot of

**Heather** 19:52

what you were talking about was the educational freefall resulting from COVID now you're talking about all the the wokeness

**Bret** 19:58

the madness, I mean, maybe Basic senses, the purpose of school is primarily to enhance the capacity of the mind. And effectively it is now doing the opposite is creating mind damage. And to the extent that school is going to mind damage your kids, people are going to catch on that they actually for the moment are not required to participate in that process. And, you know, I think lots of things are possible for one thing, there's got to be a mechanism for a group of parents who all simultaneously reach this realization to opt their kids out together. And then you know, those kids, of course, are going to be better armed for the future than anybody else. So you know, when are we going to see this revolution? Yeah, like it's ready to dawn

**Heather** 20:44

it? Yeah, it sure is, I'm reminded, this is an anecdote that may not seem relevant. But I'm reminded, just, you know, speaking to how silly education has gotten. And this is a number of years ago, but when, when we did do our study abroad, together, and 2016, so our boys would have been 11, and nine, turning 12 and 10. At the end of that field season. Our older son Zach, who was now the producer of The Dark Horse podcast, and an 11th grader, was in middle school. And we were taking them out of school for 11 weeks to do study abroad with us, you know, they were effectively Junior members of the, you know, upper level undergraduate program in science and philosophy of science and behavior, and ecology, and anthropology and literature in you all of these things that we were studying. And one of Zach's teachers, in fact, is geography teachers, I remember it could not actually see what the educational value of such a trip would be. And so insisted that he worked on his project, which was, is that what country were you working on? I think you work on Madagascar, because you're working. Okay, so Zach had chosen to work on Madagascar first geography project, because I had worked on Madagascar and I've written a book about Madagascar, and he had read it. But his teacher while we were in Ecuador, insisted that Zach be working on a project on Madagascar, which is ridiculous, and really points to the idea that the teachers are like, it's not education, unless I crafted it and told you to do it. Anything that happens outside of what I told you to do, must not be learning and I wish you wouldn't do that on my time. And so you know, meanwhile, we're giving these children a, you know, a world class college level education,

**Bret** 22:29

right? I mean, nothing educates a kid quite as much as being Jaguar bait. And that's just that sharpens the mind right there. Yep. Yeah.

**Heather** 22:38

Yeah, absolutely. Okay. Next question. How about I am not totally sure what this means. I'm going to read it. There right there. Yes, they are. Okay. Does intelligence and conscience circumvent the human's ability to mutate for adaptation due to our ability to carry both genotypes and phenotypes that are evolutionarily disadvantaged into the future? would this mean human evolution would be slowed and more diverse? Yeah, that's that's a lot of words. And so you know, I put at the top here because it came in with a with a big donation. I'm wondering if I just I think there's a lot of words of the don't

**Bret** 23:19

term conscience is supposed to be consciousness,

**Heather** 23:22

it might be does does that make? Does that make it make sense to you?

**Bret** 23:25

Well, I would at least get it to one theme. Not sure. Let's say that in the neighborhood, we have the genome, having offloaded a tremendous amount of the work of storing and transmitting and generating adaptations through the software layer. That includes things like consciousness, it also includes conscience, although I just don't see how it's relevant here. And so you would expect there to be a viscosity component, that is to say, a resistance to adaptation, you don't want the propensity to change to be so great that adaptations don't stick in that momentary changes, because the breakdown, you know, for example, it may take generations to learn how to produce a proper canoe out of trees that are locally available to you. And the knowledge to create canoes may vanish in a single generation, if nobody makes one. So anyway, there you would imagine that you would have a viscosity term and a propensity to change term and that there would be tension between them and the different environments would select for different amounts, but the amount the degree of willingness to change ought to be adaptively variable in and of itself. And you know, we have analogs for all of this in the genetic space too, but it's much, much more rapid in the in the software space.

**Heather** 24:56

Any to you right, any thoughts or revelations about social media Influence after your talk with just

**Bret** 25:04

thoughts at all. So many thoughts. Yeah, boy, unfortunately,

**Heather** 25:09

personally, I haven't listened to the conversation yet. Yeah.

**Bret** 25:12

And it's been a little bit since, you know, we went through,

**Heather** 25:15

we went through an ice storm since I started in

**Bret** 25:18

a power outage. And anyway, I think that there is a very important conversation that we need to be having more generally, about the fact of the AI apocalypse having arrived on our doorstep without us noticing, because it didn't look like we were led to fear we were led to fear robots get turned out. It was algorithms and what's more, it's not even algorithms, it's cyborgs. Right? So you've got algorithms that are not intelligent, they evolve. But they're crude. But then you have intelligent humans, sitting there giving the algorithms what they don't themselves possess. And that combination is resulting in an environment in which things are evolving rapidly and have escaped our control. And

**Heather** 26:06

what part of that are you calling Cyborg? Well, I'm

**Bret** 26:10

arguing that you've got a silicon part, right? The algorithms are running on silicon, and then you've got imagine that the silicon is lacking human creativity, right? And that we imagine Oh, someday computers will be smart enough to have it Oh, no, they do have it. It's sitting in a chair right in front of the silicon and not

**Heather** 26:31

I hear you. I think your point about the AI. The AI apocalypse arrived and look like robots and look like algorithms some point you've been making for a while as Tristan has not been making that point. Exactly. But he's obviously been in this space for a long time is critical. I resist the idea of what you've just described as Cyborg because you know, just like having these two pieces that both exist absent. The other, you know, Cyborg suggests a kind of a shared fate that at least yet, we don't have

**Bret** 27:02

Well, okay, you resist, I would point out your resistance is useless. Sure, of course. No doubt. Ask your computer. Yeah. But in any case, in any case, I think the point is, look, if we take the analogy, we expected robots, right? cyborgs are part living part robot fuse together, you know,

**Heather** 27:27

but the fuse thing is the part that I

**Bret** 27:29

think right? But my point is, once you step into the software layer, what does the fusion look like? It's software

**Heather** 27:33

of computers or software of humans both? Okay,

**Bret** 27:36

if the point is we were expecting a hardware AI apocalypse. Instead, what we got is a software AI Apocalypse and the cyborgs looked like a person staring into a screen rather than a person with robot parts grafted onto them. Okay, and the point

**Heather** 27:49

not for cyborgs not for a cyborg so that's that's the distinction that I was not getting from what you're saying. Okay.

**Bret** 27:55

Yeah. All right.

**Heather** 27:56

I love it. Awesome. This is the future I want.

**Bret** 28:01

That I know not to be true.

**Heather** 28:05

Thanks for Oh, this is just a nice comment. Thanks for these very public services that you're providing. I have met some amazing folks and made some wonderful new friends thanks to the Dark Horse Discord server. My life has greatly enriched by your podcasting community. Thank you. That is awesome.

