Your Questions Answered - Bret and Heather 77th DarkHorse Po...

Sat, 10/9 12:12PM • 1:42:37

**SUMMARY KEYWORDS**

question, fact, vaccine, point, misfit, good, cats, idea, lineage, sex, problem, race, species, means, effectively, unicycle, tickle, sense, people, mammals

**SPEAKERS**

Bret, Heather

**Bret** 00:12

Hey folks, welcome back to the Dark Horse podcast live stream 77 named after the talking heads album. Yes, my correct it was a talking heads album 77

**Heather** 00:27

I think so. Yeah, I think so. In fact, one of the well my computer just went black. There it is. One of the comments which I, Where is it? Where is it? I can't find anything in here. Sorry if someone pointed this out already one of the Super Chat question comments. Sorry if someone pointed this out already. I'm late to the show. Technically, this is your 16th palindromic episode and I'm going to object to this hi friend. On the basis, the way that this is the 16th is if you count one through nine as palindromes.

**Bret** 01:10

Right, that's like one being a prime which it isn't

**Heather** 01:12

this is exactly this is exactly where my brain went. I don't think one and three and six count is palindromes because they're just singular. And in order to be the same backwards and forwards there needs to be something interesting about that fact. So you know, a the word palindrome I cast, but how an interesting so yes, technically right? But I'm gonna stick with my seventh seventh palindromic episode.

**Bret** 01:37

Yeah, I think that's Yeah, that's better. But I know

**Heather** 01:41

I appreciate I don't I don't feel like that's a that's a pedantic comment. I appreciate it. I just I just rejected where I wish we could so well, the camera we got two really adorable cats in the window.

**Bret** 01:52

We need a mirror. We could hold the mirror over here. Nah, we're good.

**Heather** 02:00

Yeah, there. Yeah. cute though. Yeah. Nice. Nice. High quality cats we have. Okay. First question. We have three questions from last week's episode then a question from the discord and then we'll embark on the questions from this week the first one so have you been still using the electric unicycle? And what kind of electric unicycle are you using? Whoa,

**Bret** 02:26

I know they're taking up I've seen two in the last week in Portland was months before I saw anyone else I

**Heather** 02:33

want different ones because you could tell the models were different Yeah, I think they I was with you when you saw one of them and the guy was wearing a full face helmet so you can't necessarily be sure it's not the same guy but different different unicycles Yeah, men in both cases. Yeah, it's

**Bret** 02:49

pretty much always men. that'll change but

**Heather** 02:52

holding their beer

**Bret** 02:54

off camera. You know, the thing is, there is a way in which men are a certain degree expendable and electric unicycle isn't let's say all that save it's safer than one wheel but

**Heather** 03:06

he says to the mother of the two boys will be his introduced to electric unicycles it's true expendable, you say

**Bret** 03:14

yes in a man. I mean, you know that the boys would have electric unicycle under the family rules about what they are not allowed to damage including their their brains, their backs their eyes and three organs. Yep. Yeah. So you know, it's not to say they could and they are nothing if not rule follower. Oh, goodness. Yes. Well, now there aren't especially rule follower. They follow. They

**Heather** 03:36

follow the good roads rules. Yes. I mean, this is something we wrote into our book. We taught them as we hope that all parents teach their children to honor good role, good rules, and assess whether or not the rules that they're being asked to follow are in fact, good ones. There is room for disagreement as to whether or not some rules are good or not. And that is where the nuance is.

**Bret** 03:56

Yes. All right. I'm struggling with the the underlying question here The question was Have I been electric unicycling, and I really haven't that much I did get on the electric unicycle. A week ago or so. I found that the I forgot to think about the fact that the tire would be at relatively low pressure, it was too mushy. You didn't pump it up before you know pumping them up is a bit of a pain. And it didn't occur to me until I was already out. I will say on electric unicycle unlike every other mode of conveyance that has inflatable tires that I know of the tire pressure, spectacularly changes how it is to ride the thing. If you pump it up with a lot of pressure, they become very squirrelly. So it's something one wants to do, thoughtfully.

**Heather** 04:47

That's the hole. There's only one point of connection to the ground. Yes, exactly.

**Bret** 04:51

So yeah, I have an InMotion v 10. It is is marvelous in many regards. We shouldn't mean some

**Heather** 05:03

number of people aren't going to know how we're taught. So you keep going. I'm gonna Yeah, as you you will know better than I want to pull up.

**Bret** 05:12

No, just bring up a picture. Here. You talk, you bring up a picture. Yeah. Yeah, I was actually gonna do it. Alright, so I have so you know, the key things are, what, what company did you buy from, which has a lot of implication for how safe these devices are. So in motion, I would say as the go to, for people who put safety at a high priority in motion seems committed to the idea of not pushing each machine to the absolute limit of what it's capable of. And thereby What you don't want is something called a cut out where the power suddenly drops to zero because the motor can't keep up with the demand. That's a very dangerous phenomenon.

**Heather** 06:07

So pitching for it on your face is not the fun part of electric unicycle and no, it is not.

**Bret** 06:11

So you want a company that wants to be around and therefore not be sued. And in motion seems to be that company for the moment. gotway is the if you want to milk the absolute maximum performance out of one of these things, that's the go to, but it's, you know, I'm too old for that. But anyway, I would say, if I was going to thinking about getting one, the problem is the money, they're not cheap. But if I was thinking about getting one I might get the newer in motion with suspension on bicycles. I'm not a fan of suspension at all. But on electric unicycle where you have one point of contact, and a speed bump can send you flying. The idea of some shock absorption is a pretty good one. And that's a very capable unicycle that people seem to really like so

**Heather** 07:03

hizack is the video that you made at the end of middle school. still available? Have you and your brother on electric unicycles? Actually, it's

**Bret** 07:13

not a bad idea.

**Heather** 07:14

Yeah. When so when you were finishing eighth grade, and Toby was in sixth. Filmed almost entirely when we were still in Olympia. Yep. Right. So anyway, we we linked to that or Yeah, yeah, maybe even show it in another time. Yeah, I think we have time right now. All right. It's terrific. And it shows it shows off also, some of your then nascent video production skills. Yes. And this and it was a music video effectively. What was the song you used?

**Bret** 07:42

There was a Weezer song. Yeah, sang about summer.

**Heather** 07:49

Yeah, and you got you

**Bret** 07:51

a lead singer of Weezer was tickled by Zach's use of of their song gave us permission to put it on YouTube with the song and said he was a fan and next time they had a concert in Portland, we should we should come see it and then COVID and there hasn't been a concert. But anyway, that's where it is.

**Heather** 08:21

Okay, well, you've become much more expert at production video production since then. Next question,

**Bret** 08:29

yes.

**Heather** 08:30

Is there any data on how the bats are handling the corona? I don't think so. I haven't seen any

**Bret** 08:37

no but i mean it's it's also the bats have their coronaviruses and we don't give it a second thought. There's nothing new as far as we know I'm going on with bats and Coronavirus. They're just having their usual interaction with it which is presumably ancient and there are many different strains and you know, it's only our awareness of the bats interaction with Coronavirus is only you know, we didn't know very much until the first SARS covi and now SARS Coby too. But anyway, yes, I would imagine the bats are doing exactly what they always do with it. Which is live with it. You know, I mean, yeah, what is that they have pretty stuck bats as a group as far as we know. Yeah. They they do a certain amount of complaining but it's a lot of it's ultrasonic. Yeah, yeah,

**Heather** 09:31

true. Next question. Your talk with Brittany King reminded me of a saying I often use we're all reluctant soldiers in a war that none of us started but which we all want to end. On that same note, have you ever seen Kingdom of Heaven? I feel the line quote, we fight over an offense we did not give against those who are not alive to be offended, is highly relevant about the current culture war and the US relations with Russia, North Korea etc. Much Have hashtag heal the divine?

**Bret** 10:02

That's really interesting. Yeah. Yeah. Fantasy Kingdom of Heaven just announced it. I haven't seen it either. But I would say, in some ways, yes, this points to an irony of being drafted into a battle that is so old, that nobody around was there for its beginning. And on the other hand, the nature of evolution is one of lineage competition. And so in some sense, we are always drafted into battles that nobody around was here for the beginning of because we are, you know, the current cohort in an evolutionary conflict between things that are almost impossibly ancient. Anyway, so we should look into it.

**Heather** 10:51

Yeah. Can okay this from the discord this week, the same people who are very vocal on trans rights also tend to be very dismissive of parentheses, not opportunistic, self identification as black by some white people. Considering that unlike gender, race has very little basis in biology, shouldn't they be more open to such self identification? If anything, what's the catch? And the question doesn't allude to it. But of course, Dawkins, Dawkins lost an award given to him 20 years ago, I think, by the owners of the American humanistic association or something. Because he basically tweeted this, this observation. He just put these two observations side by side that we're not allowed to, to engage the question of trans racialism, but we're obliged to accept transgender as discuss.

**Bret** 11:47

And this rears its ugly head with some regularity. I'm trying to remember back in 2017, there was an academic who published a paper on this issue and found herself canceled over it. I'm trying remember who that was. But in any case, first of all, I do want to correct one thing. The eye gonna see. Yeah, you do know exactly what to say. The idea that race has very little basis in biology is both true and false. The implication of it is false. What we call race is the bastardization of a. So I thought it was, yeah,

**Heather** 12:28

Rebecca to Val in Hypatia route in defense of trans racialism back in 2017.

