Your Questions Answered - Bret and Heather 74th DarkHorse Po...

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**SPEAKERS**

Bret, Heather

**Bret** 00:20

Hey folks, welcome back to the Dark Horse podcast live stream number 74. The cats are receiving sustenance on the back counter and we are preparing to answer your questions.

**Heather** 00:33

We had one cat who was confused as to the nature of jumping

**Bret** 00:36

Let me guess which was confused.

**Heather** 00:39

Indeed, except it was also the cat who managed to vault herself, like eight feet vertically onto the top of the cabinets the other day, so yeah, I don't know.

**Bret** 00:48

He's an unusual one.

**Heather** 00:49

Yes, she is. Alright, here we go. No ads this time? No, none. We got three questions from last time. We got discord question. We didn't have many questions in Super Chat last hour. So we will hopefully be able to get to this our super chat questions pretty quickly, relatively quickly. Let's just jump right in. Will evolution ever if this is again for Episode 73? Well, evolution ever produced another human like species? And if so what do you think our reaction to that would be?

**Bret** 01:21

Wow, I'm so tempted to just be literal in response to this one say? Exactly. Human like, no, human like, will every characteristic of humans be reproduced somewhere? Yes. What will our reaction be, we will never encounter them. This is all undoubtedly happening across this incredibly vast universe of ours. Where are we to encounter them? Well, a I think the degree of difference between us and what we would encounter would be substantial enough that we would be flabbergasted, and I am constantly annoyed at Hollywood's failure to produce sufficient levels of distinction to be plausible.

**Heather** 02:08

They're limited by the fact that they're using human actors. Yeah, I mean, I do, I do think there's a failure of imagination for sure. As you know, this, this topic is near and dear to my heart. And I think a lot about what conscious beings might look like in an entirely different evolutionary trajectory. And it might well be totally unrecognizable to us. But, you know, other than, like, I feel like Doctor Who did a tremendous job with us, actually. But, but generally, if you want the aliens to be ones that humans are interacting with, over and over and over again and be sort of part of the plotline, they're going to be played by human actors, and therefore they're going to end up being kind of humanoid,

**Bret** 02:52

I'm not accepting any of this nonsense, because my senses, where are we out there interacting with conscious critters, they would be fascinating, irrespective of how different they were because of their differences. And so I think basically, this responsive, no, it is

**Heather** 03:12

a constraint of Hollywood using human

**Bret** 03:16

First of all, the constraint is ever less constraining, because CGI, and every other manifestation allows you to do whatever you want. And I think the problem is, you know, I sort of like 2000 one's approach to this. And my senses,

**Heather** 03:35

but the but I think my point is, do 1000 ones approach to this is brilliant, but the alternative form of intelligence doesn't show up as a character to be interacted with until the very end and even so it's not really you know, it's it's, there's no conversation going on, right? There's no, there's no, you know, ongoing plot lines on which there's engagement with the with the thing, whatever we call it,

**Bret** 04:01

right. I just feel like the bias in favor of stories that we know how to tell completely blinds us to the intrigue of the stories that we don't know how to tell and it's

**Heather** 04:12

it's it's part is part of why sci fi in written form is, is has a chance of doing this. Like there's there's less I, I give no pass to the written science fiction, the way I will give some paths to video form science fiction, because of the limitations of using live actors who have to look like

04:34

sure Yeah, yep. All right. Cool.

**Heather** 04:38

What about our reaction to it be human reaction, go, they're not well made to pay. It depends on how we come to know it.

**Bret** 04:48

I'm a little concerned that the spectacular nature of that which is regularly depicted, video games and all these things is rendering us Hard to impress. Yeah. And yeah, I think in essence, basically we're being trained to be agnostic about everything that we see because so much of what we see just simply isn't so Yep. Yeah, unfortunately our

**Heather** 05:19

reaction might be underwhelmed.

**Bret** 05:21

We might be underwhelmed. Yeah.

**Heather** 05:24

Have you read Stuart Kaufman's origin of order as a theory of self organization that happens despite adaptation? Is it a good expansion of Neo Darwinism? I will say before you approach that I know I haven't, I don't think you have. But are you aware of I feel like you at one point, were aware of some of Kaufman's thinking over in the space. But it's been a while. Maybe it's not familiar enough to?

**Bret** 05:46

I don't know what to say about it. It's not a specialty. I do think Darwinism is an extension of a process that, you know, basically Darwin is what happens when you take the selective processes in the universe, and you add heredity. And so it's like that I know, Kaufman has deeper and different thoughts about it, but I'm not not in a position to comment. Yep.

**Heather** 06:15

What would you do? If given $250 million from a Bitcoin billionaire, no restrictions.

06:24

Start attempting to

**Bret** 06:30

wield power in the interest of conserving what we have and making a stable civilization when I think I would go pure, fourth frontier on it, for God's sake.

**Heather** 06:43

So Brett is saying he would go fourth frontier on it. And sorry, we have a cat problem here. cutthroat, terrible, but you would go full force frontier, on taking that amount of money. And

**Bret** 07:08

yeah, I would figure out what to do to get the right people on the question and to enter the political landscape in a way that would allow power to be wielded towards building a steady state that fostered human persistence and fulfillment and all those things.

**Heather** 07:31

Yeah. And just before the frontier, you mean, there is no established map? Or blueprint? There are there are foothills on which we can start. But then it's discovered in the process of going

**Bret** 07:44

yeah, it's a navigation question rather than a blueprint question. Yeah.

**Heather** 07:50

Okay. The next question is from the discord server this week. And before I read the question, we've been asked to summarize Chesterton's fence before diving into the question. So we get animal chaos out there.

**Bret** 08:10

Really, have you explained to them where I went?

**Heather** 08:15

I wasn't explicit.

**Bret** 08:19

Yes, a an animal of ours worked. And now other animals are interacting with it. And our son is dealing with it as best someone of his youth in relative inexperience.