**Bret** 28:20

Please let us know the first couple that forms on the discord server and then alert us when your firstborn America's what was a lot of crickets all at one that's Yeah. You know, it raises we've not talked about this there is a beautiful structure on our commute to work at evergreen between our house like our commutes from the bedroom right? Okay, not this commute. But the prior commute which was slightly longer and went through that

**Heather** 28:55

fairly before it just it was it was the world's best commute actually, because it was an actual commute. And it was like less than a mile door to door of single track biking three quarters of mile single track biking through the Evergreen forest. It was

**Bret** 29:08

pretty cool. And there was the Japanese gate which was a beautifully crafted wooden structure and Arbor I guess. That one just went right the trail went right under it. And the mythology was that it had been constructed by people who were hoping that a child would be conceived under the gate who would then eventually enroll in and graduate from evergreen

**Heather** 29:36

Oh, yes, that's right. So so I was I am excited for the discord server to be creating community and for people to be meeting each other through that that was not the nature of the crickets it was the your tendency to decide to announce that you want to hear from people in some way and to just then kind of back away and let the fallout fall No, no no everywhere else, but Well, first

**Bret** 29:59

of all, if People are going to be meeting in large numbers and pairing up and producing children. I do think we want to hear about it, even if it creates some email traffic. But I think that's labeled to be a rare enough event that the extra the extra correspondence will not be overwhelming. It's not.

**Heather** 30:14

It's not a public. It's not really I don't know the effect that you have in the world in many regards.

**Bret** 30:26

No, but I'm aware of that my level of self awareness. Yes, on that front is pretty high.

**Heather** 30:31

It is I notice. Did your brain evolved to cover our needs? Did our brain you afraid of love to cover ideas? And if not, what the hell is it? Yeah, nobody did our brain. Oh, boy. Did our brain evolved to cover our needs? Or was it always more capable? If you took an infant from ancient Rome and raised it in 2021? Would they have any issues? How far back? Are we capable of today's intellectual demand? Okay, I got this. Yeah, well, let me just do the easy part at the end first. Because you bury it. But so probably at least 200,000 years, I think back, you took you took any of those babies, and you move them into a modern environment, give them a shave, and some some Yeah, well, no, the babies don't need shaves. You, you take babies from any of those times, and you move them into modern times, and they should be just fine. So ancient Rome, no problem at all. Certainly agriculture, no problem at all. It may be that something else is happening in like the 50,000 to 200,000 year range. But it seems that we were what anthropologists call anatomically modern humans by 200,000 years ago, which means that given how much of us is software, if you just pluck out that baby, as soon as they're born from whatever the environment is, and move them into a modern child rearing environment, they'll they'll pass as a modern kid.

**Bret** 32:03

I'm surprised at you. This is magical thinking, oh boy, if you were to take a child from the Roman Empire, or any other point in that 200,000 years and trans transport them to modernity right at the beginning, yeah. They'd be wildly fucked up, just like the rest of us. Right?

**Heather** 32:25

You're absolutely right. That was magical thinking, why do I think an older baby right What do I better now? Why

**Bret** 32:30

would they do any better? They wouldn't know they would have exactly this level of confusion stand accused and guilty. Yeah, they wouldn't know what to eat. They wouldn't know when to sleep any of that stuff. Yeah. So anyway, hopefully you glean in that exchange the answer to your question, which is?

**Heather** 32:49

Oh, well, you actually disagree with anything I said. Other than

**Bret** 32:53

for comedic purposes only. Yeah. All right. So yes, the child would have exactly the same capacities, and you could integrate them into modernity, and they'd be just fine. The other part of the question, though, was does

**Heather** 33:09

that our brain evolved to cover our needs? Or was it always more capable? Okay. Yeah, that's, that's Yes, more complicated.

**Bret** 33:17

In some ways, it's super simple, right? There is no way for the capacity to evolve ahead of the needs, right? It is the needs because the brain is so expensive, both to build, it is expensive to possess, it puts one at great risk and puts one's mother a great rest during birth, it's expensive to run, it's expensive to run. In fact, the most expensive Oregon to run, all of these things mean that the pressure to have less of it is very strong. And so the point is what drives us to have more brain and more mind running on that brain is the fact that it enhances our fitness. And that doesn't mean that every individual is being paid back for the full capacity of their brain. But what it means is that on average, members of the species are being paid back above the level of those costs, which are major. So yeah, there's there's no excess capacity, even though most people behave as if they are not using their minds,

**Heather** 34:22

right. Okay, next question. I just tried plugging in the recommended URL and my computer's going really slowly so I can't make sure this is the right one. This is mostly just a comment Hi, really appreciate you too, for such great sensemaking See, if meta IV m m eta.com. For real time analysis of 42 ivermectin efficacy studies for COVID-19. So that sounds like a useful site. I wish it was Yeah, just stalled out. Thanks and keep the good stuff coming. Matt in the UK.

**Bret** 34:58

No punch line is Whether or not they reflect the success, and well, I imagine

**Heather** 35:03

that if there's an actual site, then they're I don't know. Yeah, I can't it's not coming up. Anyway, hopefully that's just a problem on our end at the moment and not a problem with this with this URL, any top, any tops, any tips? Any tips? That's it? That's the question.

**Bret** 35:30

You know, I've got a few pens around here that are missing them. So presumably, they're somewhere.

**Heather** 35:34

Yeah, any tips for self studying bullshit free liberal arts. I'm a computer nerd looking to broaden my horizon. It's increasingly hard. I mean, all of all of the older fields have value, if they are still done with, you know, the the sort of analytical and creative tools that made them valuable in the first place.

**Bret** 35:57

And then we have to back up by to figure out what they mean by liberal arts before we know whether or not the tools are good or not. Because certainly, I mean, my take on the liberal arts, the liberal arts that I would defend, are the, the pursuit of tools, irrespective of their applicability to work, yes. And so there are tools which are going to be harder to acquire though not impossible. You can even source good history on YouTube, there are some very interesting channels, but the number of tools that you have to train your mind to do things, logically speaking, you know, get yourself an Arduino kit, and start playing around with it and you'll discover that you can actually build logic gates and all

**Heather** 36:52

this is a computer nerd looking to broaden his horizon. Okay, true. But okay, but Well, I don't think an Arduino kit qualifies, sorry, as broadening the horizon for a computer nerd who's looking for bullshit free liberal? Well, it

**Bret** 37:05

depends there.

**Heather** 37:06

I mean, I'm a Lima fan, I really don't know it, right. But like the, one of the programs we did just to provide background here. Evolution of the human condition, right. freshmen all level program with a bias towards freshmen first year students to quarter program that we did the year before we did our year long study program that included 11 weeks in Ecuador. So this would have been winter spring 2015. Evolution, the human condition, we read some amazing books, we went deep on things like food and sex and relationships. And like it was really in some ways, some of the foundations of what we've what is in the book that we've written. And, and we did learn to scale projects, and everyone had to, you know, figure out how to actually learn how to do something in the world, two different times different quarters. And there were weekly physical computing workshops. And when you first proposed this, I was like, What the hell are we doing with physical computing workshops in a program called evolution, the human condition where, you know, I'm having them read literature and philosophy and science and like, What? How are we going to justify this so here now now without setup, I ended up compelled. Not only did we do it, but you you did it and actually Zack, and you ran this together? Yep. When he was he would have been 11. And, yeah, some students never gotten to it. But a lot of people were actually surprised at how much it brought to the, the learning environment.

