Your Questions Answered - Bret and Heather 56th DarkHorse Po...

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**SPEAKERS**

Bret, Heather

**Bret** 00:08

Hey folks, welcome back to the Dark Horse podcast live stream q&a Segment Number 56. We are ready to address the burning questions that you have submitted through Super Chat and if you haven't submitted them yet you still can.

**Heather** 00:23

That's right. You certainly can. I cannot see my computer though, so we don't have any questions. Nope.

**Bret** 00:30

We will figure something out to it sweet lickety split. Well,

**Heather** 00:34

I got sent while Zack figures this out. I got sent the discord question for this week on my phone. So I will look at that first if I can find it. Nope, that's not where it is.

**Bret** 00:51

It just was

**Heather** 00:52

so here's, here's the discord question. Here we go. We're gonna start with this question this week from the discord. Can you see all three? Yep, sure can.

**Heather** 01:07

But still, we're gonna start with the discord question because I pulled it up. In light of the various existential threats that we face is authoritarianism, regardless of ideology avoidable. Is there a way to do authoritarianism in a non ideological, non tribal way? governing AI corporatism Imperial meritocracy, something else? If unavoidable? Should we consider ways to do authoritarianism ethically and thoughtfully, PS process? And the question is not pro authoritarian, just questioning their assumptions.

**Bret** 01:34

I think I got it. Okay. I think I know what they mean Go for it. So I would draw a distinction between authoritarianism, which is very, very bad. And coercion, which is a necessary evil. But the idea is we should be minimizing the amount of coercion necessary to accomplish things like reaching the collective analysis for things like public safety and public health. So anyway, there's a certain amount of coercion necessary, but basically, authoritarianism is coercion first, and a better structure involves recognizing that there are times in which one needs more than the normal amount of coercion. You try to make a temporary, you try to make it as harmless as possible. But in any case, I think that's the answer. authoritarianism itself is effectively the malignant version of a system of governments governance, in which coercion is playing an important role, which we had always, yeah,

**Heather** 02:44

it must be good. All right, we're gonna answer a few questions from last week's episode before moving on to your questions from last hour before then moving on to your questions from this hour. by eight by 10 old my 10 year old twins, like the song on YouTube from American rapper, the baby, which propagates BLM writers and demonizes the police. How should I tell them this is wrong without being patronizing? So I did not I pulled this from last week, but I did not look up the song. So I don't know anything about it. But I don't think we need to, to, to address this question how to talk to your 10 year olds, about them being sucked into an ideology that seems like it's all goodness and light, but really isn't?

**Bret** 03:29

Yeah, I mean, you know, I think this, the right answer to this question borrows from the approach we took with our own kids from the very beginning, and the approach that we took with college students for a decade and a half. And the answer is that you shoot above people's heads, and you allow them to rise to meet you. And so you may have to simplify language a little bit to reach a 10 year old, but not all that much, to me. And what I would say, I think, is that there are real problems with policing. And so it seems like by getting rid of the police, you would eliminate those problems, and you would, but the problem is that there's a lot that is produced by policing, even when policing is not good. The benefits of it are effectively invisible. All the crimes that aren't committed, because people are afraid that they will be caught by the police and taken away are invisible. They just don't register until you eliminate the police and you discover that what you get is a world of warlords. So I think I would tell the 10 year old that the problem is, it's an overly simple solution, that getting rid of the police seems like a solution to people who've seen abuses of power by the police, but that is only because they haven't seen the alternative which is worse and that the solution actually involves fixing policing, rather than eliminating

**Heather** 04:56

it. That's great. I was going to add some things but I think Get it. All right. It seems that you think that BLM and bad science are eating the world. In the real world, though I don't see it happening. What am I missing? You can't pay the rent with your waist, race or sex isn't reality unmovable. So that's, I think that's a coherent set of things, although the individual thoughts there seem to be going all over the place a little bit. But I think the basic question is, in my world, the person asking the question, I'm not seeing the effects of Black Lives Matter, or of bad science, on on my, on my lifestyle, my career on anything? I would say that you're lucky. And that many, many people are and that whether or not you can see it yet doesn't mean that it's not having the effects that those of us who are seeing it. Say it does feel like you're objecting?

**Bret** 05:57

No, I agree. I think I'm having a little trouble imagining how you could miss the hazard of it given the way it is demanding.

**Heather** 06:09

Miss the hazard you said, Right. I

**Bret** 06:10

mean, for one thing, I

**Heather** 06:11

mean, if it was if it was a totally fringe thing, right, right. And it really was a couple of Yahoo's and the mainstream media was actually blowing out of proportion, instead of completely minimizing it right. Then, yeah, you could, they could be doing exactly the same thing. And if it was five people, you know, in each in a handful of cities, then how are we talking about?

**Bret** 06:34

Sure. But you know, we could and many did do the same thing with, you know, the deep platforming that was going on on college campuses. And the point was, how serious actually is this? And the answer is, it's really goddamn serious. And you can now see that because it's driving murder rates up inside of major cities that are run by Democratic administrations, right? So, you know, if death is bad, and murder tends to kill people, then it would seem that this is a serious issue, because lots of people are no longer walking the earth who presumably would have been, yeah, but for this, this tantrum,

**Heather** 07:16

yeah, but I hit me at the last question. Excuse me, isn't reality, unmovable? Yes, certainly the one of the central tenets at the core of what we're talking about is that there is an objective reality out there, whether or not we will ever actually get to it. But the scientific method allows us to sort of approach it as an asymptote. And we never know, we only occasionally will know under certain circumstances, how close we actually are to the objective reality that's out there. That said, there was a lot about the human experience that is not directly reflective of the objective reality. And so given that the, for instance, schools of education, at least the United States are pretty well captured by this kind of thinking, and the graduates of those schools will be going out and becoming k 12. Teachers, for instance, primary and secondary school teachers, what will it do to a whole generation or whole generations of children's minds who grow up thinking patently untrue things and with no skills in their back pockets with which to determine whether or not what they're saying or thinking is actually reflective of reality? And so, you know, from there, it's a hop, skip and a jump to we have engineering schools that are encouraging, you know, I don't know if it's, there's actually queering of engineering, but,

08:29

you know, there's a lot of bad, right, yeah.

**Heather** 08:33

But, God, many episodes ago, we talked about some PhD thesis in a in an engineering school being being defended. That was clearly intersectional. And, you know, at the point that bridges start falling down, obviously, you have a direct conflict between intersectionality and, and reality, you know, we're civil engineering just can't accommodate this. But there's a whole lot of space between, you know, totally social constructed stuff over here. And, you know, does the bridge standard not, and the vast majority of where most of us spend our time is in someplace, hopefully a little bit closer to does the British Standard not but there's still enough interpretation by people of what it means that whether or not their beliefs reflect reality or not actually really does matter.

**Bret** 09:23

I also flatly disagree that you can't pay the rent with your race or sex. This is at this point, yes, clearly, one of the the most actionable items on the demand list is, you know, they're going to create positions where ostensibly The purpose of the decision, the position is to figure out what to do about diversity, equity and inclusion problems. But of course, the position can only be inhabited by somebody who meets the criteria. And so this is a way of skirting the normal process by declaring something necessary which then

**Heather** 09:58

install ticular demographic requirements associated with it right? And,

**Bret** 10:02

you know, we're now seeing this in, you know, with boardroom requirements and all sorts of things. So,

**Heather** 10:07

yes, and hold divisions of colleges, you know, I'm, I'm, I don't know about a majority, a large number and a growing number of colleges and universities, at least in the US have not just sort of departments dedicated to equity and inclusion, but whole divisions of the college. And indeed, this is this is not the time place, I'd have to go back and look at the various numbers. But one of the things that happened at evergreen was exactly the downgrading of academics as one of originally four divisions of the college's economics was only one of four. But the other the other three were reasonable, there was basically Student Affairs, which is everything to do with, you know, housing, and food and clubs and health care and all of this, and there was basically Finance and Administration, you know, the, all the all the running of the college that included things like the physical plant, and then there was, I don't remember the names of them, but effectively, outreach PR, right, which, you know, looked to alarms and look to the public and looked outside for, you know, how it is that you get money that's not coming from the state. So academics, of course, is what the core of a college a university is, or should be, should be. But even as original formulation at evergreen, which is just the system, we know best, it was only one of four, most universities, which are just colleges that have PhD granting authority. They're bigger. There are presumably more divisions than that. But one of the things that the naso hapless, but, you know, perhaps intent on destroying the college president at evergreen did was demoted academics, and created two new divisions of the college including one and again, I don't know exactly what it's I don't remember exactly what it's called. But I don't have my notes up here right now, but a diversity equity inclusion, Vice President and all of the staff accompanying that. So whereas before that have been for VPS, academic Student Affairs, finance and admin or whatever, and public relations or whatever it was called. Now there was additionally a VP at the same level for equity and inclusion, which

**Bret** 12:12

are extremely highly paid with, you know, in the hierarchy of positions, somebody who did not have lots of experience as somebody who jumped a bunch of levels. Oh, yeah, suddenly being paid, you know, $100,000 plus a year

**Heather** 12:27

when that but it was it was a lot of money for evergreen in particular. And the and, and the need to staff her entire Right, right, everything and you don't you don't staff those positions, either without while being blind to things like race and sex, and that's, that's an abomination.