**Heather** 08:32

He's awesome, though. Yeah, I mean, we'll get through, we'll get through this will be fine. Okay. So I'm actually gonna read the question first, and then we'll explain what Chesterton's fence is. Let me read the question again. The question is, is there Chesterton's fence case to be made for bullies? They seem to perform some function of enforcing social norms and correcting bad behavior, or anti bullying campaigns throwing out a baby along with a very nasty bathwater. If so, can we recreate it without the toxicity of bullying? Because it's a terrific question. So the reference suggestions fence is to this. This philosopher or political thinker from the early 20th century, Gk Chesterton, I think it was initials, who observed I should have pulled it up actually, we quote, we quote this in our book, which will come out in five months. The idea that if you're walking along, and you you stumble upon a fence, and they said, there's two of you and one of you says, There's fences in the way I want to get rid of it. It is incumbent on on the other to say, No, you can't get rid of it until you can establish what it's there what its function was in the first place. And only at the point that you can explain what it's for, should you consider getting rid of it, because otherwise you may be getting rid of something that's actually quite useful. So the question again, is, is there a Chesterton's fence case to be made for bullies They seem to perform some function of enforcing social norms and correcting bad behavior and are an anti bullying campaigns throwing out a baby along with a very nasty bathwater. If so, can we recreate it without the toxicity of bullying? So I would say absolutely anti bullying campaigns often are taking a wrongheaded approach.

**Bret** 10:18

Yes, but I would, I would say the way to formulate this is that bullying is the malignant version of something that is not inherently malignant, spreading important. And so I don't want to defend bullying because bullying is that fraction that is beyond the acceptable but yeah, you know, everyone, I will speak as a male amongst males, males, chide each other in a particular way they expose, you expose each other's vulnerabilities. And the point is, you're much better off to have your friends expose your vulnerabilities so you can work on them, and they don't continue to be vulnerabilities rather than, you know, to have them kid you into imagining that you're less vulnerable than you are. Yeah. So anyway, that can turn into bullying. When somebody uses this to wield power against you. That's a very different thing.

**Heather** 11:12

within a group of friends. Yeah, it's important. And it's it is in particular, you know, men and women do this differently. And girl, boys and girls do this differently. one another. And I mean, this is actually this, you know, exactly one of the things that I've been thinking about and working on lately is, you know, how, how do the roles need to be made explicit? And how will they change when you're in mixed sex groups? Rather than have the expectations of both sexes be that their roles are the ones that are applying, but we know what you just said is absolutely how things play out and they play out Well, generally, within groups of men.

**Bret** 11:46

Yes. Now, I would also say that where this gets difficult is that let's say, schoolyard bullies. Yeah. schoolyard bullies may in fact, be serving an important role, toughening you up for adult world bullies, right. And so the thing is, if you're going to face adult world bullies, the last thing you want is a school yard that led you to believe you were better protected than you were. So even the schoolyard bully, even if that is over into malignant space. Getting rid of it may not be such a good idea. And so anyway, I think the answer to your question is very simply, yes. It would be insane. To just simply regard you know, it's basically like anesthetizing pain in imagining that pain is simply bad, and therefore its absence is simply good. That's dangerous. And the fact is, would the world be better off with no bullying or anything that looked like it? Maybe, but the, the naive urge to get rid of it from every context. I mean, you know, what does this have to do with a generation that seems to think that words are tantamount to violence? Right?

**Heather** 13:09

Right? Oh, very much. It's sort of the it's part of the same parcel that awards gold stars for everything. And that prevents any, anything that feels uncomfortable from ever approaching that protected space of, of, you know, a child's world totally. And then they emerge with the body of an adult but the mind that has never been exposed to anything that they normally would have been exposed to. Easily triggered, literally easily triggered, easily triggered. Yep. And then so if so, can we recreate it without the toxicity of bullying? I think you know, you're you're you've sort of gone forth frontier Foothill on this by saying, If bullying is the pathological form of something, we need to encourage the non pathological form. And also recognize that even in some cases, the thing that is even digging into the pathological form has a utility.

14:01

Yeah, yeah.

**Heather** 14:04

Okay, next question from this last hour. The discord question about bullies it says was a typo. It was supposed to be about Billy's what is the evolutionary role of Belize such as Capitol Police Officer Billy Evans, love and miss you, buddy. So I asked you if you knew that was and I asked you to look it up. Did you manage to that's gonna be a no. Okay, so we don't know who that is. But Capitol Police Officer not the maybe. I don't know.

**Bret** 14:34

Yes, I'm catching up on my homework here. That's safe, say impressive things.

**Heather** 14:44

That's not fair, dude. All right. So the one thing they asked you to do over the break. So yeah, I appreciate that. Someone who's clearly in the discord saw with n squared question was and jumped off that so while you're looking it up, I'll go to the next question, Billy. Evans next question, and we'll come back to this one. US Navy is releasing UFO information. Possibility of space aliens upsets evolution as applied to humans. New climate studies say never was a clarifier on Earth where humans could live without technology of clothing, fire and shelter. Did we escape from alien lab or abandoned? So I don't know anything about the US Navy releasing UFO info. New climate studies say there was never a cloud period on Earth where humans could live without technology of clothing, fire and shelter. That's bullshit. That's just not true. That's That's not right.

**Bret** 15:38

Catch me up. Sorry. Can't help you with this one.

**Heather** 15:43

Which one? The Billy one? Yeah. Okay. I'll read it again. US Navy is releasing UFO info. The possibility of space aliens upsets evolution as applied to humans. New climate studies say there was never a cleric period on Earth where humans could live without technology of clothing, fire or shelter. Did we escape from an alien lab? Or were we abandoned? So what I said was there's no way that there was never a cleric period on Earth where humans can live without technology of clothing fire shelter that's that's patently not true. Right? It's just that's that has no relationship to reality so I don't know what that Yeah, I don't know climate studies. So I therefore unfortunately, suspect the first claim to which is US Navy releasing UFO and I have no idea what I know there's, I don't I don't know what that is. You want to

**Bret** 16:31

know I can't speak authoritatively on it. But I can say there's tantalizing stuff and we don't know what it means nor do we know why it's being released.

**Heather** 16:41

So, okay, so here I find the wapo published on April 2, US Capitol Police Officer William Billy Evans killed in line of duty.

**Bret** 16:54

I senses This is a new story that we don't know about. Yep.