**Bret** 38:30

I mean, look, you're gonna live in a world of machines, and they can all be black boxes, or you can have some idea what might be inside of them. Yes, you know, computers so miniaturized and has so many effectively switches inside of it. That you know, it is in some ways very different. But there's, there's all the difference in the world between those of us who are relegated to exchanging information with a machine by talking to it in a language that it knows, versus those who can, you know, construct, you know, an AND gate and OR gate, etc. So it's not obvious to me that somebody who is, you know, maybe a computer science nerd, would definitely have those skills, I don't know. But even if we take that off the table, when we say physical computing may not be the thing that broadens your horizons. But there are dozens, hundreds of things that you can learn now from YouTube far better than you would be able to learn them from a book. And you want my personal take the most interesting genre of instructional videos on YouTube are the ones that do not have any instructions in which you watch somebody who knows how to do something, do it and then you work backwards, you infer what they must be doing and why it works. And if you were to try to accomplish any of these things, you would discover all of the stuff that was integral to these processes. And anyway,

**Heather** 39:59

so I I have a totally different type of answer, which I think you'll also be into, I mean, I know you will be, I don't tend to spend time on YouTube videos, I just I'm not drawn to spending any more time on screens than I have to, which is already a lot of time. So self studying bullshit free liberal arts, I would say travel. And the way that I am, the thing that I do that I think you you don't really is I tend to load myself up in advance of going someplace either new or where I've been before, with literature from that place in translation, because my foreign language skills are good enough to get me through places, but not to enjoy the literature of them. Learning, I will tend to do, I will tend to try to self educate in the prehistory of the place in advance, and then make sure to visit whatever sites are possible to to explore the, you know, earlier people than the ones who are currently living in a place. And then, I mean, the other big thing, which is not the I don't, it doesn't exactly qualify as liberal arts, but just the cuisine, right, the you know, the exploring the local food of a place and you know, really, really going and eating, you know, where the locals eat. Also, regardless, almost regardless of how bad your language skills are, you will you will end up engaging if you anywhere interest in doing so with the local people, and so end up learning about, about things that you never would have learned. And I'm thinking actually, when we were in Turkey, so we were we were in Turkey for our honeymoon in 1998. And we were in Caledonia, on the vast Anatolian plane, in this just amazing place with like, you know, like, stratified layers of cities on top of one another in these caves. And I don't even remember exactly how it happened if something like this happened a few times, but at one point, we're sitting outside, and we're just approached by a local man who ended up showing us you know, just showing us around for the day, and we ended up sharing a meal on a, you know, on a carpet with his family outside somewhere during the African harvest with like all these apricots drawing on the rubes and you know, just if that's on education, I don't know what is and yes, it's also travel and adventure and exploration and all of this, but you know, the the two of us and I feel like it was probably four or five, six people in his family with him, we ended up sharing this meal all ended up with an experience that we wouldn't have had had we not just simply been in that place us where we were open, he was open. We were able to, you know, connect, and, and so explore. And you know, our Turkish is far worse than our Spanish or French. So I think he probably had some English if I remember correctly, this is many, many years ago. But you know that that's the sort of experience. That is what learning liberal arts in the classroom is supposed to open up for you. Yeah,

**Bret** 43:11

it's almost like Earth is the ultimate liberal arts education. Yeah. Yeah, yeah. Yeah.

**Heather** 43:20

Since you live with a big group of cats, I assume your inner cat ologists is tempted to make observations and hypotheses about their behavior. And they about us, can you share some of them? Yes, the cats may share the same about you if they wish. Already. Always jump at the punch line.

**Bret** 43:35

But I find that kind of cool. Yeah, that is almost exactly what I said. And I sure hadn't seen it

**Heather** 43:43

now. You had you had? Yeah, so much, right. So much. So what if there's, I don't know we could come up with a few things off the top of our head. The one the one thing when I saw that, that I thought that I had been surprised at when I noticed this and this is not from our current crew of cats. Actually, actually one of the cats Tesla, who was our was our black cat, our eldest cat who will be 10 this year, named after the dude not the car, they have to do not the car when we had still had when we do still have him and, and Pico and Crenshaw, who were named after the Los Angeles streets, obviously. They had a hierarchy. So I'm always fascinated by the hierarchies the cat setup. And the two things about their hierarchy we're not as I would have expected if I had been watching, say wild baboons or something, one of which was they seem to have different hierarchies for different situations. So like displacement moves on the couch or on someone's lap, different cat would have different priority would be able to display someone whereas at the food dish, then I can't even remember at this point. Probably Crenshaw always had primacy at the food dish. And one of the other two younger guys had primacy on lapse, but also in each of these hierarchies, where you could actually watch it, it was circular, it wasn't linear. And you know, almost all of the work on territoriality and hierarchy and dominance hierarchies is well, one is that you've got separate male and female hierarchies, where you've got a social situation such that you've got multiple of both sexes, but they're almost always described as linear, and sometimes a little bit recursive, or like you inherit your mother's. And so you can you can jump the line. But if we had three cats, you know, a might be dominant to be B dominant to C and C dominant A, which sounds like it's not possible, but it kind of was.

**Bret** 45:45

Alright. The hypothesis I can't get past, which actually puts me in a tense situation with other members of my family is that I believe, cats don't know their names. And everyone else in my family is of the belief without the ability to demonstrate it, that they react, that they respond to their names in some way that indicates recognition.

**Heather** 46:10

I believe that one of our cats has no understanding that names exist. That one of our cats does know his name, and that the third cat, the jury is somewhat out on that.

**Bret** 46:26

Yes, I believe that no domestic cat knows their name. And the domestic cat owners would be shocked if

**Heather** 46:33

we're using that our dog knows the cat's names.

**Bret** 46:35

Yeah. Oh, yeah. The dog knows a lot. That's nice up there. The dog is gone. But yeah, the dog never calls the cats by name, but she knows them. And she knows her own name. But

**Heather** 46:47

yeah, now this this, this we're in agreement on? Yes. That's all you got. Okay. Okay. We should do a cat episode at some point. And we can do that. Yeah. And Dan Crenshaw, his podcast, you came to the conclusion that you share the same worldview, though. liberal versus conservative? Why are more people not coming to the same conclusions about world as you are? That is to say, why is it only 1000s? of people? Why not millions?

