Your Questions Answered - Bret and Heather 45th DarkHorse Po...

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**SUMMARY KEYWORDS**

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**SPEAKERS**

Bret, Heather

**Bret** 00:07

Hey folks, welcome back to the Dark Horse pod cast live stream number 44. No 45 Q and A 44. That was the last one. This is hard. Yes, this is getting. It's the thinking that I find difficult.

**Heather** 00:23

No, not usually. No, but this time this this time with the smoke and the endlessness of it all.

**Bret** 00:28

Yeah. thinking through the smoke. Yeah,

**Heather** 00:30

yeah. Yeah, we do have for you some cats in the background as usual, which much might help

**Bret** 00:35

CGI cats. They're not real. Don't worry. no actual cats were fed for this podcast.

**Heather** 00:43

What are we hearing? Yeah, so we're trying to humidify the space such that if our tech problems were about the dryness, we've got a steamer going.

**Bret** 00:53

Oh, no, we're revealing secrets. Yes. The the frame drop signal failure that happened last time has continued to dog us. It was not many people suggested that it had something to do with the frame rates of the cameras. That seemed very unlikely for various reasons, because nothing had changed about the frame rates and it happened on multiple computers. But anyway, we falsified that idea. Others suggested that it might be related to static electricity. So we've been humidifying the room, which is why it feels tropical in here. But in any case, that does not seem to have completely cured the problem. So we're not sure what's going on. But we will forge ahead. We are

**Heather** 01:33

forging Yes, yes, because there was forging. Okay, we have a couple of questions from last time couple of comments questions from Episode 44. And then we'll jump right in to this episode's questions. First is a comment I'm an anarchist leftist on the DUI, self reliance free speech and self governance tradition. However, I'd love your content greetings from Panama so that's awesome. Ah, greetings from Panama Exactly. Now I will say I'm not sure what DUI means I thought maybe he meant DIY when I Urban Dictionary de why I I get doing yourself in which doesn't seem to fit here. I don't ever

**Bret** 02:12

so don't do it. Hang in there you are. You are you're you're loved.

**Heather** 02:18

But beyond that, I found this. I found this lovely. I love I love getting these comments from people who can identify some aspect of the demographic that is far different from what it is that we apparently are and to say. I love you guys are doing.

**Bret** 02:36

Yeah, that's awesome. And Panama. Yeah, what part of Panama in Panama City? We've spent a fair amount of time in Panama because that's where I did graduate work. So anyway, fall into various parts of the country. It's free, interesting place.

**Heather** 02:51

Sure is. Do you have any views on decentralized cryptocurrency like Bitcoin? It's bit off the usual topics. But I'm interested in your reasoning.

**Bret** 03:02

I certainly have the sense that blockchain technology and crypto has a great deal of potential I'm certainly thrilled at the idea of escaping debt based fiat currency and all of its evils. That said, I think, you know, we're in an interesting spot where these currencies are not so straightforward and intuitive that they are in a position to replace our more mainstream currencies. So anyway, I'm waiting to see something breakout in the space. I'm also waiting to see some sort of a confluence between blockchain crypto space, and game B, ID, W unity, open source, Maker Movement, all of these things are aspects of the same new world trying to be born and I'm waiting for them to find each other and discover that they speak different versions of the same language.

**Heather** 03:59

Well, there are tendrils that have found each other behind the scenes we know. But it's it has not yet come together in a giant convergence.

**Bret** 04:06

Yes, the convergence has to happen. Yes, it's overdue.

**Heather** 04:12

Is it possible that Donald Trump's superpower is getting corrupted politicians to raise a flag saying I am not here to help the people there by pointing out the rot that should be removed? I found that a fascinating comment.

**Bret** 04:24

Yeah. You know, I think the tragedy of the moment or part of it, is that Donald Trump does have very unusual skills, and he's got very unusual deficits. And I think there's a temptation on the part of those who see his political capacity and understand that it is causing all sorts of crazy things to reveal themselves elsewhere and they see that as positive as do I, that they look past the very substantial negatives which That's where we part company and I would say, Look, he beat after two opoli. That's an amazing accomplishment. It's I can't tell you how resilient the duopoly is. And for him to have done that as an amazing,

**Heather** 05:15

whichever you imagining he beat because in some by some reckonings he beat both halves.

**Bret** 05:20

Well, you know, the thing is the democrats being the Democrats, they kind of beat themselves. They did. I mean, if you don't believe me, people hear this and they think, What was he saying he's a he's a lefty, and I am a lefty. But, but if you look up the term Pied Piper candidate, and you'd look at the emails, it's quite clear that Hillary Clinton thought that Donald Trump was the candidate she wanted to face. And so he said to be, right. So they used surrogates in the press to advance his candidacy.

**Heather** 05:53

So when you say that he beat half the duopoly You mean that he smuggled himself in? He's not very good at smuggling himself he crashed, crashed and drew the wall to the party. And they sort of tried to go, don't don't What are you doing? And then they ultimately caved?

**Bret** 06:09

Yeah, I mean, he made Boston on the republican rackets. And they could have rebelled, but instead they bent the knee. And, you know, it's a very interesting story. It's a very remarkable accomplishment. But it's not the whole tale. And the problem is that the characteristics necessary to accomplish that our I believe, not consistent with the kind of non partisan leadership that we need at a moment in which we face this level of divisiveness.

**Heather** 06:46

Okay, one more, lighthearted question from last time someone asked if either of us have a favorite font for writing, and if they're the same, or if we have font debates, and we've never actually talked about this. I'm not sure you have any opinion at all. I, I do, I always do I always use palatino. And my mother, who was a calligrapher for several years while I was growing up, instilled in me still a love of the letter form. And although as a left hander, I was never going to become excellent with ink and a pen because at least not using using English. It would be one thing if I was trying to write in a language like right to left. But palatino for me, and I don't know if I don't honestly know, if you have an opinion,

**Bret** 07:35

it's Wingdings all the way. No, you know, I'll tell you what, let's, I'm going to answer the question. This is not an insult to your question, but I'm gonna answer the question I think you should have asked rather than the question that you actually asked. So I do have a couple of interesting relationships with the idea of font one is I'm very fond of the idea that font became a thing in the way that it did because of Steve Jobs, Steve Jobs, who dropped out of college and kept going and took a class on calligraphy. And anyway, it right at read. Exactly, exactly. So there's something marvelous about that story. And it connects to our experience in multiple ways. We had students who, after they had graduated, kept attending our classes, who we called droppings, following what Steve Jobs had described himself as doing. So that's one sort of thread is sort of the, the aesthetic flair than the the guy who had the insight about so much in the space of computers.

**Heather** 08:33

And just reminding us that design is actually everywhere, and that you don't tend to notice good design. You almost always notice bad design, even if not consciously, but that he he brought to us the amazing the myriad choices of fonts to some degree that we have, some of which are obviously ugly and bad. And there's you know, there's plenty of font wars out there, but but probably the history of early personal computer and would look much different, and it would have taken off with different kinds of people being core users had there not been the design and fonts, attention paid due to Steve Jobs, his early experiences,

**Bret** 09:15

when I would agree with that. And I would say also at the level of the How might we upgrade our system of governance. It looms very large for me that government needs to regulate us in a way that is so light handed elegant that we don't detect it the way you don't detect all of the inner workings of your computer if the interface is well designed. And then the last thing I'll say, is that crazy typewriter over in the corner, which I've told the story of a little bit, but I got that thing for 11 bucks at a goodwill thinking I would hack into the keyboard and turn it into a printer. And then I discovered there was no electronics to hack into in that machine and I've fell into it for a number of months. And guess what it is, oh, it's a selector to correcting Selectric to an amazing device and a whole world of people that's dying at an incredible rate, this team of technicians that IBM trained to be able to service that thing because it's so complex. You know, some of those people are still around, and they, you know, they service to a very small number of these things. But anyway, the thing about that typewriter was that it was built around this ball that solved the problem of the keys of the typewriter sticking with each other if you hit two letters too close together, which is of course, the reason that the keyboard is such a crazy organization of letters was to slow down the typist, so they were less likely to jam the keys of the original electric electric typewriters or any typewriter,

**Heather** 10:49

but which you're talking about QWERTY keyboard as opposed to like devore jockers, right.

