Your Questions Answered - Bret and Heather 75th DarkHorse Po...

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**SUMMARY KEYWORDS**

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**SPEAKERS**

Bret, Heather

**Bret** 00:06

Hey folks, welcome back to the Dark Horse podcast live stream q&a where every pet has a worse case of attention deficit hyperactivity disorder than the last.

**Heather** 00:17

Yep, they sure do. They sure do. But there will be no unforeseen events this week with them.

**Bret** 00:25

No unforeseen event we foresee the whole thing we foresee everything like we have become clairvoyant. Yes.

**Heather** 00:31

All right. Let's do this. Episode 7075. q&a. All right. Here we are. Here are a couple first from last episode. Have you looked into the research done on the link between migration theory and eating disorders? If so, what are your thoughts?

**Bret** 00:48

Yeah, you want to you

**Heather** 00:49

I don't know anything about this. It was intriguing to me. I never heard anything about this. Yeah, I've

**Bret** 00:53

never heard anything about an either. I will certainly say that. I would imagine that there is a lot of interaction between light regime diet of population of origin and current eating patterns. So yes, it's going to be a novelty problem. And likely where you've come from has a lot to say about what has happened to you. So yeah, I think it's interesting, if that's what it means.

**Heather** 01:18

Yeah. Yeah. So I did not have a chance to look this up before between now and then I just put it on the like, hey, let's, let's see. But anyway, it's potentially worth us thinking about. Yep. Don't For God's sake. I'm going to just read this question. Wow, that's just not okay. We often speak about the destructive effect of pathogens introduced into native populations of America by Europeans. But wouldn't there have been similar but should we start over? Um, we could we could just start over?

**Bret** 02:00

No. Okay. I think we're good. I mean, life happens. It comes at you fast sometimes in the form of a hurricane cat.

**Heather** 02:12

I did take him to the vet. Yep. Hoping anyway. He's not been eaten by coyotes, for which we are grateful.

**Bret** 02:18

Yes. All right. Definitely.

**Heather** 02:22

That was disturbing. Okay, next question. You ready? I am okay. We often speak about the destructive effect of pathogens introduced into native populations of America by Europeans. But wouldn't there have been a similar effect on Europeans from pathogens they had not encountered before? Is this a matter of historical emphasis or narrative? or European pathogens, more badass to play out the way it did due to population sizes? What am I missing?

**Bret** 02:46

It's a great question, addressed Well, in guns, germs and steel. And the idea there actually were some pathogens that went the other direction, but far less pernicious. And the basic answer seems to be that because of the European association with domestic will creatures, which is largely a historical accident of most of the domestic domestic global creatures on earth, having been residents of Asia, and Asia, being a horizontally laid out continent so that crops and animals could be moved, as populations migrated.

**Heather** 03:23

That because there is no latitudinal gradient that precisely because of what we're talking about in the last hour around why things are not in baseball, from the tropics into the temperate zone, usually, right. So moving across longitude doesn't pose obvious climatic problems,

**Bret** 03:39

right? As long as you stay within a band of latitude, your climate, all else being equal tends to be similar. So in any case, the basic point was that Europeans had longer term experience with association with these domestic creatures with whom they exchange pathogens. And so European immunity was higher. There are very few domesticated large domesticated creatures in the new world. As a matter of fact, I think only llamas are, are in that category. I believe. That's right. And so in any case, the basic point is things like guinea pigs, right? Yeah. Little things. Yes. But big things. No. And the association with those things is what caused European immunity to be what it was and caused the number of pathogens that therefore circulated amongst Europeans and the intensity of those illnesses when people in the new world encountered them to be much greater.

**Heather** 04:39

Yep. And there was a certain amount of nefarious behavior as well, like spreading of sharing of blankets that had that had German them.

**Bret** 04:54

Yes, and now this is apparently a fact with some historic backing and also largely apocryphal,

**Heather** 05:03

not as widespread as someone who was believed, but it did happen.

**Bret** 05:07

It appears that it did happen. But I would point out, this is well earlier than the germ theory of disease. And so what was understood about what was being distributed and what's effect would be is less clear. But yes,

**Heather** 05:24

we get a smoke on screen. Oh, I'm sorry. Should we pause and resume or should we just keep going? I'll be gone for a bit and deal with that.

**Bret** 05:39

Okay. Okay. Yeah, let's just continue. Okay.

**Heather** 05:43

Here we are, guys. But yeah, it as as I had remembered, and as you just explained, it's, it's well, it's well explored and guns, germs and steel. Man, we have cat magazine today, what are you doing, man?