**Bret** 47:10

Yeah, this is the question of the moment. Yeah, I think this is the result of some very bad, possibly cynically triggered dynamics that have caused people not to realize how much we have in common. I would also say there might be some cognitive biases, built in ones that contribute to it, where we tend to focus on those things that are different. And therefore, you know, as those differences grow small, you were still nonetheless, preoccupied with them. Yeah. But yes, it's amazing when you travel across political divisions, how frequently you realize that actually, there's just a tremendous amount that we hold in common. And then, you know, they're the things in which we differ. I'm sure that Dan and I would differ on how fair society is, and how worthwhile the risks of trying to make it fair are right, those are pretty reliable differences between a liberal such as me and a conservative such as Dan. But what we wouldn't tend to disagree on is whether we want a fair world,

**Heather** 48:27

right? So sort sort of picking up on that I just moved it up the queue here, we've got a question. I've observed a potential language barrier between the left and the right, put simply the right time to use markets and capitalism as broad synonyms for free association and voluntary interaction absent coercion, whereas the left tend to use those words in the more narrow sense of financial transactions, specifically those that result in profit making, such as corporations for employers, and often once they dislike What are your thoughts? So I think you should riff on this. But one thing, one thing that I really like about this framing, which I hadn't I hadn't thought of before, is that if it's if it's accurate, it sort of points to have these these Latin terms from phylogenetic systematics where you're talking about a clade like monkeys, you could talk about in the narrow sense of I just mean these money, this this meaning of the word monkeys or the the larger sense of sense, who stricto is the narrow sense into lotto is the broad sense. And it seems like the question seems to suggest that on the right, the terms markets and capitalism are used since lotto, and then the left tends to use them sensu stricto and point to very particular problems with their instantiation.

**Bret** 49:41

Yeah, although, increasingly, I sort of see a kind of yin yang division, where the right is sort of obsessed with the good things about them and the left is obsessed with the bad things about them and the conversation that we need to have is the Yeah, actually how could we leverage the good part and hedge out the, you know, or reduce the downside.

**Heather** 50:05

So do you not agree with this framing them? Because this framing is there's like a, there's a there's a bear view, you know, call it scollard, sensu, lato, sensu stricto? Or call it like 30,000 foot view versus, I don't know, 10 foot view?

**Bret** 50:17

Well, I mean, I think you know, it's a question of where to stand to see it. And there is, does it have a positive or negative valence conservatives will tend to see these things as positive liberals will tend to see it as negative. I almost never get a good definition. When I asked, Well, what exactly is it that you see is positive or negative?

**Heather** 50:36

But so I think you're not answering the question, at least as I see it. And as I just tried to reframe it to you, I feel like you are saying you don't agree with this framing that this framing is that people on the right are having this, like this broad, this broad definition of markets, capitalism and markets, and the people on the left have a narrower version. And you're actually I think, saying people on the left have a narrow version is the negative one, and people on the right, have a similarly narrow version as the positive one, and no one is actually taking the big view.

**Bret** 51:06

Well, I think the point is, it's not a coherent, big view. Right? I do think there is something conservative sort of see capitalism as that vibrant thing that happens around the, you know, the creation of wealth. And, you know, that involves a lot of freedom, freedom to innovate freedom to associate all those things. Yeah. And the answer is, well, no, we've got to narrow down what we're talking about. And the point is that thing that happens in and around the creation of wealth is marvelous, and a fucking disaster simultaneously. And the problem is that we don't do any we have, there's no attempt to separate out what the market is actually good for. And what it's appalling at, for example, insurance, right? The market cannot deliver insurance. Yeah. Because the way you get profitable is to figure out how to insure people who need it least right, that's the go to move. Yeah. Right. How to complicate the claims process, so that people who are entitled to be reimbursed often don't get reimbursed. These are just the go to moves.

**Heather** 52:10

You weren't on the phone with insurance.

**Bret** 52:13

How'd you get Oh, my God, oh, my God, I

**Heather** 52:15

want a disaster. I

**Bret** 52:16

have to say I lost my cool on that you never do that. I never do that. But

**Heather** 52:23

and then I responded by losing, like all the same people.

**Bret** 52:26

Yeah, it's amazing. And you know, the trouble. The reason I don't lose my cool on the phone is that I know that the person I'm talking to is not the person who created the stupid system that somebody's trying to do their job. But in this case, it was so maddening to deal with a process that was deliberately complicated, that it was very hard to just keep a lid on it. In any case, the point is, look, if you hand the job of ensuring people to the market, and then you say, well, let's see how the market solves the problem. The market causes the problem. Yeah, right. There are lots of other things you can do where the market will solve the problem. And there is a division where we can say, hey, let's not hand the jobs to the market that it sucks that right? Do we need more extreme pornography? I don't think so. That's not good for humanity. Right? The market will do that it will keep doing it, it will get more and more extreme. I mean, you think this is extreme? Wait till you see 2024. Right, that's coming. Sorry about that. But the point is, look, the magic of the market, we don't have a substitute for it, the horror of the market, we could do without and a proper attempt to relegate these things to the right quite the right category is an essential feature of I think growing up and so I'm, I'm looking at you, conservatives and liberals get with a program.

**Heather** 53:47

Or let's get to just a few more of these before we go to the next. All right, the next. The idea that you need a blank in a group seems like it flies in the face of our ability to empathize across identities, reinforcing the very bigotry it seeks to oppose truth doesn't stop being. Truth doesn't stop being truth based on who speaks in the comment but

**Bret** 54:09

a blank in the group. I don't quite get a

**Heather** 54:11

woman, a black guy, trans guy, I see. Whatever. Yeah. People and so I agree with us. Absolutely. People can mitigate their high risk of this is a question about comorbidities, and COVID people can mitigate their high risk by going on a ketogenic diet, because nearly all the comorbidities have insulin resistance as they're caused lowering blood sugar, lowers insulin, increasing sensitivity. Yeah. And that's right. We've talked about that here with in the past, and I can't remember exactly what the context was. But yes, yes. The way I see it, is what did 90s kids have anything to do with Jim Crow laws or systemic racism? Nothing yet. It just seems as if our generation is entering the workforce we're being punished the most. It's total BS.

**Bret** 55:08

Well, it's total BS, it's partial Bs, there is something to be frustrated about. And the problem is, what it is is not clear. And so what we get is the frustration. And then things like this phenomenon where any accusation is required to be supported, which results in the fanciful idea that what is what is going wrong, that is causing things to be unfair, is rampant white supremacy, or bigotry or any of these things. And it's, of course, not only incorrect and resulting in the demonization of people who haven't done anything wrong, but it is also preventing a proper inquiry into what did go wrong. And so anyway, it's not like we weren't getting better, but there's a tremendous amount of room for improvement and we're not going to get there if we're going to have witches instead. That's right. And I say that speaking as a witch, or at least someone who has been accused of witchcraft on more than one occasion, that's what ended this week. Really? The artists Yeah, I maybe maybe I did not fully recount the experience. But in this conversation, the the cuan clubhouse, I, I was asked to say something about who I was before I was interrogated about whether I was a white supremacist and transphobia. And there was one other thing but I forgotten what it was

**Heather** 56:43

fascist.