**Bret** 12:44

Yeah. And so in that case, that was bridges falling down on the job. Yeah,

**Heather** 12:48

that was that was my line down. Did

**Bret** 12:49

you say that?

**Heather** 12:50

Some Well, actually not bridges falling falling down the job. I referred to faculty trolls hiding under bridges. Yes, yes. Yes. So sorry.

**Bret** 12:57

It's a Redux. But,

**Heather** 12:59

but it's just different. Yeah,

**Bret** 13:00

it's different. So in any case, yeah. The final thing that I would say there is just think back to what we were talking about in the first hour with respect to the University of Chicago and what it's doing to English. That's a career path that is now being explicitly narrowed to people who only espouse one interest and presumably one perspective on it. So anyway, yes, you can very definitely pay the rent with this stuff. And that's a hazard to everything else that should be rewarded. Yep.

**Heather** 13:33

Next question. from Episode 55. How can one combat claims that all regularly occurring climate events such as wildfires are related to manmade climate change without coming off as a denier? to this I would just say, I looked back and figured out which episodes we actually talked about this and it was episodes 44 and 45. Back when we were enduring, you know, basically smoke lockdown a smoke apocalypse in the Pacific Northwest that had us had Portland to having the worst air quality in the world there for eight or 10 days. So we specifically talked about what fraction of the wildfires and their intensity was being attributed to anthropogenic climate change. By the by the really careful people who were not just stayed at you know, having planted a flag, either in everything is climate change, or nothing is climate change. We were really trying to figure out what it was and as I remember, in this particular case, the intensity in both the increase in number and the intensity of the fires that are happening in the Pacific Northwest being somewhat different range from some of the other Western biomes in which fires are happening was something like a third I think 30 to 40 or maybe 30 to 50% is what it was, which is both substantial and not everything and it is that's exactly what it is right I you know, I would, this is yes, based on models, and we have questioned the models before but so many more Models point to that kind of nuanced understanding of what is going on. And that is a broad enough span that i would i would i sit pretty confidently with with those numbers.

**Bret** 15:11

Yeah, that I would just point back to the first hour also, you know, this is another one of these things that even a good education tends to lack now. So on the sand list with population versus individual level thinking and collective action problems, there is a basic lack of understanding of how to process complex noisy systems, and how to understand them and to recognize patterns in them. And, you know, we are forever tripping over the fact that you can't prove that a given event has such a cause, but you can deduce that it's likely that it does. Exactly anyway, that that is a something to be upgraded in our educational structure to if we ever decide to rebuild it.

**Heather** 15:54

That would be great. Yeah, and I don't remember if I said it, so that was episodes 44 and 45. But we talked about this somewhat as well. A comment that I appreciate it. So I thought I'd read it. Thanks to both of you for what you do to counter those who tell others to sit down and shut up. Thank you for standing up for language and science and liberty. Thank you for that.

**Bret** 16:15

Yeah, stand up and shut down instead. For I don't know. No other day Timothy

**Heather** 16:19

Leary. Not a word. I

**Bret** 16:21

think it's a prototype.

**Heather** 16:23

What talents are not well represented on a resume? What new heuristics Would you like to see standardized that could expand across that expand access to white collar jobs? I am passionate about helping underdogs compete. So this is a great question to which I did not actually think through what the answers might be. But it's something that I think we should return to, perhaps at some length, but you have something off the top of your head here. Yep,

**Bret** 16:49

I do. I fear that I may be borrowing it from David Kelly, the Stanford professor, an engineer that I think I mentioned once before. And if I'm not borrowing it from him, then I'm sure it's something he'd agree with. But it is the importance know the meaning if you encounter somebody who has a habit of tinkering, right, somebody who constructs little mechanisms or takes things apart and fix them, fixes them, troubleshoots them, such a person tends to be very capable of navigating all kinds of systems that are, you know, not explicit. In other words, a ability to open up a machine that isn't working and troubleshoot hypothesis test, all the things you need to do in order to get it possibly work tends to be good in all kinds of situations where those skills are also valuable.

**Heather** 17:49

So and where if you have not succeeded, you cannot argue with the thing in question and convince it that you have succeeded, right? That the physical reality of the of the system, Trump's the social reality of what you want to be true,

**Bret** 18:01

yes, although there's one caveat buried under that catches. You know, this was very much my experience as a kid tinkering. And then I later read Fineman say almost exactly the same thing about his experience as a kid, which is that very often if you take something apart, and you know, when you take apart almost anything complex these days, you don't understand how it works,

**Heather** 18:23

you're looking at circuit boards, rather than lovers, right. And even if it's lovers,

**Bret** 18:27

the stuff is often so complex, that it's hard to track, right. But it doesn't mean there's not a lot, you can deduce about what's inside. But here's the funny fact, which is, you've got some object that doesn't work, you take it apart looking for a problem, sometimes you can spot it, sometimes you can't. But if you just work on the skill of taking it apart without losing anything, and taking it apart, so you don't destroy anything, and so you can get it back together very frequently on putting it back together, it does work. And so the lesson that I derived from this is that something will be out of place, and the logical ability to put things back where it seems they must go because almost always there's only one place each part could go, you know, short of a screw or something like that. There's only one place each part could go. And so just simply learning to take things apart and put them back together without doing any harm actually allows you to fix a bunch of things. So it's not like you've convinced it to work. But you did fix it without fully deducing what was not working exactly,

**Heather** 19:26

you didn't you did not you made it functional without doing the diagnostics or without successfully doing the diagnostics even though you were interested in doing so. And you know, and this but this also reveals something about the nature of physical systems, which is that things where things slide slightly out of place, and that those those two observations things where things slide out of place, or not the complete solution set to why that will work, but it certainly is going to be some of the times right like you just have something with a lot of moving parts or parts that are moving but aren't supposed to be moving. take them apart, you put them back in securely, you know, add, you know, add add lubrication where there should have been some there wasn't, you know, take out the lubrication where it had gotten where it shouldn't, where it doesn't belong, and you put it back together and voila, okay, I don't know what it was it was sliding when it shouldn't stick and when it shouldn't slightly in the wrong place had slipped, etc. But it looks like given that it's working now that that is probably going to have been the case. And then and then you can continue, you can you can track like, okay, does it fail again in the same way within a week? A month? Never. You know, so, you know, is the piece in question of the larger functional system itself about to fail such that you can't make it work by putting it back together? Or was it just loose as it? Is it just something that happened that doesn't need to be understood for you to move forward with a functional system?

**Bret** 20:46

Absolutely. But even just the skill of opening something, and putting it back together without doing harm to it trains the mind? Yes, surprisingly hard, right? Lots of things. Like once they're open, you see how they were supposed to be opened, but you can't see that there was a little tab that you were supposed to, you know, push or something like this without breaking some, you know, some of you do, and I would I was a kid, my rule was, if it's broken, then I'm licensed to take it apart, because I'm not gonna make it worse. Right. And so

**Heather** 21:15

I decided to roll that you shared with your parents?

**Bret** 21:18

I think so. I mean, you know, the point is, it was an obvious rule, because it was stuff that was sure headed to the track. It

**Heather** 21:25

sounds like a reasonable rule. It just also sounds like the kind of role that at least some parents, I don't think yours would have objected to just on the basis that it sounds like you're going to start justifying that this kind of broken, it's almost broken. Well, look, it's broken.