**Heather** 17:03

And, okay, let's go the next question. How do we solve the intractable feral pig problem? Brett actually doesn't invoke you asking us the competitive competitive efficiency is supreme? Do we resurrect velociraptors to introduce a viable predator? Thank you cannot wait for your book.

**Bret** 17:21

Well, let's just say I actually don't know anything about the feral pig problem where it is a problem. I will say the the invasive species problem is a doozy. Yeah, it is among the most difficult environmental problems that we have. It's very hard once these things are established to get rid of them and many, many problems have been compounded by attempts to get rid of invasive species. So for example, the the What are they? They are not weasels, they are

**Heather** 18:08

Rikki tikki, Tammy mongoose mongoose,

**Bret** 18:10

they were released in Hawaii and Jamaica and various places. It's not really such a terrible problem. But there are the manatees in the Panama Canal relief to take care of the hydrilla problem. Rich, they have had very little influence. But nonetheless, they are well fed. Basically, it's very hard to get rid of an invasive species, especially with another invasive species, right? easier. Oh, and then there's

18:37

a

**Bret** 18:40

try remember the cane toad story, but in any case,

**Heather** 18:43

oh, yeah. Bufo Marinus has been introduced in Australia. And I think Hawaii as well. And Puerto Rico. I think it's not native, it's native to I think mainland neotropics. Yeah. It's called either the marine Toad or the kin toad. Now the larger

**Bret** 18:58

the vertebrate, the easier it is to address because you can do things like hunt them out, trap them, a tiny vertebrate, or even a moderate size vertebrata rodent. For example, the

**Heather** 19:11

larger it is, the fewer there are exactly so easier to find

**Bret** 19:15

successful counting episodes. But I do wonder if ultimately, you mean we are basically destroying habitat after habitat with invasives. And really the only habitats that are at all immune to this our mainland, tropical habitats which at least at the level of their mature tree species are immune to invasion at least so far. But everywhere else, we're wrecking it. I do wonder if there is not ultimately some sort of a drone based solution. Yeah, I don't like it either. But basically, you could have a single purpose drone designed to Find, you know, imagine that you program that drone to identify eucalyptus trees for example, right and you know, it could be embedded had to establish the eucalyptus pneus of a tree. My guess is you could get the recognition to it, absolutely 100%. But if it then signaled the, you know, approach of something that then properly killed the tree or something and then you had a crew come in and figured out how to you know, if it was anywhere near any structure at a fell it in or proper direction, conceivably you could recover, you know, the Andes, which are so thoroughly invaded by Eucalyptus at this point that most of the native trees have become extremely scarce. I don't know, but I sort of something like a very high tech solution. It's very hard to know what to do about things like English IV, right? Or, yep, Bufo Marinus or Eucalyptus or any one of these things and the devastation that comes from these species is incredible.

**Heather** 21:08

Yeah, yeah, it is. Alright, next question. Two part, Doctor hiring. Regarding your tree thinking thread? Is it possible to have divergence or reversal in the human clade and not realize it as it's happening, given the evolutionary time hasn't yet passed? How do we know? how might this intersect with Google's selfish ledger concept for human social engineering or potentially inevitable bioengineering down the line as the CCP is now testing, and there's a link to a YouTube video that I'm not have time to watch. So I'll just say the tree thinking thread to which marisha is referring is this one, Zach, you can show it. I don't usually do this on Twitter. But this so called evolutionary geneticist said something wrong, which is fine. They were ignorant. But then they got arrogant actually, at our friend Dave Stevens, who, who made these swords, machetes that we showed earlier. And then he pulled rank with his credential. And that combination just caused me to say, you know what, no, we're done here. So I wrote this thread, in which I explained that I was going to go remedial evolution on him since he seemed to have missed a lot. And one of the things I say, I show a couple of slides from actually the very first lecture, I used to give him my vertebrate evolution program showing you how to interpret it, fellowship trees. And I say, which is true that tree thinking is actually doesn't come naturally to anyone thinking in phylogenetic trees really doesn't come naturally to people. And even, you know, to be fair to this guy who was ignorant, arrogant and and pulling rank when he had no right to, most people who think that they have been trained in evolutionary biology actually don't know how to interpret phylogenetic trees accurately. And that's a shame. I mean, it really does, I think, explain a lot of why there's so much bad evolutionary thinking out there. And I only provide a tiny little lesson here, it's hardly you know, an entire program in front of revolution, which I use I used to provide, but that that's what the tree thinking thread here is referring to. And so the question which we, you know, we're both equally schooled in this stuff. Is it possible to have divergence reversal in the human clade and not realize it as it's happening, given the evolutionary time hasn't yet passed? How would we know? And I guess the first level of answer is that we, as we have said over and over and over again, is that we are so much more software than hardware, we are constantly diverging and reversing mostly, you know, progressing but regressing and reversing and diverging, and all of these things. But that since it's almost all the software level, it's almost all in, in our in our ideas and our behaviors and our cultural norms. That it doesn't leave, for the most part changes in our genetics, there are some there are some things that have left genetic changes even of late you find, for instance, different ability to extract oxygen from air among MLA and people who live in very high altitude where there's a lower density of oxygen. So that's actually been genetically demonstrated. But for the most part, the very many changes that all of us are undergoing all the time is both evolutionary and not going to leave a trace genetically.

**Bret** 24:25

Yep. Makes sense. Was there a second?

**Heather** 24:30

how might this intersect with Google's selfish ledger concept for human social engineering, or potentially inevitable bio engineering down the line as the CCP is now testing? Do you know anything about either of those?

**Bret** 24:39

No, I think your answer here is quite right. In terms of humans, there is genetic evolution that takes place but so much has been offloaded to the software layer that we have to think in those terms. And because of the way software can move horizontally, we are also not held to the phylogenetic Thinking in the same way that we would otherwise be? And you know, basically you need that update in order to think about these things, or it doesn't work. But no, I don't know anything about what they're I mean, it's possible I know these concepts, but not by those names. Right? often the case,

**Heather** 25:15

right? Do men have beards because they were useful or because chicks dig them? Is there a way to determine which sexually dimorphic traits evolved due to sexual selection versus natural selection? When not obvious?