**Bret** 10:52

So the QWERTY keyboard was actually designed to slow you down, slow you down, so you didn't jam the keys. That ball typewriter solves the problem. There are no keys it has a ball that leaps and hits the page at the right spot to get the right letter leaps and spins, it leaps and spins. It's the most amazing device ever, because it's all mechanical, except for the motor and the switch. And anyway, you could replace the ball. So unlike a regular typewriter, you can change the font that's really where fonts became a thing for somebody, you know, wasn't really someone this would

**Heather** 11:25

have been late 70s, early 80s, early 80s, mid 80s when

**Bret** 11:28

that one is, I believe, a late 70s, late 70s maybe it's early 80s. But But anyway, the balls there, you know, they're still available on eBay and stuff. And there are a couple of them that I find captivating. There's one, which I can't get the right spacing for, but there's one they had which actually does cursive. And so basically the cursive was made so that the ending of one letter lines up with the beginning of the next letter. So if you get the typewriter that has the correct spacing, it will write a cursive page for you and it's pretty freakin compelling.

**Heather** 12:03

That's amazing because obviously there are different widths I mean, so I have I have in college played around a lot with sort of movable type and and broadsheets, and you've done some printmaking and such and you know, we know that there's just there's there's different widths to letters for words to look reasonable. Yep. So the idea that you could do cursive would seem to presume that either the typewriter already knows what you're about to type, which presumably can't, or it has controlled for what such all the widths of the same,

**Bret** 12:34

yeah, that what they've done, somebody spent a lot of time designing the font, so that it solves the problem of width and left it readable. Yeah. And anyway, the first time I saw a page that had been typed out on this thing, I was just stunned at how compelling it actually was. And you know, what that suggested also about, you know, there was a way in which you know, early printers get a very harsh look, you know, dot matrix printers, like they were, you know, personal letter on a dot matrix printer is just, you know, a,

**Heather** 13:07

it's hard to write a compelling Love, Love letter and and dot matrix printer.

**Bret** 13:11

Don't I know. But yes, so. So the idea that this printer involved, or this typewriter involved the ability and that somebody would be inclined to design a font that would actually have that, that leave the reader with that impression? I don't know. captured my imagination. So yeah.

**Heather** 13:31

So yeah, we could, we could talk about fonts for a while. But I think maybe we

**Bret** 13:36

may I think, you know, I feel like I've said when I need to, I could keep talking you could keep talking about fonts.

**Heather** 13:42

Okay, first question from today. JOHN Baez, world class mathematician was recently cancelled for a joke about obscure algebraic structures. jokingly calling them oppressed in math. Bullying rose so high, he deleted the joke left Twitter, he has a great mind, I will miss hearing his ideas live. Do you have thoughts? I only barely know this has happened. I only barely heard anything about this today. So I don't have many thoughts. Because I only I know barely little than more than what is being said here. Do you know anything more?

**Bret** 14:16

I know, this is the first I've heard of it. And I would say that is such an upsetting description. I mean, I've said it so many times before, but you have to be free to make jokes in order to navigate the difficult stuff. And that means you have to have the ability to make jokes up through the border of what's acceptable in you know, regular description, and it's,

**Heather** 14:50

yeah, I'm calling obscure algebraic structures oppressed is is clearly not at the limit of what anyone should find.

**Bret** 14:57

Right? Right. Exactly. And, you know, to The extent that it is offensive The answer is thicker goddamn skin.

**Heather** 15:04

Yeah, so what do you so it's easy to say that and not to dismiss what you've just said, but what? Not knowing really almost anything about what this guy's situation was, but what should he have done them?

**Bret** 15:19

In this case, and I'm bullying what

**Heather** 15:21

we're told is bullying rose so high deleted the joke left Twitter.

**Bret** 15:26

I'm getting more ornery on this front. I don't know this guy. Yeah, I feel for him. But at some level, I think you have an obligation to stand up to that level of absurdity. Right? And, you know, you have to also just have a certain amount of trust that in the end, if somebody is accusing you, of some kind of bias or ism for having called mathematical structures oppressed? In what universe, is that ever gonna stick? Right, in what universe is nobody actually going to believe you have some sort of moral defect for having said such a

**Heather** 16:06

thing. Increasingly, this one, but increasingly, this one, because most people, when confronted with this are so flabbergasted that they shut it down. I said, this is this is not why I'm doing anything to deal with these kinds of loans. And so I'm just gonna shut down my social media and not deal with them. And and I, you know, I get that response for sure. But, but it creates more of the universe that none of us want to live in.

**Bret** 16:35

Yes. And at some level, I mean, maybe this is what needs to be said, there's a difference between surrendering to these people, because you can't bear to listen to them. And walking away from Twitter and letting them exhaust themselves doing whatever they're going to do. And

**Heather** 16:54

so rather than shutting your Twitter down, just just like not going there for a week or something, right? I mean, so walking away could mean two different things here, in one way he has walked away, you're saying the other kind of walk away is what he should have done.

**Bret** 17:04

I think he needs to walk away strong, he doesn't have to sit there and listen to them. I certainly understand many, it's very hard not to respond. So not engaging, is one thing, but I think the thing is, we need to let these people look like idiots because that's what they are. And if what we do, is we surrender out of self protection. Each time this happens, it's going to keep happening. So in any case, I would ask him, maybe reinstate his account and let whatever has happened there. remind us of the fact that there is no bottom when it comes to the stupidity these people are willing to deploy. Yep, that's right.

**Heather** 17:46

Okay, I'm totally here for speed. I'm totally here for speciation discussion, dive in please.

**Bret** 17:54

The speciation discussion? I did not know you were going to have a speciation. I

**Heather** 17:58

didn't either. And I'm not sure. So I mean, it's it's a little hard to do from zero as opposed. You know, we don't have any context specifically. We, you know, there's speciation itself is a large topic. But there's also the question of species concepts. And I don't know if speciation is what he wants to hear us riff on a little bit.

**Bret** 18:17

Yeah. So I'm trying to figure out in real time how to deliver some chunk that will be satisfying. In my opinion, the speciation question is one that we have failed to answer, because we bought into some wrong assumptions early on in the discussion, and that it's solvable. But like with so many of these things, solving, it requires questioning the assumptions rather than trying to take the assumptions and just answer the puzzle, even though it doesn't resolve. And so the basic problem is this. We've got different modes of speciation, we've got what we call allopatric speciation, which means speciation in different places. And we've got sympatric speciation, which means population that is in the same location turning into different species. And allopatric speciation we know happens, right? It definitely happens as matter right? All you have to do is separate to populations for a long enough period of time, and even just the accumulation of random changes will eventually make them unrecognizable to each other at first, behaviorally if they're animals and secondly, molecularly if they're not a river

**Heather** 19:32

course diverts, and a population of 100, ungulates now has 80 on one side of the river and 20 on the other. And if they don't, if they can't swim, if they don't swim, if they don't cross the river, they will diverge over time, that's allopatric speciation,

**Bret** 19:45

those populations are too small, they'll go extinct both of them but but if we scale it up, same same thing. The problem with sympatric speciation is that it doesn't it's not easy to imagine how it occurs because the amount of Have gene flow between two populations that has to occur to prevent divergence is tiny. We know this for sure. Now that's pending certain assumptions. But the basic point is, if you look at something like the Amazon, you've got evidence of a huge amount of speciation. It's the most speciose place on Earth, but you have very few borders, that would actually constitute an obstacle to a creature crossing. So if you think about the Amazon, Amazon is not mountainous, it does have lots of rivers and things in it. But the most speciose things there are insects that fly there beetles. So why the heck are these tiny little reveal lips, creating species divisions between populations of beetles?