**Bret** 21:38

I mean, this was the 70s and 80s, there were a lot of broken gizmos around. Prison good spent a lot of time on them. But I do wonder, you know, there are a lot of things that train the mind, right? And there's presumably diminishing returns on this right, if you train the mind all in one way, then you get less of a an effective mind and if you had two such exercises, but if you took some fraction if you took half of some college and instead of putting them through the coursework of all of the philosophy and English and math and science that they were otherwise going to take and you had them take stuff apart for every hour that they would have spent on other things. there'd be some stuff missing from that education to be sure would they in the end come out with a more agile mind are better able to pick up the stuff that they didn't catch that they actually need? In other words how would it compare head to head we can get smarter people out the other end Yep, you know

**Heather** 22:42

to which I would add and you know this is this is the road down which you end up with a you know a to full curriculum but to which I would add representative art and craft you know, some some version of creating creating a product in the universe that is recognizable or useful, recognizable as the thing which you want it to be recognizable as you're making representative art or useful in some way and music has to fit in there somewhere but I don't know exactly how it fits in this particular rubric. So that is another sort of thing that everyone should have something something creative artistic Craftsman Craftsman like in their, in their quiver of arrows, whether or not they understand or can explain why it is that this will be useful in some white collar job. And then also outdoor exploration including sport where and you are interfacing not and you know, there are a lot of there a lot of team sports that most people have no interest in playing and, you know, I did play some team sports growing up I played I played volleyball. But ultimate is the one that we both came to in grad school and played a ton of and that allows you to interface both with the physical world and with the social nature of a team and with competitors and with collaborators and so you know, really does just bring out a ton of remarkable skills that there's there's a reason that you're allowed to put that sort of thing on a resume even if nobody exactly knows what it's there for.

**Bret** 24:20

Yeah, I agree with your addictions. And I like that you you said representative art not that that's the only valid kind but, but it is possible to fake your way through art. If you are not required to demonstrate an ability to you know, cause the mind to think it's looking at a you know, a three dimensional object or something like this. And in

**Heather** 24:44

terms of Td 2d and 3d art, I think it does need to be representatives. Sorry.

**Bret** 24:49

You have to have that skill. It's not to say that the higher value might not come from something abstract, but the part that trains the mind for sure, yeah, is the part that causes you to say well You know, I, I have a 3d model of what I'm seeing how can I create a 2d rendering that causes the person who's looking at it to have the experience recognize

**Heather** 25:09

that that's what I was trying to do, right so the it's basically the check the social check on whether or not your understanding of the universe is accurate by some by some measure. Similarly, crafts you know, be at weaving or pottery or woodworking, or you know, any metalworking any number of things. There is a result that not everyone will love, but is it is beautiful by some standards and functional. And it either is or it isn't.

**Bret** 25:36

Right, which I think is why museums are full of still lifes, right? It's not that a bowl of fruit is such an awesome subject full of meaning. But the point is, it's full of fruit, right? Well, we know what it's supposed to look like. Yeah, maybe I don't even know if this is true. All right, you aren't people you're gonna tell me, right? There's something about a bowl of fruit, at least before the invention of photography, where if you can render a bowl of fruit, you are painting at a certain rate, right? Either you're doing it before the fruit melts in the bowl, right? Sure, or your memory is really good. And that's another extraordinary skill. And so in some sense that you practice on something like this that isn't permanent. And basically, it sets a higher standard for what you're achieving. Oh, that's

**Heather** 26:22

interesting. I think I don't know if either you or I have really spent much time with art history. But I wonder if that's not been proposed somewhere in what what a still life is about. So it's just still landscape. So a little bit of that but seasonality and such but know your description of before the fruit Melton the ball, right? Is is really vivid. Yeah, that's right. That's good.

**Bret** 26:44

I'll be curious to see what we get back on that.

**Heather** 26:46

Yeah. Okay. Let's go to the questions from last hour. Time is running short. The failure of our education system is the problem from which all other issues arise, there needs to be an ITW style meeting of the minds to come up with a plan to fix education, get venture capital start small grow, please. So I actually i have i only rank ordered these and I have not had time to read any of them between our live streams today. So I did not realize that I'd put that appropriately right after the previous one. So I feel like we've just talked about some of the ways that that education could be fixed. I agree, time is running short, I do feel like 20 years ago, neither you nor I would have thought that we would become educators. Precisely right, we were scientists, I you know, I specifically also thought of myself very much as a writer, explorers, adventurers, in Europe, perhaps academics, but educators not so much. And we became that of quite explicitly and quite wholeheartedly at evergreen. And, and came, I think, in the sowed doing to really understand a lot about what is wrong and what can be done, most of which, much of which maybe cannot be done with the current system. So much of the best of what we could do at evergreen, required extended periods of time, and the ability to deep dive with with people. And a, that's hard to scale in probably impossible to scale into like an 800 person class. And it probably doesn't work. If you're jumping from class to class every 15 minutes,

**Bret** 28:29

yes. And then there is the gigantic horse fly in the ointment of trying to start something that even worked at the right scale, which is that if you and I, we both think and we in fact worked for a year on a project to see if there was a way in, there is a way to fix education, it would be hard to do worse than we're doing. You know, and you could do much better, much cheaper, if you just simply took the word of the relatively small fraction of the faculty that actually succeeds in reaching people and upgrading their minds. But the problem is, were you to try to do it and escape all of the garbage that has taken out now 100% of American higher ed institutions, right, we're going to try to do that, then what you are, is either going to try to get accredited, and you're going to go down the same rabbit hole as these other things have, or you're not going to be accredited. And now you're up against the question of what is this unaccredited? You know, is it snake oil? Is it this is it that so I think this is the perfect moment for that because at some level, the bankruptcy of the mainstream system is now becoming relatively widely recognized and the expense of it is so stupidly out of proportion to what you get that you know, if ever there was a moment at which people might say, yeah, screw it. I don't care. It's unaccredited. It's high quality, right? If there was ever a moment for that, this would be it. But nonetheless, even even to the point of view of, well, you're going to start an educational institution and it's not going to have an Edu domain or email, edu email addresses. It's not going to be eligible for funding from the federal government through the same mechanisms because of the lack of accreditation. So accreditation is that thing that you, you know, you plug your educational institution into rooms to make sure that it gets its levada me. And, you know, you want to avoid it, you pay one set of costs, if you want to embrace it, you'll pay the other and, you know, it's doable, but the system is a problem.

**Heather** 30:40

Yep. Next question, would you please make time to talk about ancient female big game hunters at the beginning of your next live stream? Yes. Apologies. We've talked about doing it twice now and haven't gotten to it. I'll put it at the top of the docket for next time.

**Bret** 30:56

We've got to talk about that before it comes back into fashion. Do you think he bought a game? Have you worried? A little?

**Heather** 31:02

I'm not okay. Here we have a link to something that I at least haven't seen. Why? From lockdown, skeptics.org, the future Shape of Things, Jim, our friend Jim Lindsey posted on Twitter. So we'll take a look and see if we have any thoughts next week. Next question, Heather. A while ago, I think you had previously said something to the effect of quote, societies that produce weak males will often produce aggressive females. Obviously not a direct quote. But can you expand on that? Well, I don't remember saying that. But I don't disagree. I mean, I think the the opposite? Well, there's a causality here. That is the only thing that is potentially not right, that I think if you have if you have a society that as weak members of either sex, you're going to have strong members of the other sex. And that doesn't, that doesn't imply causation. You know, so weak, weak females in a society are probably going to be correlated with aggressive, strong males and weak males probably correlated with aggressive females, but producing aggressive females, maybe I might actually put the causality backwards the other way around here, as well, that as, as you have more and more frankly, male typical style of aggression among women, that interestingly, many young men are more and more likely to step down and to be now sort of VIP, because they're being threatened at some level, because they're being told that this is no longer their time, and they're not allowed on the stage anymore. And of course, you know, as we've talked about many times, you know, this, this ends up making men weak. And of course, the women who are often arguing that they need men to step down and get off the stage and all this don't want weak men. And so this leaves men who have been followed some path that they thought was the right one, left with very few options. And it's not through no fault of their own, it's bars, you know, partially their fault, they made choices, but you just shouldn't, you shouldn't buy it when people claim that what they want is weakness in their partner's, you know, weakness in their potential partners. And that's not what anyone wants. And, you know, there's a kind of docility that some men may want in some women, but I would say women, those aren't the men you want. And there is, you know, it's just even hard to imagine what world men any men are imagining that has women admiring and wanting to be with life for life with, you know, spineless men, just tied back. There's no historical precedent for this president