**Bret** 25:29

Yeah, great question. Probably the beard thing had may or may not be the chicks dig them. It may be that it is a distinguisher between the sexes that is not inherently about favoring them. I would say sexual selection is effectively diagnosed by dimorphism. But sexual selection is not the same thing as mate choice. Right? sexual selection comes in several different flavors and so you have male male competition, which produces things like antlers, and it is not ob I don't have fun. I thought I missed them all. You know, usually people check Jews for horn No,

**Heather** 26:22

no, not the end. Never my thing. No. For antlers.

**Bret** 26:28

So, yeah, the thing is, you've got antlers on various kinds of deer like the most, which is a deer. It is not obvious, it is obvious that the antlers are the result of males competing against other males to displace them for mating opportunities. What is not clear is whether or not females are indifferent to the differences between males and they will simply mate with the winners because they are the winners or the male male competition is doing the job that female choice would do. Right? Those two things are very difficult, if not impossible to distinguish. And so anyway, what I would say is the dimorphism between male and female deer in the form of antlers versus no antlers and everything but caribou, I think,

**Heather** 27:18

carry two female caribou her antlers I do really yeah, no one on their

**Bret** 27:22

lap. Sure. That's an interesting question. How fascinating but in any case, the dimorphism both the size dimorphism and the antler dimorphism in deer is clearly the result of male male competition but and so it is the result of sexual selection but it does not clear that it has any relationship to mate choice at all. So what does Yeah, obviously beards are not as effective a weapon as antlers too soft Yeah, they're too soft right and flammable well, and

**Heather** 27:55

you just you have to keep them so close to your face.

**Bret** 27:58

Not really, I've seen some some really long beards. But a new case I'm not quite sure what we're being asked but the way to tell if a trait is the result of sexual selection is dimorphism that doesn't tell you though, that it's about preference.

**Heather** 28:14

Fair enough. Someone says I almost like ads now storytelling ads Keep it up. Cool. What is the evolutionary role of disgust? Do you think it plays a role in our current hysteria especially in views of masculinity?

**Bret** 28:31

Well, okay, so I've just gone through the kind of disgust over the pets exit it's Yes, the pet reverse peristalsis episode that would follow the beginning of this episode of The Dark Horse q&a. Yeah. So I'm feeling it a little viscerally. But anyway the purpose of disgust is to keep you from engaging things that are likely to be bad for you probably for pathogenic reasons and so you know, things that are disgusting the smell of a fish that has been lying in the sun feces you know, man is that is past its prime, whatever.

**Heather** 29:14

So these are all you know, slightly, you know, slightly fewer people, but you know, a filthy bathroom, right? Like, right, you know, different different thresholds for like, I don't know, I don't touch anything in their

**Bret** 29:26

corpses that have not been preserved, right? All of these things are triggered disgust. Now

**Heather** 29:31

eyes on me,

**Bret** 29:33

here's what you're looking for. Let's talk about the smells. First of all, right? That's a smell. They're disgusting. There's a question about whether the disgustingness of the smell is on the producer side, or the perceiver side. Right? In other words, in many cases, a fish for example, that is rotting on the beach. doesn't give a damn one way or another. Whether you're disgusted by it or you're not alright. It's going to get

**Heather** 29:58

done caring. It's Yeah, I'm sure I know sounds like a throwaway line, but it's done caring.

**Bret** 30:04

It's done carrying. It did carrying. Oh, I see. Yes. All right. Sorry about

**Heather** 30:11

that. But But, yeah, so

**Bret** 30:13

well, but a corpse, a human corpse, he's not done

**Heather** 30:16

care not inherently depending on who it has died among, right and similarly some some kinds of poop is actually communicating something where the individual who pooped is actually has an interest in a signal being conveyed,

**Bret** 30:31

right so this is exactly my point is that a social creature may indeed have an incentive to use a signal to warn kin away from something potentially pathogenic, right? It is also true in the case of an individual, they have an incentive. So let's do it this way. A deer dead by the side of the road. It has no particular interest in conveying to a human that interacting with its corpse might be dangerous, right? It could conceivably have that instinct or that reason to convey that to other deer who might be kin and could be warned off but because they're not carnivores. It doesn't need any special.

**Heather** 31:18

Yeah, I don't see it. Yeah, so so

**Bret** 31:21

here's my point. carrion smells bad to us because we're wired to detect carrion because it's dangerous right now you're probably wired to be able to override that if sufficiently starving, right? So it definitely smells off.

**Heather** 31:35

What would a prediction of this be that a dedicated herbivore like a rabbit wouldn't have an aversion to a carry on smell? Because it's not it's not looking for meat anyway. And if grasses grow if it's food is growing near where the carrion is, it shouldn't care one way or another, if it smells fresh, or the meat smells bad,

**Bret** 31:53

super complex, because let's say you're a rabbit, you're attracted to some grass that's near rotting animal to which you are indifferent. But now the grass is solid, or the Yeah, the grass is solid or the jackal is attached. Is

**Heather** 32:09

it right? Yeah, that's second order risk of second order predation or, right? Yeah,

**Bret** 32:14

but my point is, let's compare two things. Human cadaver,

32:18

and deer. roadkill. Yep. Okay.

**Bret** 32:24

The human has an incentive, the cadaver has an incentive to warn other humans away from it. And we humans have an incentive to discover the hazard and be repulsed, right? The deer has only one of these to the deer has no, it's done carrying effectively. But we are not done caring about whether or not it is edible meats or not. Right. If it's just been killed, and it doesn't stink, you might as well pick it up off the road and, you know, have venison steaks. But if it's at all rotten, you want to be warned off it and your repulsion does that but the point is it's one of two things it's all user side on the carrion front. Yeah, adverse side, it can be both.