**Bret** 56:44

No, sexist. No one knows what, right but I said I was an evolutionary biologist. Oh, that's just as bad which immediately triggered one of the people interrogating me to say, Oh, you mean a eugenicist? Oh my god. I know. Wow. Wow.

**Heather** 57:03

Now I want to start with an anthropologist who seem to conflate those two things just the same way actually.

**Bret** 57:09

It's an amazing, amazing thing. Wow. Yep. You know, who was an evolutionary biologist? Huey P. Newton. Yes, he was I find it unlikely that he was eugenicist at least not a white supremacist eugenicist. Right.

**Heather** 57:24

I mean, that just very little that he did in his life would seem to support that stuff. Right.

**Bret** 57:27

It's It's an extraordinary claim. So anyway, yeah, that happened.

**Heather** 57:33

We are academic siblings of a sort with Huey P. Newton. Yes, we are. Yeah, even though we didn't get our PhDs from Bob tubers, but we were his undergraduate students. And Huey Newton earned his PhD in evolutionary biology from the esteemed Bob rivers, rivers, rivers was his advisor. So now, super check questions from this, our biologists. Just biologists, biologists speak of evolution as a quasi intelligent agent, then disclaim purpose, upsetting philosophical rigor. Can you articulate a proper rigorous understanding of biological purpose? Yeah, I'm glad you understand the question because I

**Bret** 58:15

think I get it. This person, I'm going to presume this person, that's a he,

**Heather** 58:23

according to the name, yes. Okay, good.

**Bret** 58:26

He is alleging in some ways correctly, that we evolutionists speak as if evolution has purpose. Now,

**Heather** 58:38

we believe that shorthand that is okay, well, no, actually,

**Bret** 58:42

I will argue that there are two purposes to be recovered. One is the shorthand, right, where if we say that a walnut tree puts toxins into the soil to reduce competition, right? What we mean is that walnut trees that have put things in the soil that happened to disrupt the physiology of other plants tend to out compete those that didn't by virtue of the fact that they suffered less competition, but that's very bad

**Heather** 59:09

two weeks and any academic program, you're like, Okay, I'm gonna start using fewer words. Now. Anytime you want me to use the full compliment, I'll do it but it's get gets old. Yeah. In

**Bret** 59:18

fact, Dawkins in The Selfish Gene does this beautifully. What he says is I'm going to talk in shorthand. Now the important thing is that for any place where I've talked in shorthand, it should be possible to go back and recover the longhand. Okay? So there is no purpose does that brilliant, right? So anyway, that's the basic rubric. Don't let the fact that we talk with purpose, throw you, right. But then there's the other point where there is purpose it is not that evolution has a purpose, but I would argue and have argued that we get very confused because we grouped biology, psychology, and medicine. Together with chemistry and physics, right as sciences, and what unites them is the method that we use to study them. That's why they are sciences. But what divides them is the fact that biology, psychology, medicine, engineering are all places where purpose is essential to understand what's going on. And if you attempt to look at chemistry, or physics through the lens of purpose, you'll mess it up. Right? So the point is, look, it is natural. And in fact, it's, it is essential if you want to understand squirrel behavior, that you imagine that the squirrel is trying to accomplish something and that we say that that thing that the squirrel is trying to accomplish, is ultimately recovered as something we would call fitness. And we can debate what fitness is, is it the same thing as reproduction. Now it shouldn't be the same thing as reproduction, but it's closely aligned with it. Right? The purpose the squirrel is fulfilling is to enhance fitness. If we say that a neutrino has passed through the earth, rather than interacting with any of the particles here, did it succeed in passing through the earth? Did it fail to interact with something that's the wrong metric? It just simply didn't. Right? So purpose is important to understanding biology, which is not the same thing as saying that evolution has a purpose. Evolution is a process that naturally unfolds it creates creatures with purpose. Very good. Thank you.

**Heather** 1:01:32

This is from Echo, and therefore an excellent question except it's like eight questions. So you ready? Yep. Our moles correlated to higher risk of any cancer lower. How are balls inherited? Does the number of moles and parents at time of conception correlate with the arts runs telomere length? to Dad Mom, Dad, what do dads malls correlate more? So we talked about malls last week? I think in fact, this is not the only mall question this week either. But you want to so we did we did just do malls a little bit.

**Bret** 1:02:04

Is there an organization in the mall? Questions? Terrible. Seven people caught the joke and they're currently groaning.

**Heather** 1:02:14

I'd like that one.

**Bret** 1:02:16

Yeah, this is tough. Some of this we just can't answer. Because we don't know because we don't know. Not because we refuse. Right? That won't answer.

**Heather** 1:02:24

But the number of moles and parents to conception correlate with offsprings telomere length. We don't know that. Right? I think we do not know and do dad's moles correlate more We therefore wouldn't know that because it's downstream of the first hearables inherited.

**Bret** 1:02:38

moles aren't really inherited. Yeah, propensity for moles can be inherited. So for example, if you Well, there's lots of stuff going on here. But for example, here's some things I think we think we know. One, that males will produce offspring with longer telomeres, the later in life, they are conceived the later in the father's life that they are conceived. They're obviously right as if

**Heather** 1:03:04

he was born six years old.

**Bret** 1:03:07

Okay, so so. Okay, I'm over it. So, telomere length varies, telomere length that is inherited will vary with the age of the Father. Father's will also vary between them

**Heather** 1:03:27

in terms of their tumor length, controlling for age,

**Bret** 1:03:31

right, the size of a mole should correlate with the telomere length of the Father. It should correlate. So,

**Heather** 1:03:43

so all moles on a person should come to be the same size?

**Bret** 1:03:48

No, no, no, no, because for one thing across the father, telomere length will vary by two. Okay, yeah. Within a tissue, they will vary by both position in the tissue and damage

**Heather** 1:03:59

but skin. So telomere length is also going to vary across the skin, right? Because moles are only Mozart being generated from kidney tissue, right?

**Bret** 1:04:06

They will also vary presumably by when in the lifetime they were triggered. There. Yes, that's so the younger that was triggered, the larger they will be. But the number of moles will also presumably be a a consequence of the resistance to mutation. So a dark skinned parent will presumably produce fewer moles because they will have less on average interaction with UV rays that will cause mutation. It will also vary with exposure. And so anyway, there's a lot of factors that contribute. And you know, as with the topic we were talking about in the first hour, you know, you could unpack what is the contribution of each of these things to the number of moles, the size of moles, the heritability of moles, etc. Yeah. But as for what the patterns are, I don't know. Yep

**Heather** 1:05:03

Why did the ontological phenomenological distinction exist? Or was it experienced before mankind was self aware

**Bret** 1:05:14

well oh you got it

**Heather** 1:05:16

no

**Bret** 1:05:17

oh damn

**Heather** 1:05:18

I don't at all I don't I never remember this is just not a part of philosophy that I remain fluent in after I'm not thinking about it so I mean there's there's also just so many different ways to parse the universe that a lot of them are not yeah what we happen to traffic and

**Bret** 1:05:39

what was the question did it proceed What

**Heather** 1:05:44

did the ontological phenomenological distinction exist? Or was it experienced before mankind was self aware?