**Heather** 20:46

Well, then there's of course, a question of, you know, at what scale Are you counting it as sympatric versus allopatric. And I think this is part of part of maybe where you're going that, you know, when we think on the scale of mountains and rivers and such dividing species, and those being are indicators of Allah patri, it's both really easy to imagine, because that's exactly the scale that we live out. But it probably is not the scale at which most of these things happen. And so you get niche partitioning within a space where, you know, you might have say, insects, wood bores on a tree, some of which are boring, closer to the ground, and some of which are up high. Because the you know, the stuff that they're getting from the tree is actually differently accessible, when the tree is, you know, very thick at the bottom versus high at the top. And so you get these insects specializing within a single place on the earth, and yet, they are their their niche partitioning, some of these insects become ones that specialize on lower some on higher parts of the tree. That's a kind of allopatric. If you think about at the right spacial scale, same thing with the cichlids. In the African rift lakes, right, you've got cash, I think it's hundreds of species of these fish that have speciated. Within in some cases, like feet of each other. But they're doing different things. They're making different use of the resources.

**Bret** 22:02

I don't think that's what's going on with the African cyclins.

**Heather** 22:05

It is in some cases.

**Bret** 22:08

Well, I remained to be convinced that that can happen on that scale in an aquatic environment without something else, like fluctuating water levels. But

**Heather** 22:18

certainly there are also fluctuating water levels that explain a lot of the speciation, at least I think two of the three lakes, the African red flakes in Africa, I'd have to go back and look to remind myself

**Bret** 22:29

and you know, your point about niche partitioning is right, in principle this can work, it has to be really the problem that so this is gonna get so tangled. The problem is Fisher gave us robust math that shows just how little leakage between populations, you need to keep two populations that are initially alike from diverging, and it's almost nothing. But this is with respect to neutral genes. And the frequencies have to start out alike. So anyway, there's some some built in assumptions there. But But this isn't really where the problem is. Oh, I did want to say my advisor dick Alexander did create a model for what he called Allah chronic speciation is a little bit like niche partitioning. In fact, it is a kind of niche partitioning. But basically what it had was species that are overlapping in space, that breed at different times, which keeps them from interbreeding.

**Heather** 23:30

And you can also mean that that also would work at the circadian level. So you could have breeding at different times of the year, you could also have activity levels being diurnal versus vascular versus nocturnal, and we see all of these things.

**Bret** 23:41

But again, the problem with all of them is that a little leakage is too much. leakage between populations is too much and it's very hard to get through. So I think is a whole other way of solving this puzzle. And this is the wrong place to do it. But I will say para Patrick speciation is going to be the answer. And at some other point I'll deploy the mechanism by which it works. But allopatric speciation is to populations that are isolated from each other. And sympatric speciation is to populations that are in the same place pair Patrick is neighboring populations, like two countries that share a border. And it is possible to explain things like the Amazon through pair Patrick speciation if you have a mechanism that keeps things from sexually crossing the border, which we do. So anyway, a little teaser

**Heather** 24:31

at the end. Yep. All right.

24:34

Yeah, everyone in the chat is saying they would prefer the camera glitches to this webcam. So do it.

**Heather** 24:42

Okay, so all right.

**Bret** 24:44

Yep. Sorry about the glitching this looks more

**Heather** 24:46

normal from our end. Yep. Okay, from an evolutionary point of view, how come we're able to consume high temperature foods and liquids without much problem? Does hot food occur naturally does it come from a relationship with fire and cooked food? If so, Do other species have more trouble consuming hot stuff?

**Bret** 25:04

Great question.

**Heather** 25:04

It is a great question.

**Bret** 25:07

Um, okay. Yeah. So

**Heather** 25:10

I mean, I guess, you know, very fresh meat is, is warm? It's, you know, it's body temperature, obviously. Yeah. But it cools off quickly.

**Bret** 25:20

And body temperatures, body temperature is fine, you know, a small number of degrees. So that ought not cause us a problem.

**Heather** 25:27

Yeah. So does anyone else eat anything that's warmer than body temperature.

**Bret** 25:35

You know, undoubtedly, there are going to be examples of things that get, you know, sit in the sun and baked in a shell and sit on a hot surface on a rock, or something like that. But it's going to be pretty general, not pretty rare. Also, most creatures are small. And that means the things they eat are small, which means that the rate at which they dissipate heat is large, or it's high. But I would say, look, a long history of eating things from a fire is going to result in selection for resistance to being burned by hot food. We are aided in this by virtue of being so thoroughly made of water, because water has an incredibly high specific heat. And that means it takes a lot of energy to to raise the temperature of water. And so there's a you know, there's a already a built in kind of safety because we are made of water, the same thing allows you to walk over hot coals even though that's not something your ancestor would have done a lot of, if you Don't linger too long. The coals are very hot, but they're not as full of energy, as you would imagine. And you can do it. So being made of water provides advantages. The fact that you're interacting with the hot food at a wet surface also provides an advantage because

**Heather** 26:57

the one service being your tongue and the inside of your mouth. Yeah,

**Bret** 27:00

you know, so in the same way that you might burn your finger if you touched the surface of a hot pan, but if you lick your finger and you touch the surface, you'll boil off the water and that will give you time to get away before you harm yourself. That sort of thing. But anyway, yeah, I would say selection will have helped and what would I expect that selection would have been, I would expect increased circulation that is sensitive to the presence of dangerously hot food.

**Heather** 27:30

So the prediction is greater vascularization in the mouth and tongue of humans compared to chimps and bonobos,

**Bret** 27:36

right. But the obvious killer app for protecting yourself from food that's been heated up is going to be behavioral right learning a what foods if you put them in your mouth they're way too freakin hot and so learning to blow on them learning to wait those things and you know all of the little behaviors if you do put something that's too hot in your mouth or a horse you know for that thing you know, you pick that up somewhere right now you may have learned it from having burned you know, gotten pizza mouth and you know, whenever you do that prevents that from happening and gets reinforced

**Heather** 28:18

anyone out there who's gotten pizza mouth once and only once. I mean, like that's actually one that seems to be hard to learn perfectly from somehow. Either testament to our stupidity or just how very good pizza is.

**Bret** 28:30

It is very good. I mean it's also nice not just cute, but it's geometrically interesting. That's true cuz you think it's a triangle till you get to the crust and then you've got this arc and it's like

**Heather** 28:40

hey, Zack, what do you let Fairfax and he seems to be yelling quite a lot.

**Bret** 28:46

It was all the type of pizza he does. Yes, he

**Heather** 28:48

does like himself some pizza that cat does. Okay. I once dated a woman from a woke University. One month in she informed me that we could only be together short term because she wanted children and under no circumstances would she have an all white child. Was this learned and can it be unlearned? Seriously Oh my god. I mean this this might play plausible. I hope that you're spoofing us here but my god

**Bret** 29:18

Oh no that she did you a favor. Did

**Heather** 29:23

she run away on a way is

**Bret** 29:25

the right advice Yeah, she did it for you.

**Heather** 29:30

Yeah, was this learn of course it was learned.

**Bret** 29:33

That kind of stupidity doesn't exist in me. Yeah.

**Heather** 29:35

No one's born that dumb. Yeah. Oh, look who's back. Well, yeah, I don't know what else to say beyond that is Yeah, can it be unlearned? Yes, but it's gonna require some, some active unlearning. And frankly, it's not your responsibility to teacher Yeah, although

**Bret** 29:50

more effective than unlearning is just let selection take care of this one. I don't. This level of stupidity. It's Does not consistent with feeding themselves and they will get what they deserve. You're forgetting about differentials between men and women, we will get what they deserve. But yeah, you're right. But differential

**Heather** 30:11

reproductive success being what it is, she's likely to find someone no matter what.

**Bret** 30:17

Yes, yes, that is true. Yeah.