**Heather** 33:06

Which is, which is to say same species versus different species, in part because same species, at least if you're among individuals about whom you care historically would have been kin. There is a greater risk of being a pathogen from eating the meat of the same species than from eating the meat of a different species. Like you're gonna get a prion disease or something. You wouldn't Kourou. Yeah,

**Bret** 33:27

right, something like that. So in any case, the answer to your question, if I remember it correctly, is disgust is about warning you off of things that are potentially infectious. Now there may be discussed, it isn't about pathogenicity, but I'm not immediately coming up with anything. But I would say there's lots of metaphorical disgust you may be disgusted at someone's behavior. Yeah. Which is as if pathological, right? It's all metaphor,

**Heather** 33:52

I think. I think at this point, yeah, there's a lot of metaphorical disgust co around, I feel like I experienced metaphorical disgust. Every time I go on social media, and I see images, I see people parading around their children whom they are actively trying to transition, right. I'm disgusted by that. And they're I'm not, I'm not at a personal, like disease risk from that, although I feel a distinct societal risk from this. So you know, one might argue and I might become convinced that that is not discussed. It's different, but it feels it feels comfortable.

**Bret** 34:27

I think it's because using the same channel, yeah, right. So the point is, you know, the, what you're perceiving is very different yet what it triggers the revulsion is not different. And for good reason. Yeah, you don't need an infinite number of you know, let's say, you know, you've got a pleasure center, it can be stimulated by reading the cool passage, or you know, catching a frisbee that was thrown in such a way that it was unlikely you would catch it, right? Two very different phenomena. They trigger something we call pleasure. It's not a loose analogy. It's like it actually feels good. So what

**Heather** 34:59

was your I was think I was now I was now imagining that that catch what was your first example?

**Bret** 35:04

My first example? Was was it

**Heather** 35:08

his act? Did you hear you're paying attention now? anyway? Like, yes. I feel like I feel like we should go on to the Frisbee again soon. Yeah,

**Bret** 35:17

today we should. Yeah, we should know. What was the first example it was? Oh, reading a passage that was particularly Oh, yeah.

**Heather** 35:24

But very different. Yeah, very different. Yep. And then the second part of that question was, do you think the evolution of knowledge discussed plays a role in our current history, especially in views of masculinity? I don't quite. I don't see that. Exactly. I don't see the connection

**Bret** 35:41

is discussed about masculinity, which currently have

**Heather** 35:45

Yeah, maybe, but it just seems so.

35:50

So fake so much

**Heather** 35:52

of it. So it's hard to tell like it would have to be people actually feeling real disgust. And it's hard to tell what's what yeah.

**Bret** 36:01

Yeah, I agree. There's a lot of performative nonsense where people aren't really disgusted. And in fact, me many are the opposite. Right? Right. Yeah. So boys are being given the message that masculinity is toxic. But, you know, girls ain't changed that much. And they like masculinity,

**Heather** 36:18

right? is spoken or written language up to the task of managing complexity in 2021? And why not?

**Bret** 36:26

Why not? Yes, exactly. Right. Okay, maybe that's all we did? Well, normally, I should say a little bit about, okay. Language is not up to dealing with the kinds of subtleties that we are dealing with. And many stuff like the difficulty in conveying the meaning of quantum phenomena, for example, show us that language is just a very poor conduit for this sort of thing. It doesn't mean that you can't develop a language in which those things can be conveyed. And we do that and that's the proper role of university is to figure out what language we need in order to describe this, whether that's a mathematical language that describes things or a, you know, literal subset of a language. But what I would point out is that there's a tension between two things. One, I would call terms of art terms of our terms you necessarily need in order to describe things that are not easily described in regular language, right? And jargon, which is a unnecessary proliferation of terminology that's basically territorial in nature and the point is no jargon ever goddamnit but terms of art to the extent necessary you're gonna have to have it and sometimes terms of art can be you know, completely elaborate when you're talking about phenomena that are really far from our normal experience and therefore difficult to convey and so the really important thing it's one of these principles like the government that governs best governs least that does not mean no government right a moron would conclude that I'm tempted not to say anything nasty about libertarians now so I would just not even think it the government that governs best governs least that is to say least amount of government necessary to do the job yeah least amount of terms of art necessary to do the job and no jargon right no government for its own sake no terminology for its own sake only were necessary to do the job Yeah,

**Heather** 38:35

good. Sometimes I like to spend my afternoons eating x lakhs and huffing nitrous oxide you know just for shits and giggles good one and then and then we'll move on to this hours questions. I don't know he w stands for a GW notwithstanding all self respecting polar bears are so sick of sealed by summit they have either axes and marketing caps on their calendars following from our polar bear discussion a couple weeks ago I don't remember Yeah. Global warming something something global warming anthropogenic global warming Okay, why are Indians from India considered Asian on many forms and docks you fill out NACA occasions like they are on the anthropology world. That is the same set of traits as lighter skinned Caucasians. I don't know what the politics is. You know, I think the caucuses are technically in Asia. So there's obviously you know, the the boundaries the boundaries are always blurry. The boundaries are actually blurry. But you know, South Asia is Asia, India is part of Asia.

**Bret** 39:45

I this is a lineage versus geography question. And that in effect, the geography is a proxy for lineage

**Heather** 40:00

imprecise and sometimes wildly inaccurate,

**Bret** 40:02

right? There are somewhere over there. Yeah, it happens. It's the far side of India rather than the near side from the European perspective, and

**Heather** 40:09

maybe the people who came in and colonize intentionally drew a line where they shouldn't have, right, like we talked about, like North Korea and South Korea and has happened everywhere. All of Africa had this done Too high and too likely Yes, to

**Bret** 40:21

define Indians as other rather than Same for political purposes. And then you should know that the distinction between Asia and Europe which seems perfectly arbitrary and bizarre to every school child counts continents. Yes, seas Eurasia is actually naturally kind of one thing. But there is actually a distinction it has to do with tectonic plates underneath these things. You've got two plates that collided, and that is the reason that we have two continents rather than one. But the point is, you've got is that?

**Heather** 40:59

I mean, there are there are plates, but I'm not sure about the colliding because but so I'm just thinking back and I won't be able to pull them up, but like, you know, we had Pangea. And then Benji, I kind of drifted north south, and you had Laura Asia, which is North America, Europe, Asia, and Gondwana, which is everything else. And I know a lot more about the movements of Gondwana, because that's where Madagascar and South America have been Butler Asia, which split ultimately into North America, Europe and Asia. Europe in Asia, obviously still connected. They kind of were connected. And I think it's different plates, but I'm not sure that they ever collided in in modern times, meaning like anything like the last 600 million years even.