**Bret** 1:05:55

I don't think you can have I mean it doesn't this require self awareness maybe I'm missing what the distinction in question is supposed to

**Heather** 1:06:07

be Yeah, I'm i don't i don't know i'm not at the moment familiar enough. With with what the how the terms are used to answer it. Well, Mama Heather and Papa Bret to the kids go by the last name Weinstein. Hine Stein. Love the podcast. Keep it up whining. Obviously. They're the windings. They're Weinstein's, they're

**Bret** 1:06:35

Weinstein's. They're Weinstein's. You know, it works it. I don't know what our ancestors were doing that resulted in that last name, something in the neighborhood of wine production or consumption.

**Heather** 1:06:51

Yeah, yeah, no, there. Boy, we, we, we really had very little discussion about either, what would happen with names when we got married? Or what would happen with names when we had kids? Yeah, I think it was sort of in the ethos that I was not going to change my name, because I was, we were now signing up together for life. And because of, you know, because we are in a patrilineal, rather than matrilineal society, it is confusing. It is a little bit confusing for us all not to have the same four names, but my individual agency trumped that. And I didn't see that I didn't feel the need to pass on my, frankly, somewhat ridiculous last name to our children, and thus potentially confuse paternity as well. I mean, that's, I mean, really, the, I guess the evolutionary question is like, I was never, there was never any uncertainty of maternity. In an either her children's case.

**Bret** 1:07:52

I never, I never doubted for a moment.

**Heather** 1:07:55

It was really hard to wonder. Pregnancy being what it is, right? It's

**Bret** 1:08:00

just too hard to fake for one thing.

**Heather** 1:08:01

Yeah. Yeah, yeah. And well, I never had any uncertainty of paternity. Apparently, everyone else had had had that as the little bit in their evolutionary brains, you're

**Bret** 1:08:13

not talking about in our case, you're just talking about the commonality.

**Heather** 1:08:16

I'm just saying, theoretically, no one else can know.

**Bret** 1:08:19

Yeah, no one else can know for sure. Except for genetic testing, which does lie No. But nonetheless, I think this is a perfect actual perfect case, for Chesterton's fence and how to wield it with care. Because in this case, there was a very good reason for you to keep your name, which was that this was not a traditional relationship where you were, you know, where our identities were fused your identity was in the world, doing work, just like mine. So having your name made perfect sense. From the point of view of what to do with the kids. It's not like any of the solutions that people have put together in modernity solve the problem, right? They all confuse one thing, they trade one thing for another. And so we went with the traditional rubric for the kids.

**Heather** 1:09:14

Yeah, and it doesn't feel in any way. regressive or disappearing of you know, my role in their in their lives.

**Bret** 1:09:22

Yeah, yeah, yeah.

**Heather** 1:09:26

Yeah, nor did we stick them with high as middle names.

**Bret** 1:09:31

Right now.

**Heather** 1:09:32

Now we give them pronounceable. pronounceable. What's the word for the first initials the initials? Excellent. Yeah.

**Heather** 1:09:45

impacted molars near and farsightedness morning sickness seemed maladaptive. Are there any similar widespread conditions found in nature, symptoms of poor modern diet or environment less fit gene pool? bs opening a freezer warm The room? Yes, it does. Yes it does. So that's a reference to last week talking your joke about opening three freezers cools down Texas.

**Bret** 1:10:09

Well, I was imagining freezers on the border with

**Heather** 1:10:13

I don't know now. Oklahoma now. So almost rescued.

**Bret** 1:10:19

Nope. No. Not bad given the time pressure. I guess. You did have a week. I didn't know this was gonna come up. No, you didn't.

**Heather** 1:10:31

Okay, so great question with one caveat. The three examples here of things that seem maladaptive impacted roller rollers

**Bret** 1:10:42

Been a long week

**Heather** 1:10:43

it's it has impacted maulers near and farsightedness.

**Bret** 1:10:49

Well, and then one of morning sickness. Wait,

**Heather** 1:10:52

wait, wait, wait. Near and farsightedness. The thing that happens in middle age, the presbyopia that happens to everyone in middle age seems to be neither an adaptation nor a mal adaptation, it seems to be a it seems to be a senescent effect of muscle activation ability of the extrinsic muscles around the

**Bret** 1:11:19

orbits. Alright, I'm going to go a little I don't Frankly, I have wondered if it might be an adaptation of sorts, okay. But it seems clear that it has a maladaptive component. The component being, again, for fans of this podcast have been through the telomere explanation multiple times. If you look at the tissues of the body, you will find a very nifty correlation between tissues that tend to fail and tissues that don't tend to get cancer, right. So you never hear of anybody who's got heart cancer, to the extent that you've heard of heart cancer, it's actually cancer of the pericardium around the heart, and the heart itself. Doesn't seem to get cancer, almost ever. I can't say never, but almost never. And it is prone to failure, right? We've all heard of people dying from heart failure, right? That's a common failure. The eye is another place where cancer is not impossible, but it's very, very rare. And so the point is, the reproductive capacity of those tissues is therefore limited. And that limitation results in senescence showing up in the eyes in a readily measurable way.

**Heather** 1:12:30

But the middle aged presbyopia is a, as I understand, we might have it wrong. But is it about it's about the extrinsic eye muscles, losing the rapid ability to change focus so that they can still do it, but it just takes longer. That's that's at least the story that I've ever seen. So it's not the eye tissue is the muscle tissue.

**Bret** 1:12:49

Well, but even so even a muscles don't tend to get cancer either. The muscle interesting, yeah. It is interesting. That's right, isn't it? The slowing down is a senescent effect, right?

**Heather** 1:13:05

Yeah. I think that gets us there. Muscles also don't get cancer. Yeah. Yeah. So but morning sickness is the thing. I really wanted to caveat here before we actually try to address the question, which is that a lot of morning sickness is plenty adaptive. I don't know what is going on with some women who just have, you know, such morning sickness that they really can't function for their entire first trimester, or in some cases, their entire pregnancy is like that. I honestly have no idea what that situation is. But morning sickness is absolutely an adaptive response. To Okay, you're pregnant. Now you've got something very, very fragile inside of you. The more you know, the earlier it is in pregnancy, the more fragile it is. That thing that you ate, isn't conducive to normal development. I'm, you know, I your body, I'm going to make you nauseous, hopefully, so as to tell you don't eat that thing again.