**Heather** 30:20

Okay, judging by Andy No, there are about five protesters, quote unquote, arrested and released in Portland per day with varying serious charges. Will there be a surge of convictions in the next two to five years? What do you think will happen? Well, as I underst, I've met that since the fires have happened, I haven't paying as much attention. But I understood that the DA had said maybe maybe with help from other authorities, that he was not going to be convicting any of the people arrested associated with the protests and the riots in Portland, which is in totally insane position. But that is that is what I where I understand us to be somehow I I'm speechless.

**Bret** 31:02

Yeah, I am prone to ranting Go for it. No, I think it's probably best that I don't, okay. I can't imagine, you know, we were just talking about people too dumb to reproduce. And this strikes me as the same level of dumb, where somehow you think civilization continues, even though you advertise to the world at large, that there are certain rules, they are allowed to break as long as they do so under certain banners.

**Heather** 31:27

And those are some good rules are being allowed to break to, like don't set fire to people and things that might have people in them, right? Those are really good rules

**Bret** 31:35

there. It's really essential that we just not be flexible about those rules. And yet, we're being flexible about those rules. And anyway, see earlier discussion of why people who don't like Donald Trump may end up voting for him because this is just madness.

**Heather** 31:50

Yep. Yeah. To your prediction from one or two livestreams ago, the man's gonna win in a landslide. Yeah. Which is something we've been talking about for a few weeks now. Yeah, privately, but I just I, I don't see how any other outcome is remotely possible this fine. I hope well, I hope for unity,

**Bret** 32:14

unity, unity. Yeah.

**Heather** 32:18

The popcorn fallacy. Start with a kernel of truth, add heat, ideological spin, raise the temperature until it undergoes a phase shift pops. So the kernel is no longer hard, reliable, shelf stable, etc. Popped kernels aren't true. Okay, so the idea is, yeah, it was it was true, but the phase shift, turns it into something else. And it's still you know, you can point to it and say that's the same thing. It just, it just looks different. But actually some fundamental structural changes happen. It is

**Bret** 32:50

for any of its virtues. Yes. And at the place that you end the thought experiment, it has lost those virtues without gaining the virtues of salt and butter.

**Heather** 32:59

True. Yeah. Now at the very least, we could add some salt and butter. Yep. Okay. Thank you, Bret Heather, and the ITW for spreading free speech and thought you all are the intellectuals and philosophers of our time. Thank you. Questions, your thoughts on The MBTI model? And how do you deal with BLM apology ism? I believe that was two very different questions. MBTI is going to be Myers Briggs, or is there something else? Ti you you talked about BLM? Well, I look at MBTI Wait, what am I talking What am I saying about BLM? Well, how do you deal with BLM apology ism?

**Bret** 33:40

Yeah, this is an incredibly difficult and important it's my strings. Myers Briggs. Okay, BLM college ism is a destructive instinct that is endangering everything. And unfortunately, the only thing that there is to do seems to be to talk about what is actually hidden inside of things labeled with that very simple, intuitive and appealing idea.

**Heather** 34:10

I think that's been the thing that we've begun to say most like, revealed whoever you're talking to. But just because it has the nice sounding name doesn't mean that's what it actually is. Yeah, you know, and Tifa is not anti fascist, anti racism is actually racist. Black Lives Matter does not appear to care about many black lives, despite having a name that would suggest that that was exactly what I cared about.

**Bret** 34:36

The so in order to reach everybody, and maybe even the most important people to reach in this case, you also need the other side, which is the Patriot Act wasn't patriotic. Everybody understands that all of the people who are somehow blinded by the idea that anti racism must be the right thing.

**Heather** 34:58

Now the example I use here is pretty Life isn't particularly pro life for for for most of our perspectives over on the left. Yeah, Patriot Act is more in keeping it because it's a political

**Bret** 35:10

move. Yeah. But it's you know, it's as old as the hills that you would name something in a way that makes it difficult for people to say no to it, but at some level at the level that you're you know, if you're being manipulated by people miss labeling things so that you can't say no, then at some point you have to say no. I mean, at some point like right away as soon as you figure out that that's what they're doing. You have to say now, yeah.

**Heather** 35:31

So when we think about Myers Briggs?

**Bret** 35:36

Well, I guess I'm confused by what the question is, in general, is that, you know, so I was not compelled by Myers Briggs at all, when I heard about it the first time. And I was asked by a psychologist that I was teaching with Gaia, quite quite like to take it and just see what it said. And so I took it and I grumbled through the entire exercise of taking this thing at the way these questions were phrased in such a way that I didn't think the right answer was presented. And so I couldn't very well give the right answer. And therefore I was forced to pick an answer that I didn't much like, and then I got my diagnosis. And it basically, in telling a lot of things that matched my life pretty well described my annoyance at the test I had just been given,

**Heather** 36:24

they're all gonna guess. Yeah. So don't tell them, you know,

**Bret** 36:28

they'll figure it out.

**Heather** 36:31

Then your faculty colleague, also had all of your students do it. Yep. Right. And then you had he did some seminars, I believe around like, you talked about some of the results. And, you know, said that way, if I didn't know you, I could say, you know, it sounds like you're talking about a horoscope right like that. Doesn't everyone find what they want to find? In a horoscope?

**Bret** 36:48

Yeah. But in this case, description, was stuff like my fraught relationship with my PhD process. And all of these, it was too specific to be that I mean, I'm very sensitive to the idea. In fact, I love the idea of predicting, really off the cuff stuff and, you know, in the off chance that it turns out, right, then, you know, it looks like you have insight. And so, you know, it's not that that kind of thing I would do, but it is the kind of thing that I i understand how it works. In this case, the diagnosis was spot on for me. Yeah, that said, I have

**Heather** 37:24

given to others. And that I mean, there are 16 types, right. And I think there may be like subtypes now, but like, there's 16 nodes, because there's for for binary indicators. So 16 possible combinations. And I don't remember what the ratios are. But there are, you know, a couple of these personality types that are like, Oh, that's like 25% of the population or something. So presumably, for those, that diagnosis is going to be far less predictive of who these people are. But for those of us who the result is like, oh, you're less than 1% of the population is, you know, and meet you. And I don't Trump is the same thing. But both of us have some of these, you know, very rare. Myers Briggs types. It is more likely to say something interesting, if there's some fundamental accuracy at base, right, right.

**Bret** 38:11

Now, what I will say is that I, when I was surprised by how closely it had matched my experience, I gave it to others who did not have that experience. And I know that people I respect look at it, and they say it, you know, it's nonsense. And yeah, so I think

**Heather** 38:29

psychologists are split, right? So Good, good. Psychologists, psychologists, whom we respect, are split on this. Some people say it's complete crap, then some people, you know, find it quite interesting and useful, including at a clinical level. But so that that suggests to me that there's likely something there. It's not like, all of the professionals who we respect on the field understand to be terrible. But, you know, some people think it's useful under some circumstances. No, like, there's there's no, there's there's good professionals who think it has.

**Bret** 39:01

Yeah, and I would say two things. One, its purpose originally, Myers and Briggs were I think, both females mother, sister, a mother, daughter, mother, daughter, yep. And they designed this test. I think it derives from something union, I believe, yeah, less nuanced version of the test, or fewer axes or something. But the test was designed to find the proper vocation for people. post World

**Heather** 39:31

War II, the first time I was exposed to it was as I was finishing my PhD, I was like, Huh, let's just let's see, I went into like career counseling University of Michigan. Yeah, they gave it to me.

**Bret** 39:40

And so anyway, one, it's possible that it works brilliantly for that because it identifies something at that level. I'm not saying it does what I'm saying. It's plausible that it does, but that when you try to drag it into another realm, like how are we going to relate interpersonally that it's a coarser measure. It's also possible, let's say But it's missing an axis. Yeah. Right. So that the real number would be, you know, 32 types. Right? Yeah.

**Heather** 40:10

Just one more, one more binary. Right?