**Bret** 12:34

So, what we call race is a bastardization of a real thing, which might be called population or lineage depending upon how, what scale you want to look at it. And it is a bastardization that is itself born of racism. In other words, the idea of race is a weaponized version of an objective concept. That said, the objective concept captures if if we talk about whether or not you can correctly detect somebody's ancestry when you encounter them, you know, on the street, in general, we're pretty good. And the problem is, you can't tell what fraction of somebody is from Africa or from Asia or Europe. But you can in general tell that, you know, if somebody is predominantly from Asia, it's not hard to recognize that and that's not your mind tricking you that's actual phenotype derived from genes that come from a different population. Some of that's going to be adaptive skin color, is an adaptation to UV radiation. And the darkness of skin is an adaptation to how directly the UV radiation comes through the atmosphere. If it comes through at a big slant, you don't need very much melanin to protect you. If it comes in very directly because your ancestors are from the equator, then you need more melanin to insulate your genes from mutation. But in any case, the the real reason that we do apparently take seriously the idea of switching sexes, which is not something that one can actually just simply elect to do, it's not possible. Whereas we somehow bar the very same concept when it comes to, to race even though at some level, that's much more plausible, because lots of people exist between races by virtue of hybridization, and therefore how you identify we all agree is to some degree up to you, right? And the problem is at the extremes, we don't agree with that which is inconsistent. But in essence, it goes back to what we were talking about in the first hour podcast, which is that effectively the rule the unwritten rule of this game is we will accept those things that put people we decide should have an advantage. advantage. And we will reject the very same logic when it would give an advantage to people that we don't want to give an advantage. So this is basically all about logical treating. And that's the reason for the inconsistency.

**Heather** 15:11

There's so much to say here. Just a few things to add. We have two words, over in sex territory, we have sex and gender. And there are a lot of people who are saying gender isn't real, it's a totally made up thing. Now, as we've said, over and over and over again, gender is real gender is and we have slightly different versions of this understandings of what it is. It's called sex roll. When it's not humans, it's the behavioral manifestation of sex. You know, sex and sex is binary, and in all species with genic sex determination, which is to say, if you have sex chromosomes, as mammals do, and as birds do, and as some other clades do as well, immutable, you cannot change sex. There are species that can change sex clownfish. Famously, it doesn't, it has not happened there appears to be a mechanistic block on it actually happening in species which is text or termination. So in the species that are sexual, as we are 500 million years of uninterrupted sexuality in our lineage alone, we use the term gender to describe basically the software part of sex, and that's more the language that you tend to use the sex is the hardware and, and genders the software sex. Yeah, and, and gender will be a lot more fluid, your gender, sex is binary gender, you're likely to be strongly bi modal, but it won't be it won't be binary. And given the complexity, given how many things go into describing how it is that you're manifesting in the world, it shouldn't be shocking to us to recognize that sometimes people's internally understood sense of what their sex is, is a mismatch for what sex they actually are. And so we call them trans transgender, right? Interestingly, you know, race does not have two sets of words, right? Like, you know, so race is a deeply imperfect proxy for a real biological phenomenon, which we call as you say, population or lineage. But maybe precisely because there are real fundamental differences on average, between the sexes. And while there, presumably, are some differences between races, they're much more vague and in code and much more mixed, because we have a human history of all sorts of intermixing. Yeah, right. Like, we all come from an equal number of male and female ancestors. But each one of us with the exception of the very, very rare people who are intersex are one or the other. And we all come from, you know, a mother and a father. Whereas race is a Messier proposition, right? So you know, you could, you could say, you know, what I'm going to honor you know, someone, someone who was, who was, who was biracial, could say, I'm going to honor my, you know, German lineage as opposed to my Afro Caribbean lineage in this thing that I'm doing. And I'm going to identify more over here that they weren't like that, that's it, that's a choice is a legitimate choice that people can make. But what we don't tend to allow is, I know of no thing in my particular history that is Asian, but I'm going to call myself Asian. And I think, why would we? On the other hand, it does, it becomes confusing, then at the point that we say, but you can do that when it comes to sex. And maybe it's more obviously a problem for those of us who are thinking deeply about this precisely because lineage is real. Do you know for sure, you don't have any Asian in your past? How can any of us know right, you know, or Native American or African or, you know, we all have African in our past, but it depends on how far back you're going. Right? So. So the race and sex are just fundamentally different. And they're not fundamentally different? Because race is entirely a social construct and sex isn't, which is the place that you started? Yeah, they're fundamentally different, because we all have male and female ancestors and we all are one with a tiny number of exceptions people who are intersex, whereas race is this inter interpolating, you know, often retro aggressing set of lineages, the differences between which grow more and more, less and less distinct, the longer we move into a globalist society.

**Bret** 19:45

Absolutely. Interestingly, I think, you know, the one drop rule is an attempt to take race and make it binary, which it is inherently not because you can have effectively you know, any ratio of races and our sense of. So you have a continuous variable that is race and we have a racist past of attempting to make it binary. And we have the opposite thing taking place in sec space where we have something that is inherently binary. And you have this force attempting to make it continuous. And the point is, okay, those are actually mirror images. Yeah.

**Heather** 20:29

You've revealed that you're not working with logic. Yeah. That this is entirely ideology based.

**Bret** 20:35

Yeah, you're cheating. Logically speaking, yeah.

**Heather** 20:39

Okay. Begin with the questions from this last hour. And the the first two were just comments. Heather, I support what you said at the beginning of the show regarding not understanding. I know what you mean, and I'm so sorry, prayers for you all. If you're an atheist, you can currency convert those prayers to thoughts without any worry of offense or discomfort. Thank you. been watching since you guys started, this is an overdue. Thank you for your intelligence and Sandy during insane times, you're consistently therapeutic. Thank you as well. Next question. People fight a lot of ideas, especially what is reality? battles over ideas could just be metaphor, but maybe mental weapons and defenses evolve, just like tooth and claw? It's a jungle out there. And in here, your thoughts? Thanks.

**Bret** 21:33

Yeah, that's a good one. I think there's a reality. And there is an overextension. So the reality is that the different belief systems are proxies for lineages. And so lineages with differing views of the way the cosmology of the universe works are in battle. And often they will fight as if what they're fighting over is the analysis of how the universe works. But in fact, what you've got is lineages battling each other. And you know, you wouldn't be confused if they were, you know, battling troops of monkeys, you would know that it wasn't about belief system. But we do get confused because humans espouse belief system in the context of these these kinds of battles. But the other thing is that, when we argue, very typically when so if we argue between populations over, you know, which God is for real or whatever, that's one kind of disagreement is a whole different kind of disagreement when individuals who are part of the same lineage, fight over what's true, right, whether they're talking at the level of metaphor, or whether they're talking at the level of fact, there is a battle in which everybody has an interest in the superior idea winning, right? And a superior idea can mean the most effective idea rather than the most true idea. But the point is, there's a question of whether or not you're on the same team, and this is a battle over, you know which foot to put forward, or whether you're on different teams competing for space. And you don't want to confuse those two things because they really are fundamentally different. And you know, there are mixtures, right, you can be battling for a position in an organization and deploying arguments, therefore as an antagonist, but in theory, you and the other person that you're battling with, both have an interest in the organization prospering, because you're both tethered to it. But allowing for all of those nuances you do have is this a collaborative battle dialectic, some people will remember me invoking dialectic, oddly, as I was confronted by mistaken, confused students in the hallway at evergreen. dialectic is about battling over ideas where the objective is to figure out what's true rather than to win and then there's debate which is the version where you want to win irrespective of what's true, and those two things look alike but they're very different.

**Heather** 24:12

Very good. I got the first Pfizer shot saw the gvb podcast have I already fucked my innate response and if I don't do shot to my adaptive to I'm 30 healthy I only did it for employability and travel. Seems good to say no thanks government if the vaccinations per variant starts. Yes. love y'all.

**Bret** 24:39

Yeah, this this is a tough one. And the fact is we are increasingly often asked people will give us the details of their life, they will want advice on whether or not to be vaccinated what vaccine they might prefer all of these things. And the problem is, this is just impossible. Right? We can, you know, give you a guess based on what we understand, but what we know for sure is that we don't understand enough. In fact, everything that we have said about the potential hazard of these vaccines is predicated on the fact that we simply couldn't possibly know anything about their long term.