**Bret** 1:14:04

Well, but here's the problem. I suspect, I'm sure this is known. And then all of the Hague work and margin profit. But in populations that live in their ancestral environment, I would imagine there's a lot less morning sickness by virtue of the fact that the training mechanism, the mechanism that gets you not to eat the thing that creates the Jeopardy for the fetus. Is that effective,

**Heather** 1:14:32

right? But that doesn't mean that when it does show up, you know, like I said, if it's, you know, all the time, like I really don't know what is going on in that situation. Just like I don't understand why there seems to be an actual population of women who are like, I just can't breastfeed like I that strikes me as just not. I cannot put that together with any model. That makes sense. Yeah. But so we are moving away from an ancestral environment and being exposed to more things and so women who have very, you know, occasional Morning sickness. It's an adaptive response 100% an adaptive response. I don't see how that's a disagree with what I had said.

**Bret** 1:15:06

Yeah, no, it's not. I think that fits, but I think it's distinct from impacted moltres. Yep. is just simply bad. The manifestation of morning sickness is an adaptation that is responding to a novel situation. I think I think it's here in the model. But it's what it's present. We've got all the pieces of the puzzle, and I don't know that it's worth sorting them further.

**Heather** 1:15:42

So are there any similar widespread conditions found in nature? I presumably that means nonhumans. Similar widespread can probably probably in domesticated animals.

**Bret** 1:15:52

Right, but they're there. Yeah. So I'm not even sure what we're looking for. Certainly, cancer is a phenomenon that you find in nature. You know, there so so we're looking for non pathological, pathogenic maladaptive? Yeah, there gonna be some sorts of birth defects that are found somewhere in a brood, and result and, and low fitness, maybe we

**Heather** 1:16:29

are already workstream specialists, you know, who are like, adopt adapted to, you know, fish that adapt to a particular little pool with a particular pH or salinity or something. And, you know, when, when the river over runs, and that pool becomes connected to something else, those things that were applications, like, you know, things that were adaptive, can become non adaptive, as conditions change. But how about the run of fitness into? Okay, yeah, that's good. That's good.

**Bret** 1:16:58

It's not good to be the runt of the litter. It is a programmed response to something in effect, it's the start on an offspring that if times are good after,

**Heather** 1:17:08

yeah, but But again, it's not you know, it's not sometimes the die. Yeah. So it's like, that's mom's insurance policy. Yep. Right? You've got you can have a brood of four, or you can have a brood of five, that might become four. All right, and you don't have the ability to predict what kind of year it's going to be. And if it's a good year, you raised five kids, and if it's a bad year, you raised four kids.

**Bret** 1:17:36

So why doesn't that fit, though? I mean, it seems to me that if morning sickness is

**Heather** 1:17:41

a I was arguing that I don't think morning sickness belongs on this list, impacted molars and nearsightedness. I mean, maybe there is no maybe there's no list really, like impacted molars are a response to a hyper novel environment. Yeah. nearsightedness seems to be a response to, not entirely Not always, but a lot of it is early reading and your early close focus and inside inside life, farsightedness, is different, especially if you're talking about middle aged presbyopia. Yeah, yeah, you're right. Maybe the list isn't if there's

**Bret** 1:18:18

no less because they, they each have at least one bit flipped in a different direction.

**Heather** 1:18:22

Yeah, yeah. Maybe that's that's why we're struggling with this question. I think, Okay. That's like a terrible answer. writ large,

**Bret** 1:18:28

but I think it was a lot out there. Yeah, yeah.

**Heather** 1:18:32

Okay, let's try to do a couple more here. We get to do two more hours tomorrow. None of these questions. So hello, professors? What role do you think history should play in one scientific education? I found many contemporary undergrad textbooks utterly inspire uninspiring due to lack of context. Am I just reading them wrong? I'm curious what the textbooks were supposed to be in if it makes a big difference, you know, if like, if, if you're reading? I don't know. Like, there's just a lot of things where I don't think the history is necessary. But obviously there's a lot of history when you want to try Yeah,

**Bret** 1:19:15

I would say first off, guns, germs and steel. You have to understand this principle in order to make sense of the interaction of human populations and frankly, it saves you from all of the terrible things that we might fear our explanatory for differential levels of success between populations. So you know, my sense is, in part, history is studied badly because it is studied it is predicated on a wrong idea which is that that patterns of History are in large measure the result of decisions made by individuals on a battlefield or, you know, in a in a governance setting, when in fact, there are other processes in motion. So I would say I'm a believer in what's called Big History. And in some sense, I think Big History is in a fight over territory with traditional history. And probably the closer you get to modernity, the less true this is, right? There's a lot to be said for, you know, the battles between different factions in the forming of the Constitution, for example, what what were the individuals thinking about which we can know, a tremendous amount?

**Heather** 1:20:46

But okay, so I've read the question again, and he does specify scientific education. So for instance, you know, I think, I think mental a have, and the creation of the periodic table is, is very useful to be thinking about, when you are learning chemistry the first time. And history as told to like a history of science, philosophy of science perspective actually gives you a sense of how science is done. Whereas, you know, the, whatever the scientific equivalent of the battles would be, like, you know, who got tenure where or like, like, the kind of the stuff that we, as evolutionary biologists know about like Darwin and Wallace. Okay, true, but I'm not sure that that's necessary, as your as you're really thinking deeply about evolution. But keeping track of the players and their discoveries and what they meant, and how, you know, one discovery can be added to by another is actually a much more interesting, and I think, educational way of learning about this stuff than just learning a litany of conclusions.

**Bret** 1:21:50

Yeah, but it's really fraught with survivor bias.

**Heather** 1:21:56

Of course, as history always is, well, it

**Bret** 1:21:59

doesn't have to be I mean, that's part of why I'm saying guns, germs and steel. Right.

**Heather** 1:22:03

All right. But I mean, but, you know, one scientific education, what if you're not studying the kind of stuff that guns germs and steel applies to?

**Bret** 1:22:10

I don't think it matters. Frankly, the point is, you approach history scientifically. And if you do so you discover that processes that aren't even on the historical map are dominant.

**Heather** 1:22:24

Okay. But the question is, what role do you think history should play in one scientific education? Not what role do you think science should play on one's history education? It's all the same do

**Bret** 1:22:35

in some ways, I mean, look, if you study but if I studied history,

**Heather** 1:22:39

hardly, and like you and I both studied not very much history.

**Bret** 1:22:43

Right? Right. But then the point is, then you get the guns, germs and steel, and you find out why it wasn't compelling. Because it wasn't true. And so my point is, that is a lesson, it is a lesson also for the sense of how it is that science progresses, how it is that science progresses is something that we sometimes capture, and sometimes don't capture, and always think we capture. And the fact is, what percentage of scientists today are convinced that they are living in a vibrant age in their field. And what percentage of those fields are actually vibrant, right? So somehow, we've got a totally wrong story about the way science works, okay? And so you

**Heather** 1:23:25

don't think using putting the history into the study of science will be valuable, because much of the history will be wrong will be told by the victors who maybe shouldn't have been the victors. Right. And I'm just trying to establish what it is that you're arguing,

**Bret** 1:23:43

pick that lesson up. And then you can say, actually, you know, if I go back through the history of physics or biology or whatever, I will see that there are vibrant periods and there are doldrums, and that people in the doldrums didn't know they were living in the doldrums. Right. So am I living in the doldrums would be the first question you would get to? And if so, is there something I can do to break out of the doldrums rather than the fact that the doldrums are typically now broken out of by somebody outside the field? Who is free to think the kind of thoughts that people inside the field aren't free to think? Yep. And so anyway, back to that, yep.