**Bret** 33:48

right now, it won't work. I would add one thing to this, which is the dimorphism in males and females has resulted in legal asymmetries which are justified by the fact that women are actually vulnerable to men in a way that is not typically the reverse. So those legal advantages that go to women which are compensatory can also be abused. And so one of the things that we are seeing is that women who are willing to make use of the protections of women as an offensive weapon are wielding it which is causing men to be at the very least incoherent because they can't just simply depend on the fact that you know, if they're decent, they're they're not vulnerable. If accusations, you know, in a world where we're debating what you know, believe all women means or believe women, does it mean believe all women and what does that who does that empower, you know, you've got weapons that are not secured being wielded against people that somebody wants to do damage to and you know, it doesn't always result in the right People being punished. So, again, I suggest that you're the causality being reversed here. I think it's likely

**Heather** 35:06

Yeah. And I would argue that the the weaponization point, you said something there that I really wanted to respond to

**Heather** 35:17

it. Okay, we'll move on. I just I can't remember. I'd like to come back to it. I'm gonna make this in color here. Do you have thoughts on this Frank Herbert paraphrase, scratch a conservative and you find a person who prefers a certain past to an uncertain future, scratch a liberal and you find a closet aristocrat? I've never heard that before. The first part sounds right. And I think most conservatives would grant that scratch conservative and you find a person who prefers a certain past to an uncertain future. The second half, scratch a liberal and you find a closet aristocrat. I don't immediately see how that is true. What do you what do you think?

**Bret** 36:06

Well, yeah, I was gonna say the same thing that the first part of this seems clear that list then the second part, I think, what the second part is about is that, you know, liberalism has traditionally had a, a valence of fighting for the underdog. And so it's supposed to collect underdogs, and combine them with people who are advocating for their interests. So to the extent that one aspires to be an aristocrat, but you're not in a position to do it, things like redistribution are appealing. And so I can see, I think, I think the problem I have with it is that if you scratch some liberals, you will find closet, aristocrats no doubt about that, but I don't think it's inherent to it. Yeah,

**Heather** 36:58

good. That makes sense. And I thought of the other thing I just wanted to add to our conversation there about strong women and weak men being coincident in society, which is that you bring up the weaponizing of important legal rights that women have because of sexual dimorphism. And you'll very often when anyone, men or women talk about the weaponization of those rights by some women, we are told that we are being misogynist that we are acting as as if we don't care about about women. And I would say, actually, that's exactly 100% wrong, that it is those women who would weaponize the laws that have been put in place to protect women on account of the fact that we are on average, smaller and have less muscle mass, who are themselves the massage and so they are working against the interests of all the rest of women and all the good men out there as well, that that that is them scientistic position, not us criticizing them doing so.

**Bret** 37:59

So I totally agree with that. And I'm imagining a deep fake in which you and I talking about this is same set and everything but we're gorillas having this conversation. Frankly, you can imagine reasonable gorillas having this conversation. He was a gorilla shark. Well, sure, why not? But I mean, you know, it's a it's a it's a fine, interesting, great ape. And it's a rather prism is rather profound, rather

**Heather** 38:26

the most polygynous right. And for those for those who aren't familiar with the languaging here, polygyny is the very particular type of polygamy. polygamy is the term that's usually used, but it always is actually, in common parlance, a stand in for polygyny, meaning, a mating system in which one male monopolizes the reproductive effort of lots of lots of females.

**Bret** 38:50

Right on, but the investment is high on the part of silverback mouse. But anyway, I just think it would be funny, you know, a, in some ways I find gorillas more human than chimps. Yeah, there's a there's a humaneness about them. That's more more relatable in some ways, but

**Heather** 39:10

they're, I mean, they, they they keep the peace more frequently as well. rightly,

**Bret** 39:15

no, I think I think they're they're, Yeah, they are. They're more peaceable to be sure by a lot. Something

**Heather** 39:21

to do with having to spend so much of their day eating leaves singly, actually, it is going to be diet related, not just mating system, social system.

**Bret** 39:27

I think that's true. Yeah. But anyway, I do think I would make this very conversation. The point was all the more effective

**Heather** 39:35

if I were also 50%. Smaller than you for instance, well, the

**Bret** 39:38

right exactly, but you know, the fact that you could have this conversation and that, you know, two people who were interested in the analysis could arrive at the same conclusion even though the disadvantage you know where you to weaponize it would be, you know, yeah. substantial. So, anyway, I'll see the future may have the Dark Horse podcast gorilla. Version gorilla version we really edition. All right?

**Heather** 40:05

This is a recommendation. I think Netflix. Netflix is Babylon Berlin has been amazing to watch and draw parallels to regarding America right now and pre Nazi Germany, communist riots followed by national backlash. love to know what you draw from it much love from New Zealand? I don't even know of it. We haven't watched it. Have you heard of this?

**Bret** 40:25

I've not heard of the series. I've heard this parallel drawn. And so anyway, I'm very interested to the extent that there is such a series it's it's, it's worth looking into.

**Heather** 40:35

Yeah. I've heard both of you correctly criticize the US voting process. But to what degree do you think the current undermining by Trump will irrevocably pull voters out of elections and or nudge us towards separatist parties? Well, that's a tough one. Yeah. Two different possible outcomes.

**Bret** 40:54

As you've heard me say, the Unity movement was very concerned about this on the front end, before we had a division over how fair the election had been. And I do believe that the solution involves us coming up with some system that is modern and robust, which would arise out of the recognition that we all benefit from such a system. And the problem is, frankly, I think these parties like cheating, and, you know, I'm not saying anything about Oh, yeah, of course, of course, it's what they do. And that, you know, I'm not talking about the balloting itself. But the point is, I think there is a reflexive desire to keep the system, you know, Baroque, because frankly, people are, you know, itching to gain their advantage in a court fight over hanging chads or whatever it is. And really, the fact is, a lot of these people don't believe in democracy as a system, they they like it as a as a as camouflage. And those of us who do think that the consent of the governed is the sole basis for the legitimacy of government. Half have to reassert structures that will allow us to figure out what the public wants, even when the public wants something that we at a lower level think is bad, right? The process either works, or it doesn't. And those of us who believe that it works better than the alternatives have to fight for it. Now, I will say you have to compare the hazard of a modernized system. In other words, a bad modernized system would be almost certainly more prone to fraud, versus a really well thought out modernized system. So it's not like modern is inherently better. In this case, modern could very easily be worse, but good modern, compared to our completely bizarre and highly irregular and variable system, that system is clearly prone to error. And if you were going to hide something, hiding it in a complex phenomenon, rather than a place where you could track individual patterns, is obviously it's obviously a problem.

**Heather** 43:16

Yeah. Also, you had a gem hidden in there, as is so often the case you produce, you produce these phrases that should be lasting, which is easy. The both parties are wearing democracy as camouflage that they that they like to pretend to be democratic. But that is a useful feint to direct attention to the democracy sounding stuff and obscure what's going on behind the scenes.

**Bret** 43:42

Yep, such as the nature of duopoly.

**Heather** 43:46

Oh, boy, we're going to read a few more from here and then move to the following hour. What are the chances that you'll get Ed Snowden on the Dark Horse podcast? second part of the question, do you think you should be pardoned? Yes, I think you should be pardoned.

**Bret** 44:00

I agree. Ed Snowden should absolutely be pardoned. Would love to have him on the podcast? I also believe that Assange should be pardoned. And I hope that Trump will do these things on on the way out of office.

**Heather** 44:17

Also after COVID, if so same person asked him the question, new question. Also after COVID is over, would you be open to hosting small group educational trips for people like us to places a biological interest like you did with your students?