**Heather** 25:13

outcomes. Exactly. So I mean, apropos of that, with no, with no direct response to this mix, we can't know. I was reading an article. I don't remember what it was published a peer reviewed article on risks to pregnant women and their babies from COVID. And, in response, the sort of the, the media coverage of that article was, therefore, states and other jurisdictions should be putting pregnant women on the priority list to get vaccinated. And yet, so let's add, it stopped doing the analysis at the point it started promoting vaccines. Yeah. And I think the risks to mother and baby from COVID are potentially very high. For sure. We and we've, the data have begun to come in. I think that the risks to mother and baby for these vaccines are likely to also exist and perhaps be very high, and we have less access to those data, in part, I think, because they're being politically tamped down, not because they don't exist is I mean, it's also going to be a much smaller number of, of people, you know, pregnant women who have gotten who have gotten vaccinated. But um, you know, we got asked, we got asked a question like this a number of weeks ago about, you know, a couple, she's pregnant, and they were due to get their shots, and should they? And I think, you know, maybe for the last time, because I think we really, we really can't be giving individual advice like this. But you know, I said, if it were me, if it were me, and we were in a position where we felt like we're ready to go ahead with the shots, and I was pregnant, I would, I would encourage you to continue to do what you were already going to do. If you already do it, get the shot. And I would, not until until after the baby was born. And I would just double down on all of my efforts to absolutely 100% not COVID. It's, it's a, it's a, it's a terrible disease, and we and it's unknown what all the effects will be on, on gestation, and apparently, preterm births are the thing that we see an uptick in, both, both for pregnant women who've gotten COVID and pregnant women have gotten the vaccine. So you know, and you maybe that's a surprise, because the vaccine is gonna in some ways mimic what the what the diseases?

**Bret** 27:52

Yeah, it in some way mimics it in some ways. It doesn't. And it's, it's a situation in which one wants more information. And one also wonders what information that we do not get Yeah. But I would point out that the danger of a world in which the powerful believe that they are entitled to decide what the facts are, and that they are obviously rationalizing that they take facts that point in direction they like and elevate them, and they take facts that are inconvenient, and downplay them, runs every risk that when you know, if they've doubled down on these vaccines are safe, everybody should get them, we're going to force you to get them all of those things. And then it turns out, actually there were hazards they didn't anticipate, how likely is it that we will get an honest accounting of that, because effectively they have put their reputations on the line being way too certain. And to clear about that safety? And they will, they will, I can tell you what they will say to themselves is that our ability to get people to listen to our advice in the future depends on them not finding out that we were wrong in this case. And we can all infer on the outside that that will be their approach because that sounds like people covering their asses. And so then the problem is, we have to account for the fact that we don't know what fraction of what we should know we are actually hearing right. So anyway, the whole thing requires us again to to go back to what we talked about in the earlier part of the podcast. Effectively, we are going to be forced to rediscover the value of a university system where people are free to say really inconvenient things and to establish that they are true in spite of the fact that powerful people don't want them to be right. That's a very expensive lesson to learn.

**Heather** 29:55

Yep. Next question. Hi Breton. Heather. I I'm trying to get a master's degree in some field of psychology and I can't tell how far gone the schools I'm looking at have gone into wokeness? Do you have any recommendations for judging a school's work level on a scale of one to 10? Well, if you've been watching us, you know that Brett prefers a scale of three to 17. So let's start there.

**Bret** 30:16

Right? Well, you should try that scale on your school of choice, you should just call them up and see what they think about such a scale. And that might tell you something, they won't like it. They're not gonna like it now. Okay. Well, I'm going to take that personally, go for it. Yeah, it's very, you know, I don't know, somebody probably ought to be cataloging it. output from these various organizations, one thing you can do to the extent that you might not be in a position to fight back, you might be in a position to anonymously forward communications from whatever department,

**Heather** 30:54

you will know, but this person is trying to figure out where to go, right. But

**Bret** 30:58

my point is maybe what we need, and it doesn't help this person, but maybe what we need is a repository where you can say, Well, alright, you how many, you know, what have we seen from the University of Wyoming's mathematics department? And then you can get a sense for whether the, you know, it's leading the charge in the direction of wokeness? Or if it's reluctant about it, or it hasn't said anything at all? that that would be a useful kind of information to have. And as far as I know, we don't have any access to it.

**Heather** 31:28

Yeah. Yeah. The, the unfortunate answer is we don't

**Bret** 31:35

you know, you know, I was just wondering what would happen if you called up and said, I'm interested in joining your program, I'd like to know what, what your approaches to diversity, equity and inclusion, and then just let them tell you,

**Heather** 31:52

well, that we but the problem with that is a you call up as yourself, and you're basically in the system. Now, as someone who's asking, oh, I wouldn't do that. And very soon, you have to be anonymous, or have someone else call on your behalf. But I think actually, the bigger question, the bigger concern is that, as we have seen, over and over and over again, as you, as you mentioned, actually, in the first hour, today, you engage with people just on the street, in retail, circumstances, whatever. And at this moment in time, pretty much everyone is just giving you the standard, the Standard Flat responses, no one is having real human interactions. But you, you know, you slip the veil a little bit, you know, you indicate that actually you don't think like everyone else does. And people are pretty quickly willing to let that slide. But now if you're talking to the program secretary, or the dean or the chair of the department like that, they're not allowed to do that. And yeah, so I don't I don't think you can possibly get the truth that way. I don't know how you do get the truth. And I think you want to, you know, I think basically everyone is gonna have the same garbagey like de Dei, diversity, equity, inclusion, stuff up on their webpage isn't all. But it to some degree, the advice that we used to get and give as graduate students, and then encouraging, sometimes students to go to graduate school themselves, was right, but this isn't this is more specific, which is the talk talk to graduate students in the program already. The problem here is that you need to figure out who among the people who are already there is not so scared or so woke, that they won't be able to say something to you. That's real, but really, you know, talking, you know, going to say a lab meeting of a professor you want to work with and then talking to one or two of her his graduate students to find out if they're actually good to work with, still not bulletproof in terms of an approach, but it's it gives you much more of a sense than just than just getting the dog and pony show that the departmental put on for you.

**Bret** 33:57

So unfortunately, I think what we are discovering and trying to talk ourselves into the idea that there's some solution is that what we have is an especially pernicious problem that a culture of fear means that the information that you are entitled to have about how this question is viewed inside a department where you're planning to go spend an important part of your life and submit to their judgement of you in some sense, that information is going to be impossible to come by, because those who know may well be too scared to say and understandably so. So yeah, I don't think there is a good solution.

**Heather** 34:35

One one thing maybe, is I don't know for sure for master's degrees, but I think all of the post baccalaureate degrees have theses of some sort. And so looking and and most departments also we'll have a site that lists that just has links to all the recent theses or dissertations. Look into those. And just like reading the abstract and some some departments will skew heavily what In terms of theses, and again, not perfect, but that might actually

**Bret** 35:03

it's noisy. And what you really want to know you can't know, which is which people threw their hands up and left or were driven out, because they would have delivered, right. But

**Heather** 35:14

that mean that goes in the right direction that like that, that skews in the correct direction, because you'll have a higher concentration of woke and woke Jason theses. And you notice steer clear, yeah, but the problem is in the right direction in terms of figuring out what the data man,

**Bret** 35:29

I agree, it goes in the right direction. But it's very hard to interpret across a small number of theses, how many are, what the degree of pressure is, how open to something else the department would be?

**Heather** 35:43

It can also, I think, also potentially can help you decide between advisors. Because I mean, really, this this stuff is so much in the hands of individuals, and even at the work of schools, there are people who aren't you know, there are faculty, there are professors who are trying to do right, and who are continuing to mentor students in the way that they want to mentor them. It's harder and harder for them. But

**Bret** 36:06

yeah, and the alternative is

**Heather** 36:11

good.

**Bret** 36:12

It's not No. I don't know. I mean, that Fortunately, I was cryogenic suspension, trying to wait this out. But the problem is this

**Heather** 36:23

person is applying to grad school. They don't they don't have the money for cryogenic suspension.

**Bret** 36:27

Oh, you're right. Yeah, you're right. Well, I mean, do you have a freezer?

**Heather** 36:32

I do. But ice he can't put his head in our freezer.

**Bret** 36:36

You're cutting off his head now. He's cutting off his own and I think he's gonna go to grad school on the far end of this. I was thinking maybe he'd go with whole body cryonics. But you're right, he I'm sure he doesn't have the money.

**Heather** 36:48

Yeah, I'm glad we could be of help.

**Bret** 36:53

It's a real service, we prefer. Sure.

**Heather** 36:58

shoguns demeanor in the initial video made it easy for the jury to convict. This was a case of our feelings, don't care about your facts. The Hill, the defense had to climb to overcome the court of public opinion was simply insurmountable. And then the next next one is on the same topic and similar. Can you read the judge's instructions to the jury? He covered many of the questions you're concerned about?

**Bret** 37:22

I have looked at them. I can't say I've read every word. But he did. But it's a question of what the jury sees and how they interpret the the judge's instructions in light of what the outer context is, right? So, you know, what do you do about a president who is pushing a jury towards a conviction, especially when they weren't sequestered? Right? Right. And they was right, you know, in the jurisdiction? I mean, it's, the whole thing is crazy.

**Heather** 37:57

What are the evolutionary origins of hugs and kisses? Whether romantically or platonically? Why would these particular gestures be tied to oxytocin production? I have my own hypothesis, but I'd love to hear your thoughts.

**Bret** 38:09

Well, it's like

**Heather** 38:11

it's 18 questions.

**Bret** 38:13

Yeah. So how does in kisses are distinct in one way that I think is pretty important. I'm not just talking about technique, frankly. Oh, no. No, the here's the distinction when you hug somebody, right? There is a point you go through this, you pass through this very close, intimate contact, where you are looking at each other into around what you can't see each other at all, you specifically can't see each other. Right? And so

**Heather** 38:54

I'm sorry, I just didn't expect us to go to YouTube instruction manual. I said.