41:37

Well, I don't know.

**Bret** 41:38

Yeah, I don't know either. I don't know either. But let's just say the continent distinction is one of tectonic plates, whatever their relationship to each other. And that doesn't inherently have anything to do with lineagen is especially unlikely to have anything to do with lineage in a case where you can move over land from one to the other.

**Heather** 41:57

But um, as long as long as we're doing tectonic plates, and biogeography. In fact, India was part of Gondwana. Right? So India rifted, apart from first from Africa, between Africa, Madagascar, yes, Madagascar and India were connected. So you know, this part of the story I know well, because I was working in Madagascar for a while thinking a lot about the crazy distribution of organisms across what used to be gone Guana. And now across the modern landmasses, where you have these distributions of like, you know, organisms that are only the close relatives or friend in like South America, Madagascar, in India, without Africa, so like Africa ripped out of Gondwana first, leaving South America, India, Madagascar, and Australia connected via a then rather temperate Antarctica, through which there are probably organisms traveling and then at some point, India breaks loose, travels North slams into Asian forms. The Malia's Yeah. So it is very distinct. It's obviously long before there are any people around, but it is a distinct it is that is instinct as well, right? Yeah, for sure. Yeah. However, I don't think we really answered the question, but we be riffed on.

**Bret** 43:12

We did answer the question. The question is, you've got a tectonic geologic description of land masses. And then you've got a lineage description.

**Heather** 43:21

Yeah. And what but this question asks basically about a modern political distinction versus an anthropological distinction. And I don't, I don't Well, you would expect

**Bret** 43:29

us you would expect the anthropologists, it wouldn't be the first time they disappointed, but you would expect the anthropologist to track the lineage and not the geology.

43:39

They ought to.

**Heather** 43:41

Oh, he would hope that I thought you were saying the opposite. Yeah, you would hope that they had and it sounds sounds like they did. Yeah, it sounds like they did. And

**Bret** 43:49

the point is the other thing, the political thing, may well have arbitrarily chosen the geology to designate people's because of the reasons you point to Yeah, or,

**Heather** 44:01

you know, x, just external indicators of skin color, which is, you know, what a lot a lot of humans do, and it's part of why, you know, we're so tangled over rice.

**Bret** 44:08

Yeah, well, the funny thing, though, is skin color is like, plant habit, not phylogenetic. It's responsive to light regime. And so there are lots of dark skinned people who are not especially closely related to each other because they've developed dark skin in response to UV radiation crossing through the atmosphere directly. Yeah. And so you don't have to be a character that we discount in phylogenetically. diagnosing people.

**Heather** 44:37

What is your take? This is from our friend echo. What is your take on coffee enemas? Hippocrates advocated for enemas. It cleans adherence in the colon allows liver and kidneys to excrete waste without circulating through blood stimulates production of glutathione s transferase. I don't know I've never looked into enemas. Yeah, I just don't know anything about it. It wouldn't surprise me if it made some sense. But it wouldn't surprise

**Bret** 45:02

me if it made some sense yet or on the other hand, I would say what really makes sense is eating the right stuff. Yeah, right. eating the right stuff takes care of a tremendous number of the problems that you might seek to remedy with something as exotic as an animal. Yep.

**Heather** 45:18

That arming sword is really cool. Do either if you do martial arts, I think Brett would especially enjoy Hema or Krav Maga.

**Bret** 45:28

I was thinking, you know, just given my heritage, taken up some jujitsu. Now you're

**Heather** 45:39

we've thought about neither of us do and actually when we moved here, our friend Peter Bogosian was like you guys should at least bring your boys down to the studio where I train and and we're done. We haven't done it. I mean, we do have COVID did why don't Alaska many months,

**Bret** 45:53

I don't think of us as not having done it. I think of us as maintaining the element of surprise. He has no idea when we're going to take him up on that offer, and therefore will not see it coming and so we could get the jump on him. Yeah.

**Heather** 46:07

That's one way of thinking about it. For sure.

**Bret** 46:09

Yes, it is.

**Heather** 46:13

This next question is thoroughly disgusting, but I'm going to read it anyway.

**Bret** 46:16

No, we've gone from animals to thoroughly disgusting. Yes. Okay. We've gone from discussing disgust to animals to now what's coming.

**Heather** 46:25

I have been stealing breast milk from virus survivors and fax recipients. Everyone is urging me to stop. Is there any comparable immune boost from a lot? Yeah, all right. Do I lie? No, no, you didn't? I don't think it's thanks for making us laugh. Yeah, I don't think so either. How did poly DNA viruses arise? And it's all spelled out as one word I actually don't I'm not familiar with that as a as a category. Are there free living poly DNA viruses independent of any wasp species? And how often does mutualism evolved between viruses in their hosts? So that second questions sounds like there's some special thing going on a wasps? I don't know anything about it. How often does mutualism evolve between viruses and their hosts? I don't know. But I would expect somewhat commonly,

**Bret** 47:23

I would expect it to be rare. Okay. But maybe I'm just missing a category.

**Heather** 47:27

Well, I guess maybe that's it is that you know, mutualism? You know, you could argue that a decrease in virulence over time as a virus becomes adapted to a particular host. I guess it's now it's just coevolution. It's not mutualism. What do you got? Oh, Coyote. Oh, no deer. Okay. Oh, man. I wish they chased the deer rather than our cats.

**Bret** 47:43

They may be that deer was on the move. That would be great. We still

**Heather** 47:47

don't have a camera to point out or window at you guys. So I could put my microphone. Does that help? Yeah, actually, I was I was reading coevolution not mutualism. mutualism. Rare, right. Yeah.

**Bret** 48:03

Yeah, but it's a worthy question. Well, if there were examples,

**Heather** 48:07

yeah. I've been floated. I've been floating a new slogan to replace mega after your criticisms. Miss dragon. Dragon. Yeah, I've been floating a new slogan to replace mega after your criticisms of the again part. Make America greater than ever, or major for short thoughts?