**Heather** 1:24:21

Okay, I'm just going to find a couple more before we, before we sign off. Do either of you avoid killing household pests when you don't have to? If so, why?

**Bret** 1:24:36

Yeah, I, yeah. 100%. I will go out of my way to take creatures that are in the house and put them outside of the house. Even though sometimes, if it's a mouse, I believe that the mouse probably has feelings quite analogous to mine and I feel some sort of obligation to do that, based on what I think I know. about what's going on in the mouse's head. If it's a spider, I'm pretty sure that that spider is a machine and that it does not have subjective experience. Sometimes I see video of spiders that causes me to wonder about that conclusion. But I think I do it a because I think my humanity suffers if I kill that animal and just decide that it is not worthy of my consideration. I think I could be wrong about what's going on in the animal's head in which case I will have been a terrible, cruel person for no reason other than I didn't want to be inconvenienced.

**Heather** 1:25:44

I guess I can't imagine killing them. I mean, like, we for some I don't know why, but we seem to be plagued by him. It runs these it's true bugs, right? And they're just all over the place. And while some humans do actually vector disease, kissing, kissing bugs, right, those are morons, right? Yeah, Chagas disease that that's not here. There's no there's nothing that these morons are factoring so far as we know. But I wish they weren't show up various places. Like there was one just back there right before the start of the podcast, which, you know, I scooped up and opened a window to the screen off. I think it didn't once before they sometimes fly around here. I don't know where they're coming from. I wish they weren't here. We

**Bret** 1:26:25

open one up and make sure it's not a drum.

**Heather** 1:26:30

Yeah, true. And yeah, I feel I so if I feel, you know, do you feel that way about spiders? And I do, too. I don't like spiders. As much as I might. I'd like spiders, the least of all of the all of the things that we run into in our house that we didn't invite in. But I still don't kill them. I can't like I can't. I can't imagine choosing to kill them, honestly. Well, but I mean, no, but we also you know, we don't live in an apartment like we, you know, we can we take them outside and like, be free. Go do your thing.

**Bret** 1:27:03

The other thing, though, is that, you know, if we take if we take the tough version of this puzzle, yeah. If we had a raccoon in our yard that was creating trouble, I needed to be moved. Yeah, I'd move it. Even though I know full well, yes. But if I take that raccoon and I move it somewhere else, without changing the carrying capacity of somewhere else, it is very likely that a raccoon probably the one I've transported will die because it doesn't know anything about the place. So it's at a disadvantage. And even if it does survive, it will result in some other raccoon starving. Yes. So I will do that. Even though I know that I'm probably not saving the animal. And I

**Heather** 1:27:49

thought you can't you couldn't bear to kill a raccoon? Yes, if

**Bret** 1:27:55

I had to, I could. But um, but I don't have to. And I do have the sense of a What do I know, maybe carrying capacity is down by a bit. And this animal that didn't do anything wrong, and just started doing what it does in my yard where I can't have it, that by moving it somewhere else, maybe it gets to live a life? And yeah, you know, I don't want to decide that's not going to happen, therefore, you're going to die. That doesn't feel right

**Heather** 1:28:23

to me. Yeah. Although, you know, it's something like a raccoon, even something like a mouse if you know when not here. But when we lived in Olympia. We lived across the street from part of the 1000 acre campus that evergreen was and we would take mice across the street into the forest. We had a mouse problem in the house and it was exacerbated by our cats rather than helped by it. They would bring deer mice, deer mice, not house mice peromyscus. And they forced mice. But they didn't live a quarter mile away in the forest. And we would take them a quarter mile away in the forest or eight the mile but like we would take them away from certainly if they were territorial, anything like their territory, but also their home range. Yeah. And not only add them to presumably a population that was already full of permissiveness, but also leave them you know, out of sorts, like what where did I just land? Yeah. But we did that rather than killing them.

**Bret** 1:29:20

Yep. Although, I mean, the place where this really gets me is every so often, I will come across a injured animal that isn't going to live and I will kill them and I hate it. It's terrible. I really disliked it. But it is the right thing to do. Yeah.

**Heather** 1:29:36

Um one last question. Does having kids increased life satisfaction.

**Bret** 1:29:48

having kids destroys your life and then he's still on there and then it makes a better one. So it changes Big changes who you are it changes what you're about. I mean, it should if it doesn't, that's a problem. But I would say yeah, you know, it does create a kind of meaning that you may be able to cobble together from other things. But it's not a slam dunk that you will whereas kids, it that the meaning is very, very clear. And right away. So yeah, I think it Yes.

**Heather** 1:30:27

And it's it's unlike anything else, and neither of us proselytize for Parenthood. Never have. But it's extraordinary and unparalleled.

**Bret** 1:30:38

Yeah, I would say if you shouldn't have kids don't. If you should have kids, then definitely do it. In spite of the fact that a font of useful knowledge. No, I think this is there's somebody out there who is who needs to hear this.

**Heather** 1:30:55

So say again, and clarify shouldn't have

**Bret** 1:30:57

kids don't, right. It's not like oh my god, you need to have kids in order to be a complete human being. And even though you think you shouldn't have them, you should write if you feel like no, I shouldn't have kids. Don't have them. If you think the world sucks, and I'm not sure I want to bring kids into it. Have them just to have them. The fact is, the world sucks. I'm not sorry to be here, though, right? And that's the way most people feel about it. And the point is, there is meaning to be had it's not simple, your kids will be a bit fucked up. They can't avoid it. I mean, that's that's modernity, but the opportunity to be a person on this marvelous planet. It may be getting less marvelous, but it's still pretty freakin amazing is fantastic not to be missed. And if you're inclined to bring people into the world, don't overthink it. Have them and you know, we will raise them right.

**Heather** 1:32:00

Wonderful. All right, beautiful answer. Thank you. I think we have reached the end here. Join us tomorrow if you want on our Patreon private q&a. And next week, Saturday and Sunday for Brett's private conversations on his Patreon email Darkhorse dot moderator@gmail.com. With Questions, comments if you feel like it, what else? That's something from you got an answer on.

**Bret** 1:32:31

Congratulations to Paul Harvey for winning the clubhouse invite. You will find it in your text messages. See on there and wear helmet.

**Heather** 1:32:45

You could fall in love with the people in your life and get outside and we will see you next week.

**Bret** 1:32:51

All right, be well everyone