**Bret** 38:58

Well, sure. Yeah. But anyway, my point is, okay, so imagine that you are watching a false hug. A hug that somebody doesn't mean, right? But that is necessary is performative is meant to

**Heather** 39:11

have no idea what you're talking about. Yes, everyone, everyone knows that CSS, everyone, everyone has been brought into such a situation at some point,

**Bret** 39:21

but imagine you're watching somebody who's being false in their hugging in that they approach the hug looking like they are, you know, on the same page, and then at the point that they are looking over the person's shoulder, they roll their eyes, right. Okay. That's a pretty interesting phenomenon, right? That the fact of this extremely close contact, but the opportunity for deception, right? You're looking at me like I'm not even making sense.

**Heather** 39:52

No, you are I just occurred to me that you're going right to the deceptive hugs when we're asked what the origins of hugs and kisses are here. Let's talk about deception. Which is like it's like it's part of it. That's why I said this is like 18 questions. This is one of the questions that this could be

**Bret** 40:09

Yeah, look i mean it's it's this means that you know, maybe not a book but a pamphlet at least right? Because first of all, you've got a taxonomy of hugs and kisses, right? There's like romantic versions of these things, as he writes yet, and then you've got platonic versions of these things. And formalized versions and the what is conveyed is obviously a question of which realm you're in right? Like how much is conveyed right? So if you if we take the European kiss on the cheek thing, right, nothing can be conveyed right? It can be so formalized that it is just the simple fact of it happen Yes, you met this person on the street and this is one of the things that happens when you do yeah. But you know, like handshaking where the enthusiasm or handshake tells you something there is something about the formalization

**Heather** 41:07

well handshakes like heartless reveal intent at some level right like look I'm not armed look I'm not armed right like you can just you can you can tell this is this is no threat and obviously usually if it's potentially romantic that's not you know, you're not concerned about that, hopefully. But here, handshakes not think kisses not but hugs have analogs on other primates. For sure. And indeed it's not hugs exactly but we even see among our you know, our domestic animals you know, we have we have cats cats are solitary as adults in the wild, except for your one species basically lions and our domestic cats don't evolve from lions they're from San cats. You know, we've got these two guys who were not litter mates, but they grew up they were tiny and a feral cat colony together and they sleep coiled tightly around one another.

**Bret** 42:06

Yeah, which you often see with kittens and there's effectively permanently kitten I mean permanently at least partially kitten is the the domestic cat

**Heather** 42:16

that i mean it's it's it's akin to a hug you know, they was always I wonder so that's certainly among the primates it is

**Bret** 42:22

yes. The primate version is the cat version. Why do kittens pile themselves on top of each other? There are at least two reasons that have nothing to do with read don't inherently have anything to do with affection. One is heat and the other is schooling behavior. Right so

**Heather** 42:42

it probably half is like the data eaten if I'm together with this other guy.

**Bret** 42:45

Yeah, there's that and then the fact is kittens are smart those

**Heather** 42:49

carp circling you

**Bret** 42:51

right? Yes, I going back I feel more threatened retroactively than I actually felt in the moment but yeah, but cats as they are smaller, have a larger surface to volume ratio, which means that they radiate heat at a high rate and to the extent that he is a super high cost, like 85% of take of calories that are taken in by a mammal are used to maintain a body temperature. Well that's even worse when you're tiny. So piling on top of each other reduces the surface area that means that everything around you is putting out heat too. So anyway, it's an energetically efficient thing to do. Now our cats who were effectively getting this together and still pile on top of each other do seem to there does seem to be an affection to it. Right? I mean, one thing it often starts with like grooming and stuff. So it you know, it raises all kinds of questions about what they're doing. And obviously we have selected not only are we Kip nysed our domestic cats

**Heather** 43:58

not us in particular, but pupils with cats. Yeah, but we

**Bret** 44:01

have also cultivated affection from them that might not be there in a wild adult version. So anyway, yeah. So there's a question about what it means and whether you know, they are effectively picking up on our physical affection rather than augmenting inherent cat physical affection. I must say I'm a little bit thrown because I sometimes a hug our dog which I know dogs don't especially like it baffled. Yeah. fuses her which is part of why I think it's quite

**Heather** 44:38

amusing to you it is amusing Yeah, it's fun to baffle the dog and a

**Bret** 44:41

good hearted way Yeah, she likes it. She just isn't so sure that that's the best approach to

**Heather** 44:46

showing effect rolling the carpet with you with your legs in the air.

**Bret** 44:49

Yeah, something like that, or repat or whatever.

**Heather** 44:51

But so what about any connection to oxytocin?

**Bret** 44:56

Well, first of all things say about oxytocin is that It has the order of discovery of its effects has resulted in us all having kind of a wrong basic idea about what it is.

**Heather** 45:12

This is that mean that that is a general truth across, you know, like all domains, right the thing that it manifests and most obviously may well not be its most fundamental or important thing, but it shall forever after be associated with what like breastfeeding, I guess. But I don't even know what oxytocin is largely associated with

**Bret** 45:32

cuddling, breastfeeding, basically, you know, the love hormone. But the point is, love is one part of a puzzle. It's the in group out group hormone. So Love is the in group version and hate is the outgroup version. And oxytocin is involved in both. So

**Heather** 45:49

I mean, that's the case for so many of these things, right? Like, you know, serotonin prompts both the dominance and the submissive response in crayfish. Right,

**Bret** 45:59

right. Yeah, yep. So what to make of the release, I mean, really, the thing to say about all of this hormonal stuff is that hormones are just a signal, they are an agreement between source and receptor that this object means this thing, and it's like you put a light on the wall, and we say that that light means the buildings on fire, right? We can decide that light means anything, right? So there's nothing inherent about this molecule, that means anything it just happens at this molecule is one that has been used in the context of communicating certain things in group out group. And so we shouldn't be surprised to see it used there and elaborated there. But it's really not about the molecule or the receptors, it's about the fact that something needs to be communicated because of the kind of creature you are, and that this is the mechanism used to do it. So I feel like we have not fully answered this question at all, but

**Heather** 46:53

really hardly at all. yet. There's Thank you for the question. Let us think about a lot of things, some of which you had no interest us thinking about, perhaps? Brett, your stories of feeling like a misfit hit a nerve? Did those feelings hinder or help in your personal evolution? Please tell us more love the show?

**Bret** 47:11

Oh, yeah, they absolutely helped. They're just so liberating. And you know, for those who may maybe don't remember the conversation that this is alluding to, my feeling is misfit is a good term, because it's non judgmental, if you think about it, just literally, right? The fact that you are a misfit for some institution or organization doesn't say whether it's you who's off or yet who's off, and it could be both but but when I was dealing with students, and I took a special interest in students who were misfits, for one reason or another, my point to them was, you can embrace this category because it doesn't say anything about you. Right? It says that, in the context of this other thing that you maybe don't get along with, that there is a mismatch. But the, I think the problem is if you're not a misfit, and I think, frankly, most interesting people are misfits at one level or another, right, they're just an unusual type. Because in some sense, if you find the world a very easy place, right, if it just all fits, then you tend to default into the modes that it has established, and you become a familiar type, to the extent that you are a mismatch for something, you're forced to invent some mode that works for who and what you are. And so I guess the point, I was enough of a misfit for the systems that I was forced to interact with, that just doing what I was being asked wasn't gonna work. And the discovery that it wasn't going to work didn't leave a lot of choice, but to figure out something else to do. And so yeah, the net effect was liberating. And, you know, I wish more people The important part is the Liberty. It's not the misfit part. Right? So I wish more people had that license to figure out their own way.

**Heather** 49:12

But you were unusual, at least by your own telling, I didn't know you at this age, but in effectively from the moment that you were labeled by school as not worthy of it, of being certain that it was school who had gotten it wrong, as opposed to you who were fundamentally unfit for the world. And certainly most people don't don't start out there and many people don't end up there many people conclude that they are actually a wrong person. Yeah, and and not okay. And that, you know, they believe the, the lies being told them about themselves. And that was also many students when we saw it and many other people who we meet are Still wrestling with how to get through a lifetime at that point up, you know, up until whatever age they are have of believing bad authority authorities, who told them things about themselves that made it very difficult to become their best selves. And somehow you, you seem to have been resistant to that from a very young age. And figuring out how to be resistant to that, I think would be extraordinarily useful for most people. And I don't I don't have clarity on how that worked for you. I feel you know, that when we've talked about this before, and on camera, it sort of generally feels like well, this, like this is just like who you are, but that's not useful advice.

**Bret** 50:45

Yeah. So obviously, I was very young at that point. And so I only, you know, have a kid's memories of what that state was about. I do think some of it had to do, you know, at that age, very young, I had two living grandparents, both of whom were very thoughtful, very smart, and took a tremendous interest in in Eric and me. And, you know, one of them, my grandfather lived until he was 94. And so anyway, he's sort of a consistent force. And, you know, he had his own struggles. And so there was always a force, basically leading towards suspecting authorities that wanted to give you a diagnosis that there was something wrong with you that maybe it was the force that was wrong, and not you. But there was also I think,

**Heather** 51:43

so examples more powerful if they're personal to you. But examples of, here's why authorities are wrong when they try to here's examples of authorities being wrong when they've tried to diagnose other people.