**Bret** 40:12

So if you had, so if it's true that there was another axis, you could add that would give you 32 bit resolution. That's right. Maybe two to the fifth, then I know the numbers, right? And just figuring out whether it means Oh, accurate to say bit. But in any case, if it were true that another axis would get you high resolution than what it would look like, if you subtract that axis is it would look like kind of hit and miss would have validity, but it would, you know, group people together of two different types that weren't similar. Yeah. And so you might get this kind of, you know, division between people who'd looked at it, and they say, oh, I've seen it really work. And then other people say, no, it's complete nonsense. Yeah, you would expect that kind of reaction.

**Heather** 40:58

That's good, really good point. You know, what? What's something that's accurate, but not yet precise enough will look like as a diagnostic tool. Yeah. Yeah. I am a lapsed Christian, who were discovered faith this year. critical race theory, rhetoric is religion. Oh, it is in religion. White Christians have more original sin muster pet, to people to be saved. Your podcast helps me to spiritually now. Thanks for every thanks forever, and everything you're doing.

**Bret** 41:29

Thank you.

**Heather** 41:30

Thank you. Yeah, I think that

**Bret** 41:32

so it's right. I'm a little so I've heard two different things. I hear a certain number of people talking about the religiosity of critical race theory and all of its descendants. And I hear other people talking about wokeness. Moving into Christian circles.

**Heather** 41:52

Yeah. And this I couldn't this actually says CRT rhetoric is in a religion. But I think ultimately, this comment is the first thing

**Bret** 42:01

is the first thing and second, but nonetheless, this is me, you know, and you would expect based on the fact that there's an analogy that there might be an openness to this at a level that there shouldn't be No, no,

**Heather** 42:11

because actually just driving past churches in Portland. I think a lot of the you know, when churches that have those like placards out front, where they have inspirational sayings, yeah, a lot of them are pretty clearly woke at this point. And part of that's, you know, don't, don't charge me, don't hurt me signs, but part of it is actually them just, you know, feeling feeling this as something that's actually inclusive and healing as opposed to the divisive rhetoric that it really is,

**Bret** 42:37

well, critical race theory has weaponized people's empathy against them. And to the extent that these churches are built around, you know, sort of cultivating empathy for Yeah, you know, for people

**Heather** 42:52

downtrodden and the oppressed. It

**Bret** 42:55

leaves open the door to that manipulation.

**Heather** 42:57

Yeah. How was your talk with Sam Harris influenced your view on free will? How does democracy work in a world where people's lack of free will has become increasingly exposed via troll form troll farms, Cambridge Analytica, etc.

**Bret** 43:14

I would say my talk with Sam has caused me to think a lot about why we couldn't come to any sort of resolution on points that I thought we would find common ground more easily. And I will say maybe it's a defect in me, but I don't think in rethinking my position. There very few things in that conversation that I think I got wrong. There are places where I think I didn't do a good job of marshaling the right argument. And I would do it differently if I had it to do over. But overall, my sense is the freewill discussion is totally polluted by a failure of percision. That is to say, when we talk about a failure of good of freewill, it's a question of, are we talking about a 100% absence, which leaves you in one landscape or some amount, which leaves you in another, and some amount can be very small. But that distinction between none at all, in which case one set of things follows, and there is some but it's a struggle leaves you in a totally different place. So I still am resolutely on the there is some but it's a struggle. But I recognize the uphill battle in convincing anyone who doesn't hold that position or see that as intuitively clear, convincing them that it is so anyway, I think I feel like there's something that is yet to be resolved out of that conversation and I look forward to getting there.

**Heather** 45:00

Sakhalin, I would like to get through, at least get through two more here. And we'll make sure to come back to some of these next time before going to the Super Chat from this hour. The Colombian National Front was an agreement for the liberals and conservatives to rotate power to the violent partisanship in the country. Can this history be used to influence unity? Sadly, Colombia still has issues even after the Colombian National Front. I don't know this history at all. And it feels like a piece of history that we should know. I am interested to know more and actually if, if the person writing this question puts them into chat or, or you know, it's the moderators, female, Dark Horse moderator, Dark Horse moderator as dark horse matter@gmail.com. If you had any source on this history, that would be very interesting to look at the history on the Colombian National Front.

**Bret** 46:00

Yeah, but I would say the word rotate there. I spot this as a vulnerability. That rotate is a bit like the chaotic

**Heather** 46:11

as opposed to sharing.

**Bret** 46:12

Yes. Because you'll get when you're in power, you want to move the needle as far as you can, because you're going to lose an instrument move the other way. And so this one's got cat madness going

**Heather** 46:26

on here. Yeah, eating, eating quarantine. Oh,

**Bret** 46:29

goodness. Um, but anyway. So I think the thing is, the systems design has to be really careful in order to work and close prototype level is good enough to learn the lesson. But it's not good enough to be stable long term. So anyway, yes, I would say it sounds like a thematically related exercise, but but i think it's it's vulnerable at its inception.

**Heather** 46:59

Brett, at evergreen, you had the security of being sure there was no actual evidence of your racism. What if there is racism in your past, we found a 26 year old who was a troubled 16 year old would appreciate your advice. such an amazing question. Yeah, that's

**Bret** 47:16

a great question. You know, it's awkward now. Because if you come clean about this in some way, then there's always the question of whether you're doing it cynically. But on the other hand, everybody understands that youth involves stupidity of many different kinds, right, but he used to understand that everybody used to understand that you're now being persecuted for failures that, frankly, everybody has in their past. And so I don't, there's not a great answer to the question. I think, in some sense, you're depending on people recognizing that they don't want to be judged based on what they were doing at 16, either. And to the extent that you are upfront about, I'm not comfortable looking at myself at 16, I'm not comfortable with what I see. And here's, you know, in your case, the, you know, the racial stuff that I no longer feel or believe, and maybe I didn't believe it, then maybe I was motivated to say it for other reasons you thought you were in be cool, or something like that. But, you know, look, forgiveness and tolerance, these are essential values. And I will say, we had a very good friend in grad school, you know, one of the people we were closest with, who had experimented in high school with some of this, you know, white supremacist stuff, I'm not sure I know, this, you do, you've just forgotten that, because it's so out of character with the wonderful person that we spent all the time with. So anyway, the point was, it was some kid doing stupid stuff. And, you know, we never once thought about holding this against this person, because it just obviously was not consistent with their values. And, you know, we have to have the ability to let people grow up.

**Heather** 49:16

I mean, this is I mean, we've written this in the childhood chapter of our book, this is this is part of this, this is not something I've heard elsewhere. But this is part of the reason that the screens and the social media are so dangerous, is that it more it memorializes forever, all of the mistakes of youth and youth and development are exactly the time when you're supposed to be exploring and if you don't make any mistakes, then you're not going to become a very interesting or or competent adult. So you know, obviously, actually playing around with racist ideas is, is a is a greater kind of error than a lot of people engage with but everyone makes some kinds of errors and some people make much graver errors than that depending on what he's Actually your your personal history of racism might have looked like and used to be that not just you're not just the courts, but society could recognize that forgiveness was actually the way to a more robust populace, rather than holding people accountable for every single thing that they've ever done. But something about this, you know, this goes back to our being so visually dominant as primates that once you've seen it, once you've seen it, either in video or even in text, it's very, very hard to forget. And the fact that social media just is persistent that we're being shown evidence of everything from you know, police brutality to some kids, you know, exploration that wasn't socially okay. But it was a kid's exploration for a long time ago, is causing people to glitch out and forget that actually, we're supposed to be able to try to understand and forgive and heal. And we're moving away from all of those things.