**Bret** 44:29

That's a crazy idea. Yeah,

**Heather** 44:31

so yeah, we've we've been talking about that for a number of years. And, in fact, part of the reason for us to go down to to pettine, this extraordinary biological research station in the heart of the Ecuadorian Amazon in January of 2020 of this year, was to assess whether or not it would be really accessible whether or not would be at all plausible to take people there. And I think you know, the short answer is probably and the the experience of showing people deep nature that they have only seen represented in, you know, animations or highly curated nature documentaries in the past is really such a joy, and being able to do so along with an education about what the evolutionary processes that you're observing the results of mean, is even even more fun. So I think I think we might,

**Bret** 45:35

yeah, it's the best. And we should, it's easier for me to say because Heather has gotten the logistics down to a science and the logistics are not fun. Yeah, it's a tremendous amount of work, the

**Heather** 45:49

logistics that I'd gotten down to the science fair with the help of an admittedly small and somewhat competent college, but they took care of, for instance, all the legal rights eventually, right. Yeah. So I just had to make sure that I and all my students were in compliance, I didn't have to source anywhere. So it's more complicated than it might seem but possibly, yes. How? Hi, this is my first Super Chat. But I've been here since the beginning. Could you speak about the new research on hyperbaric oxygen therapy and the increase in length of telomeres? Thanks to all thanks to you all, for all you do.

**Bret** 46:25

Yeah, I'm barely aware of this, I'm highly skeptical of the actual utility. In other words, it may be wrong, but what I think I read is that they are using these oxygen enriched chambers, and discovering that telomere lengthening is occurring. Now, it is a stretch, though, to infer that this is going to create a reversal of the senescence pattern. And for various reasons, one of them, I argued in my paper, which ultimately came out in 2000 to 2002. That one of the key features that was causing aging, I call it histological. Entropy, I should have called it epigenetic entropy, did not yet understand that how that term would, would change. But in any case, the point is that cells trigger different subsets of their genomes, they encode different proteins at different stages in their life cycle, and that the proper encodings are triggered by information about where a cell is that it gets from its neighbors. And the path that a cell has taken to become what it is as it has become more and more narrowly specified. And the problem is as you lose cells from a mature system, and they are replaced by other cells, the information on which the cell bases its estimation of which genes it is supposed to transcribe becomes lower and lower quality. In other words, the organization of the epigenetic information becomes noisy. And as it becomes noisy cells are doing less of it, tissues are doing less of a good job, because the cells within them are not well organized relative to each other. And there's no way that enriching oxygen introduces any information into the system about what genes to transcribe. So at the very least, if this works, it doesn't work on the core problem, if I'm right about what the core problem is. And it's also It remains to be demonstrated that there's anything useful about the telomere elongation that's being measured. In fact, there is a way again, I'm talking about a paper I haven't deeply read, but there's a way in which that could be an artifact and not really a measure of anything, the

**Heather** 49:00

paper here and deeply red being the hyperbaric oxygen therapy. Correct. So I just quickly put this up. Yeah. So this is your paper with Debbie from 2002.

**Bret** 49:08

Yeah, and I think the logical entropy is even his right to entropy increase. histological entropy, which again, if I had to do over I would call epigenetic entropy.

**Heather** 49:20

I mean, I always, I always loved histological entropy as not as a process so much, right? I liked it more back then when I was younger, right. Exactly. But yeah, I think it's a great, great phrase, but I understand why you would would rather it be epigenetic entropy, in a sense, I think you're talking it's more fundamental. It's earlier in the in the pathway.

**Bret** 49:42

Well, I think it was misinterpreted, I think the term so there are a lot of bad hypotheses of senescence based on entropy, right? People have noticed, oh, the body gets more chaotic over time. I

**Heather** 49:52

actually hadn't it hadn't occurred to me that that was the problem.

**Bret** 49:55

Yeah. So I think people read it as a kind of Oh, another one of those garbagey arguments and the answer's no, this is a very specific argument about information. Yeah. Where's that information? It's epigenetic information. Okay. And so I will say I

**Heather** 50:07

have no manifests in the histological tissues, perhaps but yeah, right,

**Bret** 50:11

right, right. Yeah, that's it is histological there's nothing wrong with the term in terms of meaning there's wrong it's wrong in terms of what I think people read it to mean. But I know that David Sinclair at Harvard has picked up this thread it's an important part of his arguments. So anyway,

**Heather** 50:30

I don't I don't know him I don't recognize the name. He's a

**Bret** 50:32

a senescence researcher. He's been on various podcasts that we know and things okay, so anyway,

**Heather** 50:43

I have a cousin who believes that men have periods and believes that your videos are transphobic please still man the argument for this and give scientific argument against

**Bret** 50:53

steel man the argument that we're transphobic Well, the steamer

**Heather** 50:57

the argument that men have periods. So, you know, we we have been consistent and clear that we do not think that trans is a fiction, we we know trans people, we count trans people among our friends. And we understand that while sex is a binary, effectively, a binary going back to the anime, and I saga may have two very different gamete types, that in our lineage is 500 million years old, at least uninterrupted that the manifestation of individual bodies of regard to what sex they are, are more complex, and therefore some can be somewhat Messier. And that there can be a disconnect between say your actual sex, your actual sex, which is to say, you know, the gametes that you produce, and your chromosomal sex, which in mammals and birds, is, is determining what sex you are, and your anatomical and physiological sex like the, you know, the primary and secondary sex characteristics that are revealed on your body. And, and also endocrinologic, automatically, and then also the sex of your brain. And this is where things get more and more fuzzy, you know, male and female brains are on average different in some regards, I can't remember which way it goes, but one should look it up. But one, one sex of brain tends to have more white matter and one sex of brain tends to have more gray matter for instance. So you know, there are average differences with the rest of overlap between them. But it is, it is quite possible given the complexity and length of development for signals to get mixed. And for someone to be an actual male, for instance, with a brain that feels so female, that it is error concealable for them to live as a male. And so basically, for the, for their, their feeling of their own sex in their brain to be not the sex that they are, and therefore to live their best live lives, to live their best life, to live as the sex that they are not and therefore to be, you know, trans. To be to be nice to be respectful, I am fine calling a person, I guess I've used the wrong example. But someone who is actually female who thinks that who really feels in their brain that they need to live as a man, that that trans man will continue to have periods, probably, frankly, if they're continuing to have periods, they probably aren't fully transitioned. Because once you're on testosterone, you probably are not continue to have periods. Although I don't know enough about the various technological things to know that for sure. I would not call such a person a man. They're not a man, they're trans man. And that is a sign of respect, and I'll be happy to use he him pronouns with such a person. But at base, that person is a biological female, because biological females are the people who have periods not met.

**Bret** 54:08

Alright, so I agree with what you said, direct very carefully. I think we can say it. Very simple. Great. Let's do it. Okay. So what I would say is, trans is a real phenomenon. It is an ancient phenomenon. It is one that we see in many different cultures, there are allowances for such things and the expectation that they will happen.

**Heather** 54:34

Sorry, so I want you to I'm gonna have you go back and do this briefly again, but let me just interrupt right there and say, we, in fact, know that trans is not just real and ancient, but is has many different causes. It's actually multiple things. So for instance, there's a small population and I think it is Haiti, with what is now understood to be a very real genetic variant that produces transmis such that the rate of trans people in this one village in Haiti is sky high. Compared to you know, everyplace else where it's a tiny fraction of 1%. So that I think that genetic variant is unknown in the rest of the world, for instance, but so you know, in this particular part of Haiti, trans is understood to be caused by a particular genetic

**Bret** 55:15

variant unknown, and no reason to believe it exists, right? In other words, it's not typically caused by genes as far as we know. Okay, so by some genetic variant,

**Heather** 55:25

start again, with your brief, okay, that's nice.