**Bret** 51:54

Right. And, you know, you remember Harry, my grandfather, who was also a very fun, engaging, disarming, kind of a person. And so it wasn't just somebody there to say, actually, authority is a problem in and of itself, but it was, you know, a very appealing person who showed how it was done, right? He used charm, and humor, and all of these things to get through a world that otherwise would have been quite hostile to him, and in some cases, was quite hostile to him. But all of that existed in a context where I think also Jewishness has something to do with this. Because, you know, especially at the time when I was a kid, I didn't realize how recent World War Two was. I mean, I obviously could do the calculation. But it seemed a very long time ago,

**Heather** 52:50

it felt like it was so long ago. And by comparison to how long ago it is now, right? It was so recent, it

**Bret** 52:56

was so recent. And so anyway, the point was, my elders were both responding to what they had seen that I hadn't.

**Heather** 53:07

No one in your immediate family had been in Europe, during World War Two.

**Bret** 53:13

Nobody in the in my immediate family had been there yet. But there was a recognition of the fact that civilization could turn on. Right. And that was both about the Holocaust. But it was also about a much longer history of persecution. Sure. And so I think that there was something there is something in Jewish culture in formal culture, that's about, yeah, you should learn to do the things that you're supposed to do. But you should also be aware that that thing can turn toxic on you. Yeah, keep an eye out because it can happen. Right. And that was the refrain from the generations that I knew ahead of me was, you know, be aware it can happen here. And you're going to want to be on the lookout for it. So at some point, you encounter some version of it that has nothing to do with s&m ethnicity or anything, right? But really is about some system that doesn't know what it's talking about, you know, trying to shift responsibility for its failures on to children.

**Heather** 54:14

And, and I imagine maybe this is a caricature, but I sort of imagined this these, some of your teachers early on, you show up every day, still the same. They're like, didn't we stamp you yesterday word the stamp ago, I thought we thought we did this thing to you. And you seem to have survived what is going on there? And you know, frankly, it's there's an anti fragility, it's which is more than resilience and robustness. And anti fragility is like a you understand me again. Okay, let's see how this goes.

**Bret** 54:42

Yeah, you know, and it really I do recall, I'm sure it wasn't as clear but I do recall a sort of choice between, do I either accept its judgment, and then everything downstream of that just looks really unpleasant, or do I reject this and then there are a bunch of analysis Some things that come with rejecting schools authority over you, but then there's also the possibility of making your own way. And it was just far and away the better deal. And so I, you know, I would encourage you if you know, a kid who's faced with such a thing to get them to think in these terms, your school's judgment W is far from everything. And in fact, it may, you know, especially as school gets stupid, or maybe the worst thing for you. So anyway, somewhere in there.

**Heather** 55:33

Where were we? Okay, where are we at? timewise? Okay, we're going to miss a lot of good questions this time. So let's just do one more here. And then we'll skip to this hour. Okay? If evolution is an underlying trend of the universe, can we assume that it also takes place for everything in the universe and not just living beings? Can the evolution concept be abstracted to explain why any given thing exists?

**Bret** 55:59

Kinda. So here's the, here's the thing. There is, there are a set of characteristics that account for how common any pattern is, and a pattern can be a species, a pattern can be a behavior, a pattern can be an organization of matter. Any pattern has a degree of commonality, every element on the periodic table is a pattern, a recognizable pattern, right? How common each of the elements in the periodic table are the result of these parameters, as are the construction of galaxies, everything else. And the parameters, if I remember them off the top of my head are the tendency to come into being that's a model, that's my modification have a tendency to reproduce, which is wrong. But the tendency to come into being the durability once having been created, the likeness between instances, right? Are they similar enough to be recognized in the same category and the tendency to accumulate stuff that is limited? Right? So those four characteristics, if you looked at all four of them together dictate how often you should encounter any pattern, whether it's a type of creature or a shape of galaxy? Okay, so that is selection, right? That is selection deciding how common stuff is

**Heather** 57:28

evolution, so hold on. So just just to add their selection, therefore happens at the level of galaxies, and at the level of boardrooms and the level of people rocks on a beach rocks on rocks on a beach that are tight that are that have been shaped, arranged by the tides, such that the larger rocks are in different places on the smaller rocks. That's selection and action. Yeah, without any organic.

**Bret** 57:49

Select, yes, selection has nothing to do with biology doesn't require it. It just is a fact.

**Heather** 57:56

It's independent of biology, but it's absolutely inherent in biological

**Bret** 58:00

evolution relevant, yes. Is

**Heather** 58:03

that what you said could be very misunderstood, right?

**Bret** 58:06

It could be misunderstood. It still continues on into biology, but it pre existed biology. Okay. The thing that makes evolution and when you say evolution, you almost certainly mean adaptation. The thing that makes adaptation different than the process of selection that we've just described, which is biologically independent, is the addition of one more factor and that factor is heredity. Okay? So the fact of heredity causes a cumulative response to selection that is very biological. Right? So it's the way in which you are right, is that the process of selection, which is, in some sense, evolutionary is ubiquitous and has nothing to do with biology, the addition of heredity, the invention of heredity, by informational structures, then turbocharges that process and makes it into something that is so much more powerful that we recognize it as distinct and that is biology. So anyway, you're onto a important truth, but there's another truth you need to tack on to it in order to see the whole picture.

**Heather** 59:17

Yeah. Okay. Just two comments. Two more comments from the last hour before we move into this our Asian carp are apparently invasive at salvias Island. savvy Island is not where you were but it's a it's a large island just Yep. West northwest of Portland, I guess.

**Bret** 59:35

They are connected by Southern Columbia and the Willamette come together at salvia Island approximately which means that if there are carp

**Heather** 59:45

on its bottom is is in the is off an offshoot of the wire is in fact connected upstream by fair bit of savvy but

**Bret** 59:53

but if they're on carp and savvy Ireland, they're almost certainly at oaks bottom, which would make sense and I don't know what other creature that Wouldn't be because those large scale they're like very big fish very large scales. So anyway, yes, I was initially dismissive of the idea that it was carp but if they're at salvia Island, I'm utterly compelled. That's probably what it

**Heather** 1:00:12

is. Yeah. So actually I'm going to go completely out of order here because I just very quickly scrolled through we got so many questions the next hour. Someone who might know to be an ecologist says your bird from the first hour is actually a young bald eagle. Big Bill is a good clue for a photo like this with tough lighting obscuring the plumage. I think I think he knows what he's talking about. You know, it's funny, it was my first thought when I looked at it and then as you've been making, so we know that the bald eagles nesting near their, their our

**Bret** 1:00:38

bodies, but this animal so I'm not saying this person is wrong, they're probably right. This animal and it's very hard to judge at a distance because there's nothing for scale. But this animal struck me as bigger.

**Heather** 1:00:50

Right now it could be the same bigger than a bald eagle, or just Yeah,

**Bret** 1:00:53

oh, bigger than a bald eagle. And I looked at it in comparison to the images of Golden Eagles in the ibird Pro app. And it looked like a close match. So anyway, I will go back and I will

**Heather** 1:01:09

look at if you got any other photos, so I happened to have this guy his contact info, we might we might get his more detailed professional opinion as well. Okay. And then the final question from last hour. I watch on a big screen. 4k TV. My dog used to growl at your cats during the q&a. He still does but now he also growls at Brett's Hey, folks. Hashtag Skinner. Well, all right. Make it enemies in the dog world, Brett. Yes. Okay. Let's see. This is another question the likes of which we sort of responded to earlier. But so just starting from the top of questions from this hour currently planning a baby and cannot decide on whether to get the COVID vaccine or not preconception with the increased risk of severe cases of COVID during pregnancy? I would love to hear your thoughts. Yeah. I don't know I can't and in this case, I actually really don't know what I would do, especially given that it seems likely that all of the vaccines that we currently have available are going to require yearly yearly re ups? So yeah, you really don't want COVID when you're pregnant? And I don't know. So I

**Bret** 1:02:33

would say two things. One, I'm just think about this from our perspective for a second, right? It might be that you're better off without the vaccine, if you were in a position to protect yourself from COVID pretty well. But even if that were true, let's say that you were in the lucky position of being able to isolate yourself 95%. While you know, in the run up to and during your pregnancy, you could still get COVID. And then you could have serious, even if it was ex ante the right thing to do ex post, it could be harmful to you and your baby. Yeah, so the tempting thing, and what the authorities will do is they will advise you to take action, and then they will downplay whatever harm might come to you. And we're not going to do that. But there's no good answer here. Yeah, right. You're damned if you do and damned if you don't. And the question is, which way are you more damned? And,

**Heather** 1:03:32

and you don't mind I guess consider which, which outcomes down each path, you will be better best able to live with yourself, should they should the worst thing happen? Yeah, there's that although, and that that answer will be different for different people.