**Bret** 48:30

Yeah,

**Heather** 48:30

unfortunately, you have to as you can see here, I have to like parentheses the van. Otherwise it's Mac.

**Bret** 48:37

Yeah, it's a little it's a little clumsy. But I'm basically in favor of the recognition that there is much that is great that it has never been great for everyone.

**Heather** 48:47

That has been great. Just never for everyone. Right? That's That's

**Bret** 48:50

the point. It's not i'm not saying there's not greatness. But the point is, until it's great for all Americans or all populations of Americans, you know, what American thinks it's fine for it not to be great for all populations of Americans. I guess my point would be either we're a people in which case, that's an uncool condition. Or we're not a people in which case it's a fiction to begin with. There's nothing to make great if we're not a people so I'm up for anything that both acknowledges the past greatness and acknowledges the duty to make sure that that is accessible to all populations of Americans. And so anyway, I think we have yet to land on a formulation that's easy to utilize. Yep, but but any something down that road Yep.

**Heather** 49:40

Okay, um this next one has some Hebrew in it that I will butcher if I try to pronounce any, any chance you can pronounce that. chug passage. sameach. Yeah. Happy Easter and chog bisazza Beach. I know I'm butchering that. Yeah, I'm not gonna help. Yeah. And I know I know it's Hebrew to you and yours and everyone watching. I think it is. We are in Passover now I think. Or maybe it's our you don't know. And Easter's tomorrow, so happy, these holidays to you and to yours and everyone watching. I like the reverse ad format reminds me that I once got a manila envelope sent to me inside a cardboard box filled up with those air filled bags.

50:31

Really Wow.

**Heather** 50:37

Has there been a discussion about rebooting American unity for 2024? It needs to start now and be on a campaign for the whole term name recognition.

**Bret** 50:46

Yeah, there's certainly discussion about rebooting unity. But unity is not 100% about elections. It really needs to be about a plan where there is an opportunity to do the patriotic and wise thing that is outside the bounds of the normal, unexpected politics. And so yes, unity 2024 is a thing but you should expect other kinds of proposals sooner. Excellent.

**Heather** 51:17

Next question. I recently read about paraphrase soreness braziliensis, the Brazilian terror bird Why do you think avians evolved to have these apparently useless appendages for era's Why were they prioritizing rear legs

**Heather** 51:36

so this is I actually just quickly looked it up it looks like it's, you know, along the lines of aprns, which is the elephant bird now extinct in Madagascar but not extinct for so long that there are still pieces of the giant eggshells on some of the Southern beaches, basically rendered extinct by people. people haven't been in Madagascar for more than a couple 1000 years and presumably these guys were there. And then we I mean, I think I think with aprns which I do know something about and present a leaf or a pair of soreness which I have not heard of before now the Brazilian territory that these are both going to be extinct members of the Paleo ignatz extent members of which include Austria g mu castle, where a Ria so the question is, effectively why why once you've evolved the wings, lose them and go flightless? I think is the question.

**Bret** 52:29

Well, probably it's just an allometry issue, where these animals the size had an advantage that was sufficient to overcome the value of flight. So if you can grow out of the ability to be preyed upon, so there were some very large pterosaurs well, but is Kiwi

**Heather** 52:56

Yeah, I don't know, where Kiwis are in that group. So they're also paling mouse, but I don't know if they're derived within the group that they shrunk after.

**Bret** 53:02

But Kiwis are also Island species. So basically, what I would say is, you know, flight one of the advantages of flight is escaping predators. If you don't have any predators because you're too ferocious or you're too big, then the value of that decreases the cost of flight is comparatively high, but I would just say that there's some combination of ecology and physiology that favored favored large size.

**Heather** 53:33

Yeah, and I guess so why were they prioritize and rear legs it's interesting birds I'm also the the name here you often I don't see the names in such a small font but the name here is the name of a former student of mine, it's possible as the same person So Mary, if if we know each other, then cool that you're asking this question. And if you're married, if you're totally different marry then cool that you're asking this question also. But if it is the marry that I had, in some programs, you may remember that one of the problems for tetrapods upon coming onto land is that we you know, we have this lateral form, second show, the whole things don't have to have hold my hand up is quite high. So you know, fish are swimming like this, and you come onto land, and you're still moving like this. But what that means is that because we have bilateral symmetry, with every move, you're crushing one of your lungs as you can't actually you have that something called carriers constraint where you can't actually move and breathe at the same time. And so you find for instance, lizards, if you've ever spent time actually watching lizards for a while, and watching as they run, and then watching us, they're still you'll see them breathing really hard by the oscillations of their throat, because while they're actually running, they're holding their breath. And so there's like, there's a few clades of tetrapods that solve this problem. One of them is frogs, they go you know, they start moving in this direction in this place. by extending their, their legs and various other structural changes to their skeleton, but then birds and mammals separately have started moving not in this plane, but in this plane. So we mammals are vertically undulate undulating.

**Bret** 55:14

You think about dolphins versus sharks,

**Heather** 55:17

dolphins versus sharks perfect. And then birds solve this problem by basically becoming bipedal, which in mammals it's really only us there are a couple of other sort of facultatively bipedal organisms but you know, birds have gone bipedal, and the pilot NASS the sausages and cassowaries. And everything of which I assume that Brazilian terror board as part are actually pretty basil within birds. So it might almost have been this like experimental thing like okay, we've now we've gone up on we've gone bipedal. Let's see what else that will get us like, you know, an exploration of evolution and like, Okay, what are we going to do with our legs? Now that we're on two legs territory?

**Bret** 55:56

All right, I think I just don't know enough about it to add about,

**Heather** 56:00

okay. When we create AI, and they become our future software, only children evolution, what would you think would be most important to teach them and to not to teach them? Also, please get a crypto address to send money? Thanks for all you do.

**Bret** 56:17

So the I don't know what to do with the setup on this question, right? It will be a disaster. Ai becomes the purpose of anything, I'm not sure I give a fuck what happens next.

**Heather** 56:29

So why don't you take it out of that context? Because I think there is something that you have to say here around what we should be doing, as we get closer to fully functional, smart AI in order to protect ourselves.