**Bret** 55:27

Trans is ancient, natural, and there are allowances for it in many cultures, as a result. When a person is trans, they arrive there by self designation by reporting features of their personality that would tell us that their mind feels more female, even though their body is male. And in such a case, the right thing to do is to treat them as a man, for some intents and purposes. And that's the point it's not all intents and purposes, that's why we are fighting over the term man, right? What intents and purposes Well, let's to say loosely, social insofar as it doesn't cause a bigger problem somewhere else. They're not a man from the point of view of a carrier type, from the point of view of their doctor, right? They are a man from the perspective of social interaction and our treatment. And then we run into, again, places where we can't be so simple about it when we get to sex, bathrooms, sports, prison, other things where we actually have to make a call and the answer is not simple. Right? So anyway, this is my offices

**Heather** 56:48

for survivors of domestic violence. Sure, like, there is just like, there's a reason for non symmetrical productions. For women under the law, there is a reason for women to have spaces which men cannot enter. And this is an obvious potential way to game that. And we know that even though the vast majority of people who are actually trans would never be doing that, that it has happened,

**Bret** 57:24

right? So the simple version, the steel man version is trans is natural. That means that there are people who are born female who transitioned to male who may continue to have periods, and they should be treated as men. Were practical, right? But not everything. That's where we part ways with the idea that men can have periods because that's absurd period is a a biological phenomenon, there's a reason that it strikes the mind is inconsistent to hear that in the mind is not incorrect to register that inconsistency. So now it's how do we know that we are not transphobic? Because we've just told you a that we've had many trans students that we get on well with them, that we regard trans as a natural and ancient phenomenon that cultures have incorporated for, well, 1000s of years, and how could we possibly be transphobic? If that's what we're saying, that doesn't mean we're not wrong about stuff, but it's in the idea that we are somehow hostile to trans ness is now I

**Heather** 58:37

think that's being too generous. transphobia is a term that doesn't mean what it seems to me. Actual transphobia which I haven't exactly run into would be it's not real at all. There is there is there is no, there is no way to be thinking about anyone being trans. I don't even know what it would sound like honestly. So I'm not I'm not even sure I think that the word has any meaning honestly, outside of the trans rights activists who use it as a weapon. It's used as a bludgeon to and so almost anyone who is wielding the term transphobia at this point, I would say no, you are reality phobic. I'm not transphobic you are reality phobic. Let us let us lay out for you what is actually true, and where the points are that we could reasonably disagree. And if if you really believe that a period, which is the result of a failed fertilization of an egg event, which is as female as fundamentally female, a process as can possibly be, is something that could be happening in a male body, then you need a better education. We don't need to admit that we're transphobic you need to admit that you're reality phobic.

**Bret** 1:00:00

You nailed it. Okay. All right.

**Heather** 1:00:02

Do you know who Joel kotkin is?

**Bret** 1:00:04

I don't think so.

**Heather** 1:00:05

I don't either. Joel cut can we are told has done quite a bit on Neo feudalism. That big tech act is oligarchs, income inequality is high and social mobility is low. Do you have thoughts from that brief blurb? Sounds potentially right. But neither of us know the name.

**Bret** 1:00:23

Yeah. I would say, you know, Neo feudalism is going to be like, fascism, where they're going to be elements of it all over the place. And the ones you point to here in this question, certainly are worthy of asking this question. But you're not going to find all of the elements. So maybe by calling it Neo feudalism, you you rescue yourself from that predicament, but But yeah, there's definitely some analogy to be made. It's gonna fall apart the finer grained you get.

**Heather** 1:00:55

Okay, just one one more quick question, because I doubt you will answer it, but I think we should read it before we move to this hours questions. For a little bit. Anyway, you talked about a video that was pulled from YouTube in a few hours, what is the title? And where is it available?

**Bret** 1:01:08

I don't remember the title. Actually. I don't.

**Heather** 1:01:13

I mean, I could presumably find it if you wanted to share it. But part of part of the conversation that we had was about whether or not whether or not we actually I mean, amazingly, bizarrely, that we live in this world right now. Feel that we can talk about it? Yeah. Right. So what do you think if I find out which I'm about to be able to do here, I think in my notes,

**Bret** 1:01:40

but here's why I don't want to do it. Okay. So I thought, first of all, I think you probably find it from what we've said, But

**Heather** 1:01:47

well, but no, there's actually there's a few out there's a couple Yeah,

**Bret** 1:01:49

that's what I would like to do. I believe that our responsibility, and I don't believe that this is a requirement of our contractual interaction with Google, such as it is, but I believe that are the moral requirement given who we are. And what we do is that we present this material in context, and we do some work to make it clear why certain claims, you know, why the claims have the status that they do, right. And so anyway, I would like to figure out that this is safe enough to engage in and to engage in it properly. And, you know, I don't think we're going to be able to establish that, you know, Google's not going to tell us it's safe. So we're going to have to take the risk, but I would like not to. Wow, that's a lot of barking. I would like not to set people to looking at this, some people will have tools to evaluate it, but others will not. And I think to the extent that we are bringing attention to it, we should bring attention with the proper tools to figure out what it means.

**Heather** 1:03:00

Okay, I do not have a line here to tell me where the new hours questions start. And our producer has just gone to quiet the dog. I think I'm on it, Zack, you're back now. Hmm. I think this is the first question in the next hour. Science is the best tool. Yeah, science is the best tool to find out how the world is including in social science. We can make descriptive claims about the objective and subjective no anti positivism or interpretivism. What do you think? Much love?

**Bret** 1:03:31

Yeah, I mean, at some level, you know, that sounds like an audacious claim. But the thing is, this is the the basic essence of figuring out what's true, it's the best mechanism we have. And that's not to say that it doesn't need upgrading. I have argued many times that we have gotten much better at figuring out what's true in the context of the simple sciences, simple sciences, not being easy sciences, sometimes they're much harder. But fundamental sciences, sciences. Yeah, physics, chemistry, we've done a really good job of figuring out to a hard degree of certainty and specificity how things work. We are much earlier in the process of figuring out complex systems, especially complex adaptive systems. And there is a alteration, that philosophical alteration you need to make to the scientific method and its context in order to do complex systems. Well, but that said, you know, there are patterns. That's the only thing that we can notice that we can discuss. Figuring out how those patterns work requires a method, we don't have a better method, nor is there any reason to think that there is a better method than fundamentally a scientific approach in which you attempt to falsify hypotheses and that which is left standing after all such attempts is the model that we continue forward with. So yeah, basically the answer your question, I think is Yes.

**Heather** 1:04:59

All right now question. How did concealed ovulation evolve? Did this from echo? Did we move from male selecting for females for fertility women historically having fewer ovulations to females selecting for males? Does concealed ovulation imply more male competition? So just to knock off a few of the little bit of the low hanging fruit here, does conceal population apply more male competition? No, I think it implies exactly as the previous question in this line of thinking suggests that you now have that you basically now have choice going both directions. And that effectively when ovulation when it's clear from the outside, when males can tell when a female is at her most fertile, she is more easily controlled by males who have an interest in controlling the reproductive periods and just reproduction reproductive capacity of females. And so you know, this goes back to the classic paper on the evolution of mating systems. amlan whoring from 1977 which may even be called the evolution of mating systems, mating systems being those things that describe you know, are you in a monogamous society where you have one female to one male polygynous one male to multiple females polyandrous, one female to multiman multiple males or so called promiscuous, which in human modern human terms, we would call polyamory sort of a free for all. So all of those are known mating systems. polygyny being by far the most common among mammals, monogamy being next most common and polyandry and promiscuity being very, very rare. monogamy is pretty rare as well. But in traditional system, you have males competing among in a polygynous system of males competing between each other amongst each other, for access to females and females, in most situations get to choose. And as you move more and more towards monogamy, you have competition within both sexes, for access to the other sex and also choice by both sexes of the other sex. And as one of the ways that females physiologically with no conscious choice at all, of course involved can effectively move a system away from polygyny towards monogamy, which is good for almost everyone, except a few very powerful males is to make their own reproduction less controllable by males. And how do you make it less controllable? You make it less obvious, you make it less discernible. So concealment of population is one way obviously to make your fertile period less, less obvious, what is the mechanism? I've no idea?

**Bret** 1:07:46

Well, let me again, try to think that's a plus lesson in this, this questions, but it's gonna be hard to follow. But if you think about it this way, males have an evolutionary incentive to try to dominate the reproductive output of as many females as they can. And if you imagine a system in which males are able to spot when females are fertile, which is true in most creatures, they a male, a powerful male will move from one, one female to the next at her fertile period, and fertilize each of them and basically fend off competing males. So to prevent that, a system evolves, in this case, the invisibility, so that a male who attempted that might succeed in mating with but would not necessarily succeed in fertilizing. Therefore, the best male strategy, even for a powerful male, will be to invest in an individual female, so that he has sex with her when she's fertile, even if neither of them know when that is. And so, anyway, I'd say it's a very positive thing. And I agree with your point about control that to the extent that this was concealed to the outside world, but not to the woman herself, then coercion might force a woman to cough that information up, which would then reinstitute the system in which powerful males had the ability to fertilize many females. And the downside of that

**Heather** 1:09:17

well on there is, you know, whenever I talked about this in classrooms, I would have a few young women saying, I kind of know, and I think, you know, and and yeah, there is, there is a kind of No, in terms of sort of peak fertility for a lot of women, but it's still nowhere close to obvious the way it is, and all of our primate relatives, it's not

**Bret** 1:09:40

close, and it's also not precise. In other words, we're talking about a number of hours and the fact of having a general sense of what it is is not the same thing as knowing when you're fertile. Also, I would say that we know we moderns know a tremendous amount more about things like fertility and how long these periods are, and so to the degree agree that there is some detectable thing. It is also embedded in a system in which a woman knows that there's something to look for.