**Bret** 1:03:47

Yeah. I wish we knew what the worst thing was. And unfortunately, you know, there's there's so much remote chances have really bad downsides, actually, to, frankly, to both. What I would say is that a lot depends on things we can't know, which are how exposed to COVID are you likely to be right? Right? If you're, you know, there are circumstances in which somebody might have so little contact with the world, that the risks of the vaccine would be unconscionable, right? And then there, but

**Heather** 1:04:19

if you're going to be working, you know, if you work a job that is about to start to require you to be traveling a lot again, and be in you know, in meetings and close quarters and tight rooms with an openable windows. It's a very different situation. Yep. Through sending extra love and healing your way, either. Thank you. I'm not saying they don't have mental, quote, quote from you. I'm not saying they don't have mental horsepower to think I'm saying they see stupid shit all the time. And that's an indictment of whatever they're doing. Instead of thinking, next Darkhorse t shirt, I'd wear it. Yeah, that's a very quotable quote. Yeah. Thoughts on Caitlyn Jenner running for California governorship and Susan magicky. Stephanie, you pronounce her last name? Or chicky you're missing. All right. Well, that's how it's spelled here. So I don't know. Queen of the Karen's is what this person says, paying to give herself a free expression award post YouTube censorship. So I think this is two different things, right? I don't know about the free expression award post YouTube censorship thing with Susan magicky. Or whatever. Maybe there's a missing syllable in there. I don't know anything about that. Neither. Thoughts on Caitlyn Jenner running for California Governor? Not yet. I barely know what happened. I don't I have not had time to process it at all.

**Bret** 1:05:44

I don't even know about this. Okay.

**Heather** 1:05:47

But guess what? Yeah, Caitlyn Jenner is running. There's gonna be a special election. I think there's a recall for Newsome and there may be a special election. And Caitlyn Jenner is going to be running.

**Bret** 1:05:58

Caitlyn Jenner.

**Heather** 1:06:03

That's all that's I probably got some of the details there. Right? That's all I know.

**Bret** 1:06:07

Yeah, I would say I'm totally for the recall. And not sure why anybody would elect Caitlyn Jenner for the job. It seems to me like almost twice. I get that on the other hand,

**Heather** 1:06:22

but republican Apparently so. Yeah. I guess I do know a little bit more confusing to everyone because no one knows what they should think. But I'm pro trans but Republican, but she's a Republican, but I don't think she's a sheet like, you know, no one who's just going by strict ideology and, and battle lines that have already been drawn knows what the thing is, that doesn't make this person in any way fit for the job. Right. Right.

**Bret** 1:06:47

And I mean, California isn't a big state, but still it requires a certain amount of capacity to manage it. Yeah. I mean, I

**Heather** 1:06:57

can't imagine Caitlyn Jenner is competent for the job, but I don't know. Yes. You know, the Jenner has done remarkable transformations before. Maybe Maybe this is the one that we didn't see coming.

**Bret** 1:07:12

Are we allowed to discuss

**Heather** 1:07:17

apparently some lefty show misgendered Jenner several times in discussing this because if you're going to come out as republican we're allowed to miss gender you or something? I don't even know. Okay, but

**Bret** 1:07:29

here's the problem is that the rules about not misgendering her are not even tolerable.

**Heather** 1:07:35

Further, insane. literal, Olympia. Yes,

**Bret** 1:07:38

he or did she not compete in the decathlon? She did not compete in the decathlon. Nope. Nor did she win that she when she won. Oh, she did he win one. Yes. Yes. So there's only one way to do this. That makes any frickin sense. And that is to talk about the fact that Bruce Jenner was in the decathlon and later became Caitlyn Jenner

**Heather** 1:08:04

later became a candidate for the cover.

**Bret** 1:08:06

Yeah.

**Heather** 1:08:08

Oh, you missed the part. But the reality TV career

**Bret** 1:08:12

reality. TV? Yeah. In any case, yeah, I this is a terrible idea. This is a terrible idea. California is very important. It needs good governance. Frankly, I don't care what party the person comes from. I care that they are highly competent and courageous and capable of standing up for good governance in California, period, the end. So I'm open to be convinced that Caitlyn Jenner is that person. But I've seen no indication of it so far. There's no reason she should have those characteristics. There's no reason to think that she does have those characteristics. So let's find someone who does.

**Heather** 1:08:58

Yeah. How so this, this may actually even be from the same person. As the question we asked. We answered earlier how to screen out what graduate schools actually don't. I'm thinking of a biotechnology masters. I graduated almost 20 years ago with a BA in psych and anthro biological focus to science career feasible at this stage in my life, graduated almost 20 years ago. I just don't know what is possible now. Given what is happening in higher ed 10 years ago, if you graduated almost 20 years ago, if you're 40 ish now on you're saying I'm thinking of going back Yeah, and you know, a science career. You know, if you're thinking about an academic career, going back to grad school for an academic career to get a PhD, average time for you know, field, field biology, the likes of which we got is like seven and a half years, or at least it was it's, yeah, it's a little bit late and have a hard time getting in. If you're looking for a job in STEM for which you want to, you know, you're looking for maybe a three To your degree, I don't see any reason that it's too late to switch. But I don't also don't know what goes on inside biotech ms programs here. That's not a liberal arts program. And I think that still, the non liberal arts are more resistant to this crap. But I don't know.

**Bret** 1:10:21

Yeah. It's very hard to say. I mean, the joke about cryogenic suspension was about something, which is that there's no, there has to be a university system in which you can go and get degrees and etc. But there doesn't appear to be one. So what do we advise people who should go? I don't know.

**Heather** 1:10:49

Is there a correlation between how important certainty of paternity is for a species and if it is visually detected? And how much individuals look different? Ie ants versus humans? Or egg Lang species versus mammals? Love You, too. It's from echo. Yeah,

**Bret** 1:11:07

good question.

**Heather** 1:11:08

Yeah. You know, there's a lot, there's a lot of questions in there.

**Bret** 1:11:12

So there is a think there is a famous back and forth between dick Alexander and who would it be Paul Sherman, maybe, on this topic? Basically, it's

**Heather** 1:11:27

not gonna be tinkle it's not gonna be Dante uncle, when when they're sort of going at it? I don't

**Bret** 1:11:31

think so. This is a little later than that. Let's put it this way, there's a question about is certainty of paternity important within a species, right, which you might imagine would result in phenotypic idiosyncrasies that would allow certainty of paternity to be established. On the other hand, to whom is certainty of paternity important, right? So certainty of paternity is certainly important to fathers who are trying not to invest their parental effort in offspring that they think are theirs, but aren't. On the other hand, that also puts a priority for mothers and offspring on not revealing that some offspring is not the the product of the father who's doing the investing. So

**Heather** 1:12:18

So I mean, at least two things there, right? That there's going to be an arms race between a father who wants to protect paternity, and a mother and offspring in all, but a, you know, never, ever, ever cheats environment, restricting perfect access to the information from by the Father. Yep. So this is an arms race there. And the other issue, of course, is that the idea of visual detection is a bias. That will be true for some organisms and not for others, for instance, I believe that it's fairly well known in some species of rodents, and you would expect this mammals wide, and then some other species and some of their clothes as well, the ability to smell MHC, right, smell major histocompatibility complex and therefore relatedness. And, you know, it's it's, it's valuable for kin recognition, in terms of recognizing siblings and such. And I don't even know if the work has been done to see if you know if father Yeah, I think in the rodents where it's been done, there's no expectation of any paternal care, there's no pair bonding, there's like the dad doesn't even stick around. So you just never even meet your dad. But it is potentially used as a way to create to prevent inbreeding, if your daughters later meet their fathers, and he just smells too close, like nope. Right? Not making babies for you.

**Bret** 1:13:34

So there's that there's the hypothesis that human babies don't look human for exactly this reason to obscure paternity. You know, people don't say that out loud. No, they people don't, but this people do. So there's that, I would point out that, in humans, the avoidance of cuckold very, is largely not about visual assessment of offspring, it is through an entirely other channel. It has to do with mate guarding. And what we call marriage is an elaboration of what we would call mate guarding and some of the creature right. And so all of the behaviors involved in courting and sexual jealousy and all of those things are actually mechanisms to I don't want to say ensure because it doesn't ensure but increases the likelihood or increases the certainty of paternity. So all of those things are part of that arms race. And I've always wondered whether or not actually you would expect on the part of cheating females a bias in favor of cheating with males that look like the investing partner. Right, that's a rock solid prediction, right? There's Yeah, yeah. So no Anyway, I've always wondered if if that would be borne out by by test it certainly I think should be but but you know, it's possible that our it's possible that this is

**Heather** 1:15:12

consistent with the I have a type

**Bret** 1:15:16

is I mean, yes, you're right. You're right. All right. So anyway, like that.

**Heather** 1:15:23

Cool. What's the deal with tickling? Are all vertebrates ticklish? Why can't I take on myself? Yeah.

**Bret** 1:15:32

No, most vertebrates are not Czeisler. In fact, most mammals are not textbooks. There are a few examples. If I'm recalling correctly, if you're at a mall, you can irritate them. You can irritate any vertebrae, that's certain. But in terms of ticklish What is it is it I'm tempted to say there's a pro simian that I've seen compelling so that's

**Heather** 1:15:57

not a that's not a clade anymore.

**Bret** 1:16:01

No, it's not a clade because of tarsiers having been yeah tarsiers off somewhere, man. It's paraphyletic anyway.

**Heather** 1:16:08

But anyway, non non monkey named primates, right? Like lemurs. It's not

**Bret** 1:16:13

lemurs, but yes, lemurs is English babies Galapagos. Yeah, I think it might be glorious. Yeah. glucose. No, no, you're thinking Kaluga. You've got your Galapagos and your colugos mixed. I

**Heather** 1:16:25

do both which are cute mammals. Yes.