**Bret** 51:01

Yeah. I guess I would say three final things. One, check out Helen pluck roses tweet thread from last week in which she describes her own path to becoming the highly insightful, courageous adult that she is. Anyway, it's absolutely extraordinary. Second thing I would say is check out Majid Nawaz friend of ours. And his path from being a, a Muslim sinned, Islamic extremist, Islamic extremist. And he realized the error of his ways and he is spending his adult years trying to make the world a better place, including a recent very successful hunger strike in defense of the Uighur in China, which forced the British Parliament to debate the matter. I don't know how it's come out. But anyway, it's quite an extraordinary thing. And I would also say, there's a lot to be said for finding people that you had these prejudices against and who are willing to see you for who you are. And, you know, correcting any residual prejudice and being candid about where you were, I think you might find it. cathartic.

**Heather** 52:36

Okay, on to the sours. Check questions. Love you guys. Power to the People, Wolf and the whole fam hanging in there. Thank you. Yeah, there she is people will. On the Jax live episode on Eric's podcast. Eric Weinstein said something along the lines that evergreen was a failed experiment. You both have PhDs from University of Michigan. So higher tiered universities were available to you. Question mark. So why evergreen? That's, there's a lot to talk about there. Yep. I'm not sure what sort of three bullet points since we're not going to spend an hour talking about that here. But well,

**Bret** 53:12

one. Heather certainly could have gotten a job at the higher tiered place. And in fact, she did get two job offers. evergreen being one of them, which is not common. You know, this is without a postdoc got two good offers, right out of the gate. I didn't have my PhD yet. So anyway, the problem is the deal that comes along with these jobs is not nearly as desirable as you think everybody sees the professor who succeeded late career has a certain amount of freedom and things I want that job. But a there's less freedom. Now for even people with a fair amount of power in these departments and be the road there is just appalling.

**Heather** 53:58

Yeah. I guess. Like, like I said, there's we could talk for hours about this. And maybe it's worth doing so at some point, because it does. It is revealing about the state of higher ed right now. But two things, two anecdotes. evergreen was not just some B roll vanilla liberal arts college, it was actually completely unique in what you could do there. And so you know, failed experiment. Yeah, ultimately, it was, but there's no place else that has even come close to doing what we could do there and a few other faculty were doing there. Because of the full time programs. Largely there are a few other things that are unique to the curricular structure there but mostly being full time with your students. And then we'll also say my first year at evergreen, I was invited back to Michigan along with two other recent PhD graduates to be on a panel talking about what life after graduate school looks like if you've gone to academia, and so there was there's me a little Barnard College, there was someone on our one major research university with the expectation of low teaching high research, etc. And then there was someone at sort of a mid tier public university. And you might think that the mid tier public university would be the sweet spot. But no, it seemed like by far the worst, like this woman had, you know, an incredibly high teaching load and incredibly high research expectations and none of the the clout or the respect that you might have had if she'd been at either, you know, an r1, or a different kind of respect that you get when you really dive deep at a liberal arts college. And so each of us basically gave little, little statements, and then we feel the questions from at that point, the still current PhD students in the Department of Biology at Michigan, and the person who was at an r1 started out by saying, if you take one of these jobs, you can do this, and one of the one other thing, so choose one thing, if you want a family, you can do that, you're not going to do it great, but you can do it, if you have a hobby that you really love, you can do that. But you can't have a family and, you know, sort of went down the list of some other things that you could do. And, you know, maybe maybe that was a little bit extreme, but I'm not sure at all. And I'm actually not sure that you can even have two things like, you know, the the expectation of work in, in a research university doing an active research job of, you know, 80 120 hours a week, and, and increasingly have an incredibly high governance requirements as well, which is to say, you know, attending meetings and leading committees, and all of this seems so far from actually doing science that it doesn't, it doesn't look in any way enjoyable. And, you know, I, I could have done the work, it was enough in my wheelhouse that I could have done that work, but I don't, I would never have enjoyed it. I don't think it was even in your wheelhouse to do it not that you aren't capable of the science, then, you know, perhaps any other human being on the planet. But the idea of the logistics involved would have would have rendered it impossible for you.

**Bret** 57:14

Yeah, it would have been, it would have been terrible. I think the other thing, though, and you know, you sort of blew right past it is, evergreen had lots of problems, it did not pay well. It fostered a lot of nonsense, because there were so many, you know, this wasn't true at the beginning of the college. But at the point that we arrived there, there were already a huge number of people who had these jobs, who didn't have any interest in making anything, any use of the freedom that they had. Yeah, so anyway, it was like an obstacle course. But the freedom that we had to build programs that suited us suited our students did what we wanted to do. I mean, literally, imagine this, no administrator can tell you what to teach, or how to teach it, as long as students are showing up, right? If you want to figure out how to do something totally different. evergreen was essentially the only place you can do that, without having to get somebody to sign off on

**Heather** 58:10

it. So never heard of another place like that, you have an idea, you put it in the catalog. And if students sign up, you do it.

**Bret** 58:15

I mean, you know, it was it was very real freedom. And so, you know, absolutely possible to screw it up, it'd be possible to teach things nobody cared to learn and have nobody show up. But for us, you know, we always had waiting lists. So we had lots of interested students who would show up, people bounced back and forth between our programs, and then we would teach together and so there was always people who knew our style of thinking, well, brand new people mixed together, it was just amazing. It was really dynamic. And, you know, I never never worried that I wasn't making a difference. And so I'm doing something that mattered it was

**Heather** 58:55

trouble sleeping at night because of the work you were doing. Right?

**Bret** 58:57

And it was always interesting, right? The fact is every day different

**Heather** 59:00

every week different every program different every year different. Absolutely.

**Bret** 59:04

And you know, imagine a college in which your professor knows you as a human being and actually spends time thinking about what your obstacles are, what you might be misunderstanding and how to teach in such a way that you actually can understand the thing you don't yet get, right. That's not possible that four credits at a time but that is possible when somebody is with you for a full year at full time, you know, when you go into the field together, right? So when you literally sit around campfires together, you literally sit around campfires or you know when you know you're lost in the Amazon and your class figures out how they're going to you know, divide up the forest and you know, search it systematically to find you as night has fallen. You know,

**Heather** 59:51

this wasn't either of us this was a couple of our students once right? Yeah, well, but I mean, you know, just just last you imagine that are still Without searching for us, so we've gotten ourselves lost in the hammock.

**Bret** 1:00:02

No, no, I have been lost in tropical forests a number of times, but I always managed to find my way out less. But nonetheless, the thing that we were doing looks so little like normal college teaching that when people ask us why the heck were you at evergreen? It's interesting. It's hard to answer. Because the fact is, we were doing something that was amazing. It was exciting. It was productive. It made a difference in people's lives. And, you know, yeah, that college came apart. It doesn't exist anymore. But it did exist when we were there. And we made good use of it. Yeah.

**Heather** 1:00:40

Do you have any insight into recent possible life signs in the Venus atmosphere? Could it be a little green women instead of little green men? Well, if it's only one, it's it's going to be female. But

**Bret** 1:00:53

yeah, well, it is. It is I'm gonna have very little to

**Heather** 1:00:56

say about I mean, that's, that's just the case given just as we were talking about loneliness, only potentially turning you into a pathogenic lifestyle effectively if you're female. If you're male.

**Bret** 1:01:07

Wait a sec. Oh. Were you saying that it was going to be female? Because because women are from Venus, or were you saying it's going to be female because of the part that parthenogenesis it's the birth of Joseph. Okay, so it just happens to dovetail with that trope? Yeah, okay. Yeah,

**Heather** 1:01:26

if we had just possibly found life in the atmosphere of Mars, it would still be little green, I guess a little red females,

**Bret** 1:01:34

right, not men. Okay. Now in this case, though, we're talking about my I'd actually forgotten about the you had I thought you had and then it hit me that maybe that's what you're getting. But we're talking about microbial life. Yeah. Right. Well,

**Heather** 1:01:48

yes. So probably so might I mean, let's see, probably microbe is like plankton, right? Like, it's this. Yeah. It's a good short term that doesn't speak to much beyond just tiny and right.

**Bret** 1:01:58

Yeah, but unlikely. It's sexual.