**Bret** 56:45

Yeah, I'm not sure I want to deploy it here. But I do think that there is a solution to be had. But it isn't so much about telling the AI something and hoping they listen.

**Heather** 56:59

Yeah, we can't rely on hoping with the AI lessons. No. How many cats do you own? Do you plan on expanding your clowder?

**Bret** 57:07

We have not counted recently?

**Heather** 57:11

Whenever you answer things like that, like you just send entirely the wrong message about what kind of a person you are. What kind of a household This is how we engage with our cats. Whether or not we've noticed if any of them have been attacked by coyotes. We

**Bret** 57:24

are no we have three cats, which is the most we've ever had. It's a good number we have often had three we've often had three we

**Heather** 57:35

have very briefly occasionally had zero. Occasionally one more often two. Yep. Yeah. Three, two or three seems like a good number one, one isn't enough I would have said one always gets into trouble although one of our three guests at the moment would get into trouble no matter what. So Alright, where are we at? timewise Europe. All right, let's, let's do a couple more and then and sign off within something like an hour here. How many of the scientists in quotes portrayed by mainstream media for instance, Neil deGrasse Tyson and M Kaku I don't know who that second person is? Oh, okay. have actually done genuinely interesting work. It seems they rarely discussed their own work on the television. I don't know for that. I think I think deGrasse Tyson was doing some of his own work early on. I mean, he's he's more of a communicator of science. Right?

**Bret** 58:35

I think that's that's the typical thing. Michio Kaku is a tougher case. I don't I don't understand his quadrant well enough to know. But I also think that there's an awful lot of popularizer, I would say, Dawkins, did his own work Absolutely. And in some ways is underappreciated for it inside the field, because his work is synthesis primarily. Which it can

**Heather** 59:07

because it was mostly presented in book form. Frankly, it was presented not in the peer reviewed literature, which is not what you're supposed to

**Bret** 59:12

do. In fact, almost none of his work right was in the peer reviewed literature, which does not count against him in my book, because the peer reviewed literature

**Heather** 59:19

review. We've been thinking about this as we've been getting our book ready to put out there because it has some new stuff in it. Yeah, it's not the standard

**Bret** 59:27

thing. And I think synthesis is just the last mode. Yeah, right, that this is an important piece of science, and it is dismissed because it doesn't produce grant money. So anyway, yeah, it's a hard question to answer. I would say there's a lot of popularizer stuff, I think, you know, Carl Sagan was primarily a popularizer. But changed the way people thought about things so made a real contribution.

**Heather** 59:56

Yeah, I mean, there's there's a lot of different ways to have contribution and it's not just Doing empirical research and communicating the research of others, right. And it's also not just doing empirical research or doing theoretical research, or pot or communicating the work of others, there is an interplay to be had in which you generate new ways of approaching kind kinds of questions. And you know, that that could largely be placed into into theory. But I think, for instance, some of what we do here is actually saying, actually, this, this paper and this set of papers out here are doing this wrong, you really have to shift and use this kind of frame. And here's how you would do that. And no, we're not going to be the ones who do the empirical research. But here's what you would do. And that's related to like the kind of theoretical work you have done, but it's not the same thing. So it's yet another class. And it's, it is a scientific contribution. It just is, and it's a necessary one since often the empirical side is doing the work aren't doing it themselves. But it doesn't fall easily into the categories that we have. Yeah. In your discussion with Peterson, you mentioned that Freud got the Oedipal complex wrong, but you couldn't get to how we'd love to hear more on this.

**Bret** 1:01:09

Let me just say, it does not make sense that selection would wire us to be attracted sexually to people that it would be bad to reproduce with, and then we are obligated to tap into humanity or to sublimate these things. That's just not the way selection works. Selection can easily make you. You know, let's put it this way. There's a thing called the Westermarck effect, the Westermarck effect, is the repulsion the sexual repulsion that people raised together have for each other that is to say, if you are raised with somebody of the opposite sex in the same household, you will treat them like a sibling and not find them. attractive. Okay, that mechanism exists selection can build such mechanisms, why would it not build the equivalent mechanism for parents and offspring? Obviously, it would did. So my point is, Freud got this wrong, because he had the sense of selection as a very crude force that couldn't build the elegant thing. And therefore he misinterprets what the relationship is between parents and offspring are opposite parents opposite sex parents when their offspring. So anyway, I will, we will return there later.

**Heather** 1:02:41

All right. So we're gonna save a couple of these for next time. And just one more comment. One last question. Just for the record, I'm pretty sure I never pronounce it correctly, either. Hebrew is hard. Thank you. And what's a good and tough book on evolutionary theory, parentheses, that's not diversification. I don't know that word, a vocation, a vocation. But I often recommend these two books. And in fact, we do so we have recommended texts at the end of the book that we have coming out, some for each of the chapters, but then also a couple that we describe as a few denser, more technical text texts that are nonetheless excellent and they are to Blanca and lamb 2014 evolution in four dimensions, genetic, epigenetic, behavioral, and symbolic variation in the history of life. tough, but brilliant, like just terrific book. And then Mary Jane West Eberhard in 2003, developmental plasticity and evolution, which I didn't actually realize until after the copyrights went back that all three of those authors are women, which is somewhat rare like that's not I was no way intentional. But yeah. Those are two terrific books that are definitely challenging but but super valuable. Any any place you dive in, and you can make meaning out of it. You will you will be better for it.

1:04:03

All right. All right. I

**Heather** 1:04:04

think I think that is it for now. Let us do our announcements as we always do, and, and then B be done. So we will be back next week, same time, same place 1230. Pacific with a a, an episode not devoted to ads. Yes. Please join us at either of our Patreon where you get lots of access to lots of good stuff, including this Monday, we'll have a patron only just brief test of our new Super Chat system where we will be engaging the chat a little bit. Darkhorse moderator@gmail.com has answers to some of your questions. Please don't bombard our moderator. But if you have questions, you can take an answer. Go for it. And and maybe that's it for now. Be good to each other and eat good food and get outside.

**Bret** 1:04:57

Get outside and don't forget when ESCO