**Bret** 1:16:28

But anyway, yes, there are a few examples are ticklish mammals,

**Heather** 1:16:32

I think. I think all the great apes are

**Bret** 1:16:37

all the greatest apes.

**Heather** 1:16:38

Well, I think I think I think for sure we know chimps and bonobos, I think Coco, the basically domesticated gorilla. Yeah, it was understood to be ticklish. I don't know about our eggs. I don't know you wouldn't want to test it on an unsuspecting orang, no,

**Bret** 1:16:53

but you could maybe you know, convince a postdoc to, to test.

**Bret** 1:17:04

Okay, so let's get to the heart of the matter though. So I do have a hypothesis. I don't know if I've deployed this hypothesis.

**Heather** 1:17:10

on you, you don't maybe did tickling you to a little video, I

**Bret** 1:17:14

don't remember. Anyway. So here, I'll give you the short version. The thing about their conspicuous features of tickling, you can't take yourself, nobody can walk up to you on a battlefield and tickle you and cause you to Drop your weapon to take them water. So anyway, my point is going to be tickling requires or ticklish ness requires the prerequisite is a feeling of security. So the hypothesis is that tickling is a built in trainer for effectively hand to hand combat. And that the idea is that there are places where you're very vulnerable. And that this mechanism, oh, so there are lots of other features that belong on a list of, first of all, where you take, that's an interesting list of places, right? You take your neck, ticklish under your arm, from the bottom of your feet, back, your knees, back your knees, and these are all places that if an enemy gets too, you screwed up, right? So the point and and then there's the reaction of children to being tickled, right? Children like being more they like the tickle game, right? They it's very easy to go too far. If you are, you know, tickling child who is playing the tickle game with you, and you keep tickling them in the same place over and over again, they can get very upset, right? So anyway, my point is, this is a built in training program for learning to protect vulnerable places, right? And so the idea of, hey, I want to play the tickle game is like, yeah, I want to practice that thing. So I can protect myself later, right? So you learn to protect yourself. being tickled in one spot acts for an extended period of time isn't productive, because you're not learning anything new about how to protect that spot, you've already lost control of it, the positive feedback of well, if you get somebody you know, if you managed to get your finger under their armpit, they become spastic and they have a hard time protecting themselves. That's useful too, because the point is it ups the ante for preventing somebody from accessing you in the first place rather than just fending them off once they've gotten to you. But anyway, the long short of it is it's a built in program for trusted individuals to train each other into protecting against hostile enemies later, and that explains all of these odd symptoms of ticklish pneus that it requires trust that you both do and don't want to be tickled that you know, all of the features we just discussed. Good. Oh, so and the prediction kind of a prediction. The prediction would be that those who have engaged in being tackled and learning to prevent it, as youth would be better in a better position to protect themselves, they would be more effective at fending off hostile hand to hand combat. That's one prediction.

**Heather** 1:20:27

Any advice for a salamander who's met a girl more interested in his gametes than his genome, he sure seems interested regardless. By the way, thanks for the ID. So this is just a follow up to the person who wrote in thinking they found a lizard in their garden outside of Seattle, but it was in fact, and was in ambystoma, macro dactylon long toed salamander

**Bret** 1:20:45

list in the macro deck, deck below.

**Heather** 1:20:51

Sorry for your loss. My mother took her own life at 79, two years ago. As a Christian, she searched night before if she could still go to heaven. My mother, my wife's mother died the very same day South Korea of cancer. Wow, sorry,

**Bret** 1:21:06

yeah, that's terrible.

**Heather** 1:21:10

I am sick with COVID. For the second time in Ohio, I give it to my co workers, one of them had COVID. before. We were both six, seven months ago, millions who have already been sick think they're safe, but it's not true. Could this be mutation or only antibody immunity?

**Bret** 1:21:27

could be either, I say they totally could be either. Yeah. The danger of mutants that, you know, this is exactly the topic of the podcast with Garrett vandenbosch is escape mutants and escape mutants can be escaped from vaccine induced immunity that can be escaped from COVID induced immunity. But this is the danger is that we are going to start deploying technologies without reference to the evolutionary consequences of those technologies. And we have experienced this before in other contexts, we've experienced this with respect to antibiotics and resistance. And we have experienced it with respect to pesticides and resistance, you know, places where you think, oh, past bad, chemical kills past good. you deploy it, and then it's like, oh, past evolves. Right. Yeah. Oops. All right. Evolution. Right. And so the question, at the heart of the podcast is, does the vaccine regime make the process worse than it would otherwise be? does it drive mutations you would would not otherwise See? And are those mutations more successful at doing things like, in the worst case, making people who were immune like young people? Sick, right, by changing the the nature of the viruses interaction with the immune system? And so again, don't know the answer, but it is a very interesting and reasonable line of inquiry.

**Heather** 1:23:05

Next question is from Mary, who asked a question a week or two ago, and I said, geez, I recognize that now. I'm wondering if this is the same Mary I had as a student, she writes in Yes. Previous student, sending love. To me, lizards falling out a tree and then asks another question, lizards falling out of trees due to cold weather in Florida. I'm wondering, what are the other end credit? What any other incredible adaptations? We might see due to climate change? Yeah, I'm thinking I mean, I'm thinking about the polar bears that we talked about with regard to going after the, the duck eggs for more of their for more of their summers, than they normally would have.

**Bret** 1:23:52

We talked about that.

**Heather** 1:23:54

Range expansion and contraction, range

**Bret** 1:23:57

expansion and contraction. There was a bunch of interest some years ago in these mega hymenoptera in hives, I think they were beehives, actually.

**Heather** 1:24:08

So not giant sized individuals, but giant sized hives giant size times. And I'm gonna have drones being ants, bees and wasps,

**Bret** 1:24:17

right. And there was a question as to whether or not this was a result, or was it was a response to climate change? So I would say, the thing to remember is that the critters out there have some history with a world that changes and they may have contingency plans that will emerge. As the conditions they face change. Some of these things will be familiar to us because creatures exist across a range. And so at the edges of their ranges, they're already effectively in a changed circumstance, and some of them will not be. Yeah. But anyway, there's a lot of a lot of potentially interesting patterns that we could see.

**Heather** 1:24:57

Yeah, I'm not coming up with any else Right now it's easier to think about, obviously range expansions contractions moving into into kinds of habitats that they haven't been in before and running into new kinds of competitors, predators, parasites, etc. Well, you

**Bret** 1:25:13

might imagine a extinction crisis and a shift in the direction of generalists both within and between species. That's one thing. Yeah, that would be likely that we're already creating an extinction crisis through all sorts of other mechanisms.

**Heather** 1:25:31

Yes, habitat loss and fragmentation and fragmentation. Yeah. Yeah, yep. Okay, we're gonna do a couple more. We had a relatively short first one. I know you've got places to go, Mr. Producer, but we got a ton of questions. Here's what to do. Thank you. Do you like it when I call you, Mr. Producer? Is your deputy producer sitting with you? Yeah. Yeah. Okay. Yeah. Deputy producer. Yeah, man. That's

**Bret** 1:26:03

what they do. Yeah.

**Heather** 1:26:06

I never remember what this acronym means IRC. sec, what is IRC means? It's an obvious one, and I just never forget it. So we'll come back to that one. Regarding the chat with Dr. Bush, there's a there's a lot of just hold on. Can you save it until I'm on with the next? Actually, no, we'll go there first. Yes. What does it mean? Isn't that really cool? Okay. Well, let's see if that makes sense. Isn't it really cool that the President made comments after sequestration? Also, the judge mentioned waters comments provided basis for appeal. If we tried. Will there be worse riots? So I think the first comment is just, you know, mildly snarky. If it means isn't it really cool. But the question here is, if he's returned me, there is going to be an appeal. Well, of course, I'm gonna appeal. He will be retried. But I think what the question means here is, right, if if the appeal comes back with a different, different outcome, or will it be worse? remember correctly, if I remember correctly, that makes more sense. If I remember correctly, the President made comments after sequestration.

**Bret** 1:27:34

Oh, so the implication is that the jurors wouldn't have heard them.

**Heather** 1:27:39

But that they weren't sequestered. In any

**Bret** 1:27:41

case, the if a friend asked whether or not there was something odd about the number of appealable errors that the trial judge seems to have made. And I was wondering, in response, if Actually, this didn't make a degree of sense, too, because if you were in the unfortunate position of if you were the judge, if you were the judge in this case, you wouldn't want to be responsible for an outcome that did result in rioting. But that might be the natural result of the court functioning in the way it's supposed to function. And so the conducting the trial in such a way that it would be overturned on appeal would solve this problem from the judges perspective and,

**Heather** 1:28:41

sadly, a permanent mark on your record as a judge. But well, I don't

**Bret** 1:28:45

know how much. I don't know how much it matters. I mean, courts overturn each other all the time. It's obviously the questioner is correct that it might be that you would see even worse riots as a result of a different outcome and a second trial, and therefore there might be some,

**Heather** 1:29:02

I don't know, like, you know, where we can never know worse because the one didn't happen regardless of you know, did it happen now, did it happen then? Did that ever happen? There's no comparison at all. But if if it does, if we do get a different result, next time, there will be riots? Will they be worse? You can't know because you don't know what the riots would have been this time. I think. There will be deep actual heartfelt grief and anger. And there will be a whole lot of piggybacking on that deep actual heartfelt grief and anger at the sense that there was an injustice if the verdicts were overturned, piggybacking by the same kinds of people who are making a mess of Portland, right? Oh, yeah. Those are the people who do the most damage. At least now. Well, so worse, you know, impossible to say.