**Heather** 1:02:01

unlikely. Yeah. Yeah. So it's so probably neither male nor female. But if it were one, it's it's female. Yeah, I don't I don't know much beyond I saw that. There's, there's a possibility. And that's exciting.

**Bret** 1:02:16

So I must tell you, I, you know, hadn't even occurred to me that I was not paying attention to the story until this question shows up, because I definitely saw the headline. And I thought so little of the likelihood that we have found anything meaningful on this front, especially, you know, this isn't Mars, Venus? Yeah, it's very inhospitable. Yes.

**Heather** 1:02:35

It's a little bit hot.

**Bret** 1:02:37

It's hot. It's hot. So anyway, my, I think my thought was something like, I can imagine a flurry of excitement about this, I can imagine the near certainty that it's not right. I can't quite imagine what the data were that suggest this possibility. I'm curious as to what people you know, on Mars, periodically, somebody will find a structure in the rocks, and they will say it's reminiscent of a bacterial colony. Yeah, it turns out a geological process can do it. So I guess I'm expecting exactly that to an

**Heather** 1:03:11

end. I don't know what the evidence is, and I know less about what kind of what kind of evidence might be left atmospherically. Then sort of geologically, right. Like I, I understand better, what kinds of evidence will look like at the like paleontological, archaeological geological level than atmospheric.

**Bret** 1:03:29

So but I mean, okay, so maybe I also miss read the what little I read here. But was this a new mission to Venus that descended through the atmosphere and collected something and sent back some data? Or was this the analysis of something that had already occurred?

**Heather** 1:03:49

I don't know, Zack, if you're seeing anything in the chat that addresses that question, tell us okay. With regard to possible life signs in the atmosphere of Venus, where is the what's the evidence coming from?

**Bret** 1:04:04

Yeah, so I think the answer to your question is a dereliction of duty on both our parts as biologists hearing that there might be life on another planet in our solar system and not having paid enough attention

**Heather** 1:04:16

to it. But I chalk it up to smoke poisoning,

**Bret** 1:04:19

smoke poisoning, and you know, having been through this many, many times with Mars, I would say, betting on this not being what people think it is, and the propensity of headlines to get written. Because it would be very exciting if there was life.

**Heather** 1:04:35

So it's so exciting to think about somewhere else. Even hot, hot hot, Venus. Yes, yes. Okay, well, we got to get through a few more of these. We barely started starting my math Master's. My preferred area requires three courses with allegedly terrible professor. Do you have survival advice, what I take Now besides the course of the degree, I am I'm worried. I'm

**Bret** 1:05:04

a terrible Professor problem is a terrible problem.

**Heather** 1:05:06

Yeah, it really, really is.

**Bret** 1:05:08

I never figured out a mechanism.

**Heather** 1:05:09

And there's so many of them. Yeah, there's so many terrible professors. And it's really much more common than excellent professors.

**Bret** 1:05:16

So that's that sounds to me from your question, like, this professor probably really is terrible. But as I've said, elsewhere, my experience in college, back in my day, there used to be an actual book of reviews that classes and professors had that you could look at to figure out what courses to take. And my experience was, very frequently, the people I really thought were great, were not well liked. And the people that others thought were great, I found boring or worse. And so be aware that it's possible. You know, depending upon what terrible means of terrible means. person's a jerk. Right? And, you know, that they're, they're power hungry. And they, you know, yeah, or by the book, yeah, and or don't know. Right, right, any of those things. And that's just really bad. On the other

**Heather** 1:06:08

hand arising and works for some people doesn't work for others, maybe it'll work for you. Yeah, that's that's a, that's a different situation, different

**Bret** 1:06:14

things. But assuming it's not that, you know, okay, can you take a summer course instead that covers the same material with a different person? Can you teach yourself and then test out of it? Can you go into some form of spaces and emerge decades from now when things have gotten better? I don't know something.

**Heather** 1:06:40

I think that the recommendation to form a chrysalis is probably not the best one.

**Bret** 1:06:46

Yet for technical reasons. Others

1:06:51

it was observed. Produced by Mercury, white rooms, appeared in the atmosphere.

**Heather** 1:07:00

Okay, that's helpful. For those who couldn't hear Zach just reads from the chat that is was observed by a telescope, that a signature of microbes that is known from Earth was also observed in the atmosphere of Venus. Is that right? So yeah,

**Bret** 1:07:15

yeah, that better be some signature, or I'm betting against Yeah,

**Heather** 1:07:19

yeah. What if any legitimate scientific data or the Black Lives Matter leaders and Nick Cannon nighties, using to espouse their claims that melanin is of the utmost importance? And how are whites less than due to the lack of neuro melanin? So I barely recognize his name. Now, can I use Nick, can I use but I can't, I don't quite place it and give me this. It's all just the same. The same thing, you know, any legitimate scientific data? That melanin is of the utmost? No, no, just not nothing to it? No, of course not. No, no. I mean, I guess Actually, it's not the same all this just that just if the claim that we're being asked, Is there any legitimate scientific data to it, that melanin is the most important indicator of who you are as a human. And lacking neural melanin? I don't even know what that means. That's just that's just bullshit. But

**Bret** 1:08:13

this is this is what happens when you take a verification test approach, be licensed to throw out whatever you don't find convenient. And see a a bias in favor of simple mechanisms, and you try to apply them to a complex complex system. I would just say, look, melanin is really, really important. You know, what else is important face shape, you know why? Because it allows people to recognize whether or not you're from their lineage, and we are predisposed to cooperate with people who are more closely related to us, despite what my colleagues may say,

**Heather** 1:08:52

my color, right, and build and reload shape. And you know what, all these things are indicators. You can

**Bret** 1:08:58

look at a person on a subway, and you can tell whether they're from, you know, they're from Europe, they're from Africa, they're from Asia, and Which part? These things are detectable. And we all know it. And the point is, they are proxies for relatedness. They're not perfect, but they are proxies. And the question is, are we going to get past using these indicators to figure out genetic relatedness and decide who is our ally? Or are we not? That's the question. So is melanin important? mechanistically? Probably not very, is it important as one of the components that people use to recognize kinetic distance? Yeah, it's very important, but that's not the same thing as data that suggests it's an important molecule.

**Heather** 1:09:47

Yeah. Keep at it, folks, what are your thoughts on Nick lands, philosophy accelerationism, and its subtypes and or Mark Fisher's capitalist realism. I have no thoughts on any of those. I don't know what any The more

**Bret** 1:10:00

well accelerationism we know that one, I don't, at least not yet. Basically, it comes down to if you want to make things better make shit worse faster. Oh, that right? Yes. So this is a garbage idea in the modern era, because although it's true, nothing protects you from driving yourself extinct with this. And the fact is, we've got so many systems that are so powerful, that are so inter related, that driving things to dysfunction is very likely to create a catastrophe. So in some sense, if you want to fix things, you're obligated to do it without taking apart the system on which we are all depending, I mean, the simple fact that more than half of the human population is present. Because of the haber Bosch process, which has taken inorganic nitrogen from the atmosphere and made it biologically available in the form of fertilizer, which then creates foods that we eat You Are you ready to take responsibility for disrupting that process? Right, you can't. So accelerating dysfunction is an insane idea and 2020.

**Heather** 1:11:11

So let's get through just a number of comments here that we won't have a lot to say about. I don't think let's get through three more questions here. I think with that one, how would you write a character like Wolverine for Marvel Comics without violating the laws of senescence? Love your content, keep it up? So I will admit, and I'm not maybe you know, more than I do, but I also just just don't know enough about Marvel Comics, or that character to say anything smart about it. I really like I really know almost nothing and not not because I have right because I yeah, unlike say Disney Princess land, which I am resistant to. I'm not resistant to marvel universe just haven't gotten there.

**Bret** 1:11:54

If we had male children we'd know more about

**Heather** 1:11:58

I don't know why they haven't forced us. Yeah, I mean, I guess. Did we watch one movie? Maybe? I don't know. I don't know.

**Bret** 1:12:03

We could probably we should probably figure this out. But I suspect Wolverine is in some way immortal.

**Heather** 1:12:13

Exactly. Everything about Wolverine.

1:12:16

Nothing. Wow.

**Bret** 1:12:18

You will if you have male children.

**Heather** 1:12:21

Okay, so our 16 year old producer does not know anything about Wolverine absolutely nothing we can call Toby and our 14 year old he might know so my 16 year old knows that the 14 year old knows nothing which sounds just like a big brother does it? No, it does. This has gone. Weirdly meta. Okay, okay. Have you already discussed the Philadelphia statement? that this has happened? I don't know. I we don't know what

**Bret** 1:12:50

to do. I will know what that means. Yeah, I

**Heather** 1:12:54

fell in Philadelphia. Your dad grew up in Philadelphia, you went to Pennsylvania, you've got so many friends in Pennsylvania. I don't know what it is. Sorry. Okay, it's x. looking it up.

**Bret** 1:13:05

We will go on to the last one. I feel I did actually encounter this earlier in the week.

1:13:09

Okay. Stand up for free speech. I

**Bret** 1:13:16

haven't looked into it been too busy. Sorry. I feel like we've fallen down on our responsibility as it is. But you know,

**Heather** 1:13:24

no, but there I mean, there's a lot of there's a lot of diversity of things coming at us here.

**Bret** 1:13:30

Hopefully somebody will ask us about the self destruction of the Columbia marching band because that I feel qualified to.

**Heather** 1:13:41

Okay, how about this? We're gonna answer two more questions here. And, or maybe, and then you will riff a little bit on the Columbia marching band. They will find one more to answer today set myself up for that now. He did. He did read the New York Times article, your Coronavirus test is positive, maybe it shouldn't be. It makes a case that 85 to 90% of cases aren't contagious and don't need to isolate that this isn't major news suggests that we're in a dystopia. So that's a weird headline. I have not read it. I can imagine what the argument probably is. I mean, given that you what what this person says the argument is, does not mean that the test shouldn't be positive, but that we should be understanding that there are gradations of, of basically variance. And that actually, there's a piece we didn't end up talking about today, a new piece of research out that suggests that actually mask wearing is even more effective than we thought. Because it actually and we've we've talked about other versions of this before but that people who are wearing masks and people in places where everyone or almost everyone is wearing masks have not just lower rates of transmission but much lower rates of hospitalizations and and really bad cases of the thing. And so this has to do with the density pendants the viral load argument. And so probably this is related to that, that many people who have have a mild case, and then a mild case effectively acts like a kind of inoculation so that you end up with immunity that the headline I saw suggested that you get immunity from mass, which is an insane headline, you don't get immunity from masks, you may get inoculated such that you end up with a mild case such that you don't get you aren't infected. But again, because you are wearing a mask, but not because the mask itself conferred immunity. Yeah, I don't know more than that

1:15:33

well.

**Bret** 1:15:36

So I worry about this sort of conclusion. Because this is so politicized, people are looking for anything that pulls in their direction, and they are not being careful about how strongly it pulls in their direction. So what I worry about is, it is probably true, hey, the tests are garbage. And false negatives. And false positives are so common, I mean, especially false negatives, I would say that it's very hard to say what these tests do. And because we don't have really good tests, it's hard to test other tests for what they're actually implying. But the concern I would have is that infections go through phases, and that they are highly infectious, it's some limited for some limited span in the middle. And that therefore, you would find people who still test positive either side of that highly infectious phase. And you might say, Aha, their test was positive, but they're not infectious. But the point is, if everybody who has the infection goes through a period in which they are likely to infect others, then it is not true that because your test is positive, it is misleading. The point is your test is indicating that you have an infection that goes through a stage at which you are capable of infecting others. And that's you know, a we know this, right? This is, this is presumed that you are infected with the virus. But there are periods in which you're liable to transmitted to others and periods when you're not. So anyway, I feel I'm rambling, but the fact of a period of high transmissibility and the fact that you have the virus that has that period are consistent with a positive test. Maddie you're making it a little bit hard to concentrate

**Heather** 1:17:29

on trying to encourage her I think she thinks we've been on air too.

**Bret** 1:17:33

She may be right about that. All right, I'm gonna I'm gonna just do

**Heather** 1:17:37

one more question there one more question and then and then we're off then we're off no Columbia marching band. One more question. What is the evolution of hugging? How far back the evolutionary tree does it go and what is its function I miss it hugely these days. Thank you for the great podcast format. I miss it to a lot I mean, we we are tactile creatures and and this is this is very hard. From a tactile perspective,

**Bret** 1:18:04

well, tactile and a bunch of other things to the fact that outside you're wearing masks, which blocks a whole bunch of

**Heather** 1:18:11

so much sensory data are missing data transmission and all that.

**Bret** 1:18:16

Yeah, and just the simple fact even even if you take out the other thing is that you're looking at people and if somebody coughs you know, you have the sense that they are hostile force. Yeah. And all of this. So what is the origin of hug him? And

**Heather** 1:18:31

I think Well, I know I mean, we know that at least chimps and bonobos hug and actually fronds devolves most recent book Mama's last hug is about a an old chimp who upon having her former friend trainer, I'm not sure what person human come back to see her as she is dying many, many, many years after they have ever seen each other. Through her sort of dying eyes, she sees him and lights up and reaches out to him and hugs him. And there's there's video of this and it's, it's extraordinary. Yep. And it you know, is it is in that book, it does the service of discussing the prevalence and depth of emotion in non human animals. But it also reveals that, you know, hugging is, and we see this between between chimps between bonobos, I think between gorillas, yeah, I don't know. orangs are at least on I think Borneo solitary. And that's where we know most of our online behavior from so they're less solitary elsewhere, but I don't I don't know if they hug. Yep, Gibbons probably at least hug their pair bond. Right. So given this, there's

**Bret** 1:19:38

certainly room for it.

**Heather** 1:19:42

I don't know all primates do a lot of touching.

**Bret** 1:19:44

Yep. But I would also point out Yeah, this is tangential to your question, but I find it so compelling that I think it's worth introducing the fact that there are numerous examples of great apes in captivity, especially gorillas, maybe it's all gorillas who have had a relationship with a cat. Right? Yeah, that these relationships make sense that a domestic cat is wired however it occurs, whether it's in the genome or just simply through observation, to treat relationships with apes is normal because people are apes, you know, they just simply do it without thinking. And that a gorilla for whom presumably, having a pet cat would not be normal, nonetheless, gets the same thing out of it, you know, we humans do and that these bonds form so easily and you know, so it's not so crazy to see a, you know, gorilla holding its kitty cat, right suggests something about, you know, the, the universality of these things, and therefore, the ancient pneus of the behavior patterns in the apes, you know, because we're separated from gorillas by I think, 10,000 million 10,000. Man, it must be the smell. Yeah, yes. 10 million years. So anyway, it's a very ancient pattern. It covers at least most of the great apes back through gorillas. Yeah. And possibly farther. And, you know, that that suggests, you know, we've basically not answered your question, but I think at some level, the answer is that the emotional charge you get from hugging is valuable for the obvious reasons, and that that particular mechanism has a long, probably unbroken history that goes back 10 million years is pretty, pretty fascinating. Yeah,

**Heather** 1:21:46

no, that's that's right. All right. Well, this was a weird one. Yes. Sorry, guys. Here we are at the end at the end. We will probably be back on Tuesday. Today.

**Bret** 1:22:02

We are not coming back on Tuesday.

**Heather** 1:22:04

We are probably going to be back on Saturday. Certainly. At which point I think it will have rained here and perhaps our brains will have returned somewhat normal. I can hope that will be marveled. Wow. Yep. Please consider joining us at our Patreon to get access to the discord server or join line to access the private monthly Q and A's like, subscribe, comment all of that.

**Bret** 1:22:34

And, you know, be well and if you're not, if you're not on the west coast, enjoy breathing on our behalf. Yes. All right. Well, everyone