**Heather** 1:10:07

Right? It's based on extent metrics. Right? And

**Bret** 1:10:11

so anyway, yes, I got the same pushback on that point every time. And I think it means less than then people imagine that it does. But in any case, bottom line message here is that there's a fascinating, you know, I would say mating systems is one of the places that evolutionary biology has done reasonably well that we have understood a great deal about this. And you know, it was a lot to emlenton oaring. And their, you know, initial

**Heather** 1:10:37

foray was just brilliant, classic papers. So,

**Bret** 1:10:41

it's a really important insight. But I would also point out, you said, monogamy is rare in mammals.

**Heather** 1:10:49

I said, Ma'am, I said that I was very Oh, I

**Bret** 1:10:51

thought I thought you just said it was rare. No, in

**Heather** 1:10:53

mammals, it's extraordinarily rare,

**Bret** 1:10:54

right? Okay, not rare, exactly birds. And this has everything to do. You know, to the extent that you have the sense that monogamy is not evident, evolutionarily favored. The reason that it's rare in mammals has to do with the way mammals reproduce, which causes males not to have high certainty of paternity because pregnancy is long, whereas eggs, bird eggs are fertilized right before the fellows put on right before they're laid. And so a bird, a male bird, is in a much better position to know how likely it is that he is the father of any given egg. And in the case that males have high certainty of paternity. Investing is favored, right so in birds we have something like 85% of species have some degree of monogamy right? That can be inside of a season or it can be lifelong but and you know, it's monogamy is never perfect in the systems when we checked genetically, but But anyway, the point is actually, selection favors monogamy when certainty of paternity is high, and is the decrease in certainty of paternity in a mammal system that causes it to be the rare outcome. Yeah.

**Heather** 1:12:14

Okay, I've lost my mouse again, Zack, what if you would just show my screen for a moment and then see if you can return me to where I need to be. So this is just this is the paper we've been talking about and linen or in Polish in 1977. ecology, sexual selection, the evolution of many systems out, it's hard for you and me at this point to know how hard to access it actually is because it's sort of in our blood and has been for so long. But I think this paper always struck me and we ran into it first, almost two decades after it was written. But as always struck me as so clear, and so precise and concise and just brilliantly done. That it's, it's worth going to if you're interested in this kind of talk about sort of what ecological conditions and for humans ecological conditions can include the density of the city you live in, and what kinds of resources around you might lead to different kinds of mating systems, like monogamy versus polygyny.

**Bret** 1:13:11

long as we're here, the simple thing you're looking for in that paper is females distribute themselves across the landscape based on the distribution of resources, which tends to drive them apart. That is to say, competition for food will cause females not to want to be foraging right next to each other. Now the distribution of food can be patchy, which affects that but basically, food competition drives females apart. Predator competition drives females together. Females space themselves based on the tension of these two parameters, and then males pick a strategy based on how females are distributed around the landscape and what their reproductive parameters are, which varies if they're synchronized in their fertility, asynchronous concealed population, etc. So unless you're Gioconda, which I'm not

**Heather** 1:13:58

okay, then we don't have to talk about them. Good. Or fellow?

**Bret** 1:14:02

Right? Well, I'm also not not a failure. Oh,

**Heather** 1:14:06

yeah, I guess you're not Nope, that's good. Can you comment on the Trump team's progress in Pennsylvania? It's getting weird. And everyone except Tim Poole and sync. I think it's Unger. So yeah, that's spelled weird. How is it pronounced? I think it's jancuga. is pretending it's not happening. I really can't I have been ignoring it.

**Bret** 1:14:31

Yeah, I have to say I'm not following it. I agree with your first sentence. It's getting it's getting weird. Yeah. You know, I have the sense that this is over. But obviously, that's not exactly where we are.

**Heather** 1:14:45

Yeah. Contrary and perhaps because the low threshold speed limit the low posted speed limit that we talked about in the last hour, be a shape of institutional racism. For instance, New York, stop and frisk 100%. Oh, yeah, exactly. Right. No, in fact, that So that was that was originally on fly.

**Bret** 1:15:01

In fact, I heard myself not include blacks as one of the categories of people you might choose to pull out of a bench. But yeah, but yeah, of course Yeah, that's a classic. Yeah,

**Heather** 1:15:13

that's that's exactly it. It's which one of the ways that you know, a roll that's not bigoted, allows bigoted people to enforce it in a bigoted manner. So how do we make rules and laws that preclude that from happening? That's tough, but it has to be done. We have to figure out how,

**Bret** 1:15:31

yep.

**Heather** 1:15:33

Okay, we're gonna get through a couple more. Oh, we got a $200 question here. We're gonna get through. Yep. Oh, it's a different currency. Okay. Well, we're gonna get through that one anyway, cuz it's a good question. So forbore here, how many plans are on hold for you all due to COVID? How is one to live without pursuing certain goals? If COVID is closing off options, it seems too much to take in more risk taking. How do you make the best of it, I live alone right now for context. I am about as introverted and capable of spending long periods of time alone as anyone I've ever met, having spent long periods of time nearly alone on an island off the coast of Madagascar, which itself off the coast of Africa for many, many, many months, when I was doing my graduate research. And I cannot imagine how people are staying fully mentally healthy. If they're living alone, right now. It's really, really hard. And we are, we are both so lucky to have the four of us who as we said earlier, it's still true. You know, we have four people living together who both who not only love each other, but also continue to like each other. Plus, we have four animals, non human animals within we share a space and we live in nature. And so that we can get outside, even in those at those moments when stupidly early on the parks were closed, etc. So in that way, we are incredibly lucky. And we know that most people are not most people do not have that. That combination of things that are making this relatively easy. That said, This isn't easy. It's not easy at all. It's hard. And we watched, we watched so many things that we had planned just fall off in March, the cancellation of we were supposed to go to New Orleans, we were supposed to go to Princeton to give a talk. We were supposed to go to I was supposed to be at Princeton again this month, I think we're supposed to go to Bucknell. All sorts of you're supposed to be written. Yeah, there were there were just all sorts of events that we were supposed to go to, to speak at, to be at. And that involve would have involved not just seeing more of the world, which is we have said over and over and over again is one of the you know, it's it's one of the joys of life, but it's also one of the ways to make sure that your model is is not becoming out of date or provincial. And but it's also one of the ways to meet so many people that you wouldn't otherwise have an opportunity to meet. So all of our lives are becoming more restricted, more provincial, because we're not able to do that anymore. That said, Would we have chosen to start live streaming? When we did? Have we not suddenly been in lockdown? I don't know. Yeah, very well, maybe not. In part, we saw what we perceived in late February and early March as such an abundance of bad information and terrible talking points and worldviews that were inconsistent internally with regard to COVID that we thought you know, we we actually have some insight here we're going to take the airwaves as it were, and start talking about it. And I'm not sure what would have been the impetus absent that so that is that there are certainly also good things that have emerged for us but at the moment most of the plans that we would have had most of the places we would have been going now hadn't even made it to the calendar yet so I'm sure this is true for most people who who go places who were invited to go places that we had things in April May June July you know through now canceled, but no new plans have been made. And so who knows what the winter and spring could be looking like right now, absent absent the lock downs. And you know, one one additional effect is that our book has been the publication date for a book has been delayed because in part in large part apparently because of supply and delays in terms of paper and printing delays for for the printers and so you know, this book that was supposed to come out in the spring of 2021 is now going to come out in September of 2021. Now, I will suggest both disappointing, but also maybe by that point, we'll all be out from under this thing. And we'll be able to actually travel and do you know, and do events around the book and maybe meet many of you who we otherwise wouldn't have met. But it's a it's a

**Bret** 1:20:15

clusterfuck. Yeah, it's chaos. I will say, because of the way we've written the book, it will still remain true even given the delay.