**Bret** 06:00

They are going stir crazy as a result of the lack of ability to go outside.

**Heather** 06:05

Yeah. And I think as a result, they eat their treats too fast and made themselves a little sick. One of them. Okay, next question. This one is from the discord this week. The market is a powerful and important force. And so is the news. As of late, the two don't appear to be mixing well, however, government controlled news seems even more suspect. What is the future of the news and information gathering in this post truth era?

**Bret** 06:31

I don't think anybody knows. But I would just point out that when we're asking for predictions, yeah, what we what we had in the prior era, was more or less an agreement on a single shared narrative. And I think market forces have now driven that the dissolving of the shared narrative. And so now we have multiple incompatible narratives, which is obviously hugely self destructive. The shared narrative wasn't inherently true in the past, though it often was because in general, there was there was a reason for people to want an understanding of what was taking place rather than to want an understanding or want a narrative that simply placed them at advantage. But at some level, we're going to need to have a mechanism for figuring out what is approximately true and a recognition that one's perspective is always inherent in there and the pretense of objectivity is just that a pretense. So acknowledging one's biases is much better than pretending they don't exist. And you know, there are efforts along these lines, so Daniel smocked and burgers working on a project in which we are consulting, which aims to do this, but I think we don't really know because we, we, there's too much at stake and no mechanism for preventing the perversion of information, or the shutting down of those who would attempt to generate something that would falsify the important narratives. Yeah,

**Heather** 08:18

that's, that's good. It's not good.

**Bret** 08:22

It's not good. I

**Heather** 08:22

approved that answer.

**Bret** 08:24

Okay. Yeah.

**Heather** 08:26

Okay, sorry, I'm thrown by the chaos here. Breathe.

**Bret** 08:31

Yes, that's important. Just to even do it regularly.

**Heather** 08:35

Thank you. It's these regular reminders from you that keep me going. Yes.

**Bret** 08:41

Well, I'm glad to hear that I feel good that I played some vital role.

**Heather** 08:45

So many.

**Bret** 08:48

So many, all right, it's getting better.

**Heather** 08:53

Most of my romantic are listed This is the first question that we're reading from this last hour. Most of my romantic relationships have only lasted about four months. I've read that a crush last four months. I've had several relationships go south around that time. What is happening to us biologically after four months and can you explain why in the evolutionary context I would say before you start to riff that the question hinges on that that four month thing being something that's real and I don't know it to be I've never read that I have is I haven't I haven't seen that in literature. It is certainly possible that there's something of a you know of a particular length of time after which the sort of you know the lust chemicals give way to the love chemicals as it were right at this at the mechanistic but not using technical terms level of analysis, but I don't know that to be true.

**Bret** 09:42

I wouldn't say it's less versus love. Quite right. But there's an infatuation thing and there's a love thing and infatuation sometimes gives away to love but not always. And the problem is that

**Heather** 10:00

What do you think, though about the idea that there is like a reliable time period? I would suspect that it might be reliable within individuals and somewhat much more variable between individuals,

**Bret** 10:11

there's probably variable variability between individuals variability between populations and variability in between relationships. But what I would say is understanding what those states are is really important, right? And I would argue that love is an honest state, that the purpose of it is to cause a an individual to grant symmetrical status to someone else, or something else, right to put somebody else on a par with the way you view the importance of self. And that infatuation is actually almost the opposite of this, that in fact, infatuation, its function is deceptive. Right? So when somebody is in that state, they are in that state in order to deceive the person on the other end of that state into thinking they're better than they are. In other words, imagine that under normal circumstances, you can be X amount good to a partner, right? But you really want that partner because it's the right person for you, or some part of you thinks that it is right. And so the idea is, well, how are you going to lock down in relationship with that person? Well, you're going to convince them that you're able to be better to them than you actually are.

**Heather** 11:30

The mental acrobatics version of not wearing sweatpants. You just be putting on your best show, right? It's it's marketing. It's got a stage, early stage of the

**Bret** 11:40

relation. It's almost beyond it's an unsustainably good show. And so the basic point is that is a built in. Yeah, there's a lot of cat stuff going on. That is a built in deceptive program, that because two people often end up in that stage together, right? If you discover that you're, you know, crushing on somebody who isn't interested, then the point is investing in showing them a better than best self is pointless, right? So you get over it. If the other person reciprocates, and you're both showing each other an unsustainable level of goodness, then the question is, well, do you discover in this process that the person is worth hanging on to even though they can't deliver on what they seem to be able to deliver on? And anyway, with respect to your relationships, a no idea what fraction of the issue is, you know, you or who you settle upon, or the modern context in which these things unfold, which may be setting you up for failure, having nothing to do with either of you. And

**Heather** 12:50

the context could include unusually high standards that are actually unbeatable by virtue of, you know, everything from photoshopping to porn, to the expectations of social media,

**Bret** 13:00

right? And so one thing, maybe the most useful thing to say is we are not well served by a set of narratives, I think, largely driven by the market that conflates that infatuated state with love itself. Oh, that infatuated state is true love, oh, bullshit. No, it isn't. Right. True Love is what happens if the relationship has the characteristics necessary to persist indefinitely, right? That initial state may feel good, but it's fake. And so by selling people on the idea,

**Heather** 13:44

you were the mean fake.

**Bret** 13:48

I'm trying not to give it more credit than I deserve. And the basic point is true love relationships start this way, right. But then they have this other characteristic, lots of relationships that are already in relation

**Heather** 14:01

to the first which, you know, I don't know, you could analogize it to the frosting or, you know, like a number of things like it doesn't, doesn't make it fake, it's just not the same as the calling both things, you know, if you do end up in a long term relationship in which you are in love, and therefore saying I was falling in love, and that's what that was, they're really two very different things, using the same word to describe the same those two things is well misleading.

**Bret** 14:22

Let's say I'm not sure how to put what I'm saying. But the fact that that initial state either gives way to true love or doesn't and that from within that state, you can't tell right? means that it is not, you know, the

**Heather** 14:43

Okay, I'm going to try to

**Bret** 14:47

it is not the just keep talking. See, this is the thing, the honest relationship that ultimately emerges has to endure, you know, unruly cats and everything, all right.

**Heather** 15:04

There's nothing for him there.

**Bret** 15:06

But the point that I was trying to make is that the important question, the one with a lot of meaning to it, yes is whether or not there is a relationship there that has the characteristics of permanence, right? And the fact that this other state, a very frequently happens without giving way to a relationship that has that state, to me means that that it is uninformative. All it says is the possibility of that other thing existing there is real, but you know nothing about whether it is so I do think it's vague, and the idea that, because it is intense, and because the long term relationship is not as intense, not remotely as intense, that the idea that literature and everything else comes to focus on that state as if it is insightful when it is in fact, the opposite is harder story is what it is, it makes for Unfortunately, it makes for a saleable story. Now, I will say

**Heather** 16:07

we have a better, better is maybe exactly the wrong choice of words. So we've

**Bret** 16:13

been watching with our kids, we've been watching the HBO miniseries The Pacific. And in part, we were driven to watch it because we had watched a bunch of other world war two stuff that focused on the European Theater,

**Heather** 16:24

including Band of Brothers, which immediately is the same creative team.

**Bret** 16:28

Right? And I must say one of the things it's very jarring I find about the Pacific is this portrayal of actual love and how it starts. That is very resonant, but does not look like a modern story. And my sense is that this has been lost because the market has overwritten the right story of how this works. With a phony bullshit story that myths misleads people into thinking they know what they're looking for, when really they don't know anything of the kind. So anyway, I would say be careful about accepting what the market wants to tell you you're looking for, because the market doesn't know shit other than how to con you into spending money on things that probably aren't in your interest. And you know, love is complex. definitely worthwhile, but it doesn't. It doesn't sell as much stuff.

**Heather** 17:27

Yeah. All right. Next question. The CDC says the antibody testing is not recommended to assess for immunity to SARS, Coby to following COVID-19 vaccination. Can you explain why that would be? Stay wonderful? Well, so again, I don't go on if it's even true, right. So I was gonna say, again, I don't the claim that starts it is one that we have not assessed that the CDC says right, the antibody testing is not recommended to assess for immunity to SARS, following vaccination. So there are two

**Bret** 17:59

things that could be true. Okay. That we don't know. One is that the CDC said this, which maybe they did, right. The other is if the CDC said it, is it meaningful biologically? Right? Right. If it is, if the CDC said it, and it is meaningful biologically, there's a way it could be true, which is that the production of antibodies is so reliable from the vaccines or the production, the inducing of immunity is so reliable, that you don't need antibody testing,

**Heather** 18:34

because it's confirmatory, of something that is so close to 100%. That you just don't know. No, I don't buy that. But that's that. But it's

**Bret** 18:42

possible. Okay. So anyway, that could be what the claim is. But we don't know.

**Heather** 18:49

Can you imagine though? Can you imagine any other if this is if it is true? That the cities he has said this? Can you imagine any other way that biologically it would make sense?

**Bret** 19:01

Yeah, one other one, which is that, and it's it's related, but it could be that the immunity which matters is T cell, not B cell, and therefore the B cell, thereby the antibody titer is too noisy, to be useful, and that the information that you have gotten the vaccination is therefore a more reliable indicator, then then the the test would be?

**Heather** 19:31

Yeah, I actually I find that a bit more compelling that the data would be too noisy to interpret as opposed to so guaranteed to be already what we know that we don't need an even bother. Yeah, which strikes me as deeply anti scientific reason. Whereas it's just going to be too noisy. We won't be able to make we won't be able to stack pattern. We won't be able to make to know anything on the basis of that. Therefore, it's pointless to do if so yeah, that that strikes me as not irresponsible of them if they said it if that is the reason why,

**Bret** 20:07

well, what you would want to know is that the work was done properly to tell you what the implications were. And you would also want to recognize that, let's say, antibody titer is too noisy. Two months after injection to be informative, you would still want to know what things looked like six months, yeah, your three years, six years, totally down the road. And so at some level, I have the sense of there's way too much pretense that we know how this works and therefore understand its implications and are therefore making policy and recommendations on the basis of it that can't possibly be right. But yeah, now you could imagine the data set that would give you a reason to say such things.

**Heather** 20:58

Next question. Heather said that Abigail Schrier wanted her book to be longer, I noticed that her book leaves out the medical industrial billionaire philanthropy angle as a reason for the craze. Did she want this in the book? I don't know the answer to that. And I can ask her. But I, I don't I just don't know because I I read the version. I read one longer chapter in which that was twice as long as the chapter that I showed up in briefly from my from her interview with me. And I can speak to I could speak to what was pulled from that but I otherwise read only the book as it is then published. We are breastfeeding a seven week old and may get the j&j vaccine next week. Are there any potential hazards we should consider any benefit to waiting one to two months before deciding on the j&j one, given that we are isolating and low risk? So I'll just say just is this gonna sound snarky, but this is just a long standing, slight linguistic irritation of mine that except an extraordinarily rare situations, people don't collectively breastfeed their baby. And this started to become a thing like in the 90s. I think, you know, we're pregnant. No, you're not. She's pregnant. For breastfeeding, nope. She's breastfeeding.

**Bret** 22:16

Well, in this one case, oh, I see the look on your face. But I'm right on this one. So go my case, there's a strong chance that they are breast pumping which has its own set of hazards associated with it, but it what would the term be if a couple is using breast milk? But both of them are doing the feeding? Yeah, I

**Heather** 22:39

think I would still say it I'm bottle feeding from breast milk or something just because breastfeeding is the act the the behavioral interaction as well. But you know, it's it's a it's a minor thing. And this question is terrific. And, and certainly the person asking, it doesn't deserve any angry or upset, just like, I'll bet only one of you is breastfeeding. any potential hazards to getting a j&j vaccine while breastfeeding a knee practically a neonate. seven weeks isn't neonate. But really, really quite young, still any benefit within one to two months? Given that you're isolating and low risk, I think so. I think there's a benefit to, to just letting that kid get as much life behind him or her as possible before, before exposing them. I can't remember actually what the schedule of vaccines for babies is. It's been a long time since ours were tiny. But I don't think they vaccinate right away. Do they? Don't they wait, maybe six weeks is actually the first vaccination date. And then mostly, I don't remember. And so you know, with the expectations of this, the effects of any vaccine that mom gets can be passed to breast milk. And I don't know for sure that's true here. But that's the expectation. And so especially if, for instance, the regular vaccination schedule for baby doesn't start until six months, I would be real shy about mom, who is breastfeeding, getting any vaccination, not not just one that happens to be brand new, with a new technology, while the baby is still so young. Yeah, I just that's just caution. It's not based on data. We don't have the data.

**Bret** 24:21

I agree. There is some evidence of immunity to SARS, kobie to being passed in breast milk, whether that could carry over from a vaccine, and whether it even matters in this case, since kids seem to be immune to it in the first place, or very close to immune to it. But you know, the basic answer is you're dealing with a novel intervention and a complex system. You don't know what could be downstream of that. So caution and therefore delaying things is sensible and what you have to put that up against is something like the risk of contracting of the parents can Attracting SARS Coby to. In the interim avid said a

**Heather** 25:05

non breastfeeding parent should go ahead with the schedule Yo, if it