**Bret** 1:29:57

Yeah. Yeah, we can't say anything for sure. We can say, likely, I think but yeah, there's also several instances in which, you know, obviously nobody speaks for, for a leaderless movement, but there were several claims that the verdict were the result of protests and rioting, which I think are frankly credible. And so then there's the question of what game are we in and to the extent that verdicts might be overturned on appeal? We are. To the extent that the mob has any influence whatsoever on these outcomes, we are increasing the incentive for them to engage in this behavior.

**Heather** 1:30:50

Yeah. I'm recording the chat with Dr. Bush, Bush, right. vaccine accelerating the virus adaptation assumes that vaccine produces identical antibodies in everyone. But everyone will develop different antibodies even response to the same vaccine. No, I don't think I usually answer this. But my my immediate response to this is that I don't think that is hypothesis assumes that the vaccine produces identical antibodies and everyone.

**Bret** 1:31:23

Yeah, it certainly doesn't assume that the antibodies are actually identical. Yeah, does. I mean, the vaccine technology itself will produce antibodies to the same antigens would therefore be identical? Well, right, the vaccine produces the antigen. The only way that it can work is to trigger the immune system to create antibodies and T cell responses that respond to those antigens. Yeah. And the vaccines are narrowly focused on the spike protein. So I'm not sure what it would mean, even for them for the antibodies to be identical. They don't have to be, you can have multiple different formulas that result in the same affinity and it's really the affinity of the antibodies for the antigens. That that drives the the scenario that that that vector vandenbosch is pointing to.

**Heather** 1:32:18

Yeah, I have. So I have to listen to your whole conversation before I can add more,

**Bret** 1:32:23

I think, yeah, I'm not sure I'm not sure there's anything to say other than it doesn't require that they be identical, nor I don't think any does anybody expect them to be identical, but they should be quite similar in terms of their affinities? Yeah.

**Heather** 1:32:40

I am part of an innovative project, which started just as the world shut down. So cool. Organic flavored water for children with zero sugar and paper straws, advice for entrepreneurs who want to do good advice for entrepreneurs.

**Bret** 1:32:58

Yeah, I mean, I'm not sure what to say COVID was an arbitrary force economically, that created opportunity in some sectors and killed it in other sectors. And, you know, maybe some folks predicted this, but by and large, it intervened in an arbitrary way. And you know, it's hard to advise people on arbitrary forces like that. Yeah.

**Heather** 1:33:27

My 13 year old and 16 year old were admitted to ballet, Austin's three weeks Summer Intensive. Now they're asking for the COVID-19 vaccine. They presumably being belay Austin, not the children. The children have perfect health. Last flu was in 2016. But I found Bush's argument sound, I don't want to mess their immune system. Now what? I didn't even know that 13 year olds, I didn't think that any of the vaccines were allowed to in less than lower than 16. yet.

**Bret** 1:34:00

I, I would approach the program. And I would say there is no reason to vaccinate people this young because so far, they are immune. And there are hazards that are not being discussed. And no matter what else this program can say. They can't tell us what the danger of these vaccines is long term and people this young have a much longer road ahead of them than anybody else. So I would appeal to somebody in that program with discretion and say there's no medical reason to vaccinate people this young they appear to have innate immunity that functions very effectively. And there are reasons not to do it which have to do with hazards that nobody on earth can tell you don't exist. So yeah, I wouldn't vaccinate kids.

**Heather** 1:34:45

Yeah, this is older people, but not by a whole lot. I heard I haven't fact checked it, but that Lewis and Clark College just here in Portland, has said that students returning to campus in the fall will have to be vaccinated.

**Bret** 1:35:00

Well, I'm I have the sense that we will all ultimately be forced to be vaccinated. And I think it's, you know, it's not that I am against the idea of requiring vaccination in a system where the vaccines have really been made as safe as possible. And where it is clear that the benefits outweigh the costs. But not this disease, not these authorities. And not these vaccines. Just, it's, it's too dangerous.

**Heather** 1:35:32

Yeah. I tend to agree, I agree with Heather's position, but here's this and there's a link to all from Well, from math world is what it's called on palindromic numbers. So I'm going to persist in my niche, wrong position. This is our seventh palindromic episode, but apparently, it's actually our 16th. Binary 16. Anyway. Cool. And and there hasn't been another one since then. So we're still at like, 16. Okay, that would have been really cool. If this was our Actually, I can't, I can't, I couldn't know I could at one point, but I can no longer do binary quickly enough in my head to get to what it is. But well, that's, that's cool ish, then. Yeah. Yeah. Are there any methods for genetically engineering a pathogen without leaving a trace, other than serial? passaging?

**Bret** 1:36:30

Yeah, there are molecular techniques. You know, and it depends what you mean by engineering from the ground up? No. Can you modify a pathogen so that it is more effective and do so in a way that does not leave a trace? Yeah. And in fact, the barrack lab pioneered some of this stuff, I think, what did they call them? They had a special term, like no cm, splices or something?

**Heather** 1:36:59

That's right. Ah, I don't remember. Yeah.

**Bret** 1:37:03

But anyway, the answer to your question is yes, it can be done. It's a shame that it can be done in general lab work that allows you to detect, you know, where your edits have ended up. is useful, and the ability to obscure these things is obviously prone to abuse. But yeah, it's possible.

**Heather** 1:37:26

Yeah. Okay, let's do one more. It's, it's getting late. Actually, two more, we got one from Donald J. Trump himself. Wow, who says I tried tickling Hillary but didn't work. She didn't feel safe with you. Yeah, that's the thing she shouldn't know. And you shouldn't have felt safe with her either. Right? Different kinds of lack of safety. Yeah. Stanford study, last question. Facial recognition algorithm correctly noted gay men at 81% and lesbians at 74%. If these findings hold due, hormonal differences in sex, sexual orientation, point toward a genetic cause, despite no gene being having been found. Maybe it may be let me just say before you before you riff that, you know, the the the search in all of these sorts of things for like, the gene is always misguided. There's not there's for any complex trait. In especially in humans, there's if if there is a genetically heritable component, it is going to be poly genic. Not Not a single gene. So no gene has been found is of no surprise to anyone actually, if you're actually thinking through, go for it.

**Bret** 1:38:41

Alright, so here's my maybe, maybe you have, let's say it's Polly genomic, some tendency towards let's say, becoming a lesbian.

**Heather** 1:38:54

Not that I did not say that it was going to have a genetically heritable component, let's just say we're not going to be single gene.

**Bret** 1:39:01

So then that thing could adjust hormone levels that would adjust development such that phenotypic facial characteristics that would then be recognized by an algorithm would show up and that would explain this finding. On the other hand, there are lots of other things that can do it too. So don't forget, these are hormones. Their levels may be sensitive to things in the environment, like let's say, lesbian environments, trigger the production of testosterone in women tend towards I don't know, it could be an all lesbians or it could be in Butch lesbians. But in any case, so it could be that this inverts cause and effect and then it isn't a genetic cause. But it is a response to something in the environment that reinforces the production of those hormones. That's one possibility is also possible. That they're an extra This is consistent with that it is also possible that there is something in the feedback between individual so people try to look attractive to those, they want to be attracted to them. And it may be that this is causing the something about the way they carry themselves or augment their features or something like that to show up that these algorithms algorithms would detect. And so basically, if these are learning algorithms, which presumably they are at one level or another, they could be picking up on things that are downstream of genes, or they could be picking up on things that are not and it's hard to tell which of those things is taking place. So I would not say this indicates anything other than possibilities.

**Heather** 1:40:47

I agree. I think that brings us to the VM the the end, the end The end. So once again, consider joining us at my Patreon for tomorrow's private q&a. The questions have already been asked. After we're done here, Zack is going to collate them and then I will choose them tonight. And tomorrow, but we will be looking at the chat in real time between 11am and 1pm as we do our live q&a tomorrow. And if you're interested in that, join me at my patreon join Brett at is for conversations with a small number of people yet

**Bret** 1:41:22

including next week, the coalition of the reasonable Yep.

**Heather** 1:41:27

Send any questions you have to Darkhorse moderator@gmail.com. Consider subscribing to this channel to the clips channel. To join us at our Patreon join us on social media on Twitter.

**Bret** 1:41:42

Like subscribe, comment circulate material, shake your fist at Facebook in their authoritarian nonsense and

**Heather** 1:41:50

Shake your tail feathers at anyone who fancy new fancy.

**Bret** 1:41:54

That's that's not a bad idea that often works. Let's see. There was something else Oh yes, check out the Gary van bush podcast and the link in the description will take you there another link will take you to my unheard piece from last week on Portland. Maybe that's it,

**Heather** 1:42:16

be good to one another good food and get outside and get

**Bret** 1:42:20

outside.