**Heather** 1:20:23

Yeah, although, as you know, I went back in and I say, well, we got to add something about COVID, don't we, right? Oh, boy. Yeah, yeah.

**Bret** 1:20:29

But I would say, look, there's there's a couple things. One, this has been catastrophic at some levels, too. As Heather points out, it has caused innovation three, there's diminishing returns on the innovation, the more months we go on like this, the less there is to be learned each month, for I'm concerned as hell that we are now botching the analysis of what's really in our collective interest. Because this has now been so thoroughly politicized that we are not in agreement about what is taking place. And given what the consensus seems to be about what is taking place, we are not in agreement about what the rational policy response would be, we got to get out of that situation, we've got to get to a place where we can actually talk, cost benefit, you know, deaths caused by lockdown versus deaths caused by not locking down all these things have to be compared, and there's a way to do it, but we're just not doing it. We're doing we're playing team games instead.

**Heather** 1:21:26

What is your opinion on democracy in the workplace? eg worker co ops? I'm not sure I would have thought of worker co ops being democracy in the workplace, per se. Yeah. I'm not sure exactly what the what the person is, is getting at I think, you know, the the worker co ops that I'm most familiar with our food cops, which we've we've always been members of whatever food Co Op, are, wherever we live. And they seem to work really effectively. They're, you know, they tend to be small organizations with very left leaning individuals who are therefore somewhat susceptible to capture to ideological capture. And we we've seen that long before the current moment. In I think we even saw that in our bar, but we certainly saw in Olympia,

**Bret** 1:22:13

yep. Yeah, I'd say works very differently for different kinds of organizations. Yeah, you know, in a food Co Op, at least for a while that works in your favor, it results in you know, food that's less likely to be compromised by pesticides and, and other such things, and you know, it is going to increase the price. But in terms of the harm, you know, if, if pesticides are not harmful, and there's no reason to think that that would be the case, but if it was the case, it wouldn't hurt you to eat things, I didn't have them. They're not like an nutrient. So, you know, the, the bent of a food Co Op tends to work in the direction of the health of the people who shopped there. But as you point out, it can extend to other things, and we can start battling about, you know, whether they should divest from Israel, right, or whether the, you know, tortillas are culturally appropriative, based on, you know, who owned the shop that pressed them or whatever. So, you know, there's a danger, but you scale this up, you know, what does democracy look like in a larger entity? You know, well, frankly, it looks like, you know, Penguin, Canada having an allergic reaction to the publication of a book by a highly respected author who, you know, I don't know what his second

**Heather** 1:23:31

was gonna sell a huge number of books and is therefore good for the bottom line of the business on whom these people depend for their salaries.

**Bret** 1:23:38

Right. So anyway, obviously, it should not be up to a bunch of employees who want to shut down certain schools of thought to decide what a publisher can publish. The answer is the publisher could publish things, frankly, that the publisher doesn't believe her. True, it should publish them so that you know if these arguments are viable, that we can have the debate about what they are, and in the case of Peterson, this is so freakin insane. If you look at what his first 12 rules were, you know, it's obviously in the interest of the well being of the people that he's publishing the book for,

**Heather** 1:24:15

allow me to take this moment to say publicly also that I have always stopped pet cats when I see them on the street.

**Bret** 1:24:21

Yes, you have been you've been on that rule since the beginning. Exactly.

**Heather** 1:24:25

Two more questions. Hi. from an evolutionary standpoint, what do you think is the most fundamental moral or moral should be or ethical rule of our society? For instance, is that the golden rule? Is it consent? My first thought reading this is that we have this list of 12 things that we say associate a 12 Well, I said 12 I was like you have the 12 Days of Christmas wasn't terrible. Eight things associated with the eight nights of Hanukkah that I have seemed fairly central to running a good and fair society. And they actually formed the epilogue of our book. And one of them is, in fact, the golden rule. And no one of them is not consent. Because it seems to me that consent is, is a sub issue, that as soon as you make it into a static role, it's going to be gamed.

**Bret** 1:25:23

Yeah. So, you know, certainly Golden Rule stands, you know, it's a candidate, I would say that there's a deeper principle than all of it. But in some sense, I'm thrown by you're asking from an evolutionary standpoint, because evolution is perfectly amoral. And there are places where we would absolutely reject what it wants for us. But the the deepest one, I would say, is that life is an incredibly precious gift. Human life, is the most amazing privilege a person can have. Right, not only do you get to live and experience life, but you also get to understand meaning and to, to, to live fully in a way that other creatures can't, there's some aspect of the experience that they don't have access to. So in any case, I guess my point would be, given what it is, seems to me that we are morally obligated to see how many people we can give that experience. And while that will initially sound like a frightening argument in favor of large populations, it is in fact the opposite. Because in order to give the maximum number of people, the experience of being a human being who is liberated by sufficient well being that they can dedicate themselves to things of true meaning, you have to live in a way that we do not degrade the planet as we go. And so the large number of people that we would give this experience would be a human population that could go on indefinitely, because we're being careful enough with the resource that we have been been granted. So anyway, I think that's the highest principle is, you know, are we working towards leaving this opportunity as good as we found it or better, so that as many generations of us can experience it as possible? And if we're not doing that, then we are falling down on our obligation to, to ourselves and to our lineage?

**Heather** 1:27:26

One more question. And then we will end for this week. What role do dreams play evolutionarily? And how does the mind quantify dreams prior to the knowledge of language?

**Bret** 1:27:38

Hmm, well, this is a funny one, I'm gonna hold back a little bit because there is a a major theoretical puzzle piece to be put in place and you know, deep at the end of a q&a doesn't seem the place to unveil it. But I will say, a we know that dreams are widespread. That is to say, amongst creative creatures, be we know what kinds of creatures seem to have to have dreams, it's a little hard to nail down exactly what what's going on, because we don't read the brain that easily. But we've got a lot of correlative evidence that tells us that this happens. They are clearly adaptive, because they are expensive. To the extent of they're expensive, they have to be paying their freight, and then some in order to have to have evolved, we have reason to think that they are convergently evolved multiple times. That's really interesting. So it suggests that the utility of dreams is large enough that it's been discovered in many different clades. Or at least several different clades. And so anyway, the answer is, for some reason, the brain makes movies at night. one learns a lot about the type of movies if if you experiment with lucid dreaming, you'll discover a lot about your dreams, and there's certainly a tremendous amount of value. In just simply trying to remember your dreams. There's often good stuff, you know, obviously, Freud and Jung and many others have recognized the deep connection of these things to our our capacities in our waking life. So anyway, yes, a deep evolutionary story is there to be on earth and it's connected to some very surprising other things. And stay tuned, we will get there as soon as possible. Hopefully the world will open back up and we can take some of these things into appropriate halls and give a decent presentation on

**Heather** 1:29:33

it. That's right, that would be wonderful. I look forward to that moment. Well, that is it for today. But let us reiterate a few things that are going on soon, tomorrow at 11am Pacific. Less than 24 hours from now we will be doing our once monthly private q&a, which you can get access to by joining at my Patreon. If you join my patreon, you will also get access to a 20% off code for the our new merchandise shop which is at t springs slash store slash dark dash dash podcast. If you don't join other our patrons you can use the code thankful all caps through Monday for 15% off, you can join Brett's Patreon or mine for access to a Discord server where people are having good conversations and at Brad's Patreon. You can also at higher monetary amounts, get access to conversations that he has on the first Saturday and Sunday one which will be next weekend would have been awesome. So actually the $100 one will be before our next live stream right before our next live stream next Saturday

**Bret** 1:30:45

next Saturday right? I will post the quite sent the promo code to my patrons yesterday but I now realize now you wouldn't see it so that's a reason for me to post it rather than send it so I will post it to my Patreon so if you join my patreon you'll have access to it. Also. I don't know like subscribe, notify. Yeah, be well. Rock on.

**Heather** 1:31:14

Enjoy the end of November.

**Bret** 1:31:15

Yeah, enjoy the end of doing it. Why not? What else are you gonna do? Yes,

**Heather** 1:31:19

enjoy things while you can and get outdoors. Alright,

**Bret** 1:31:24

be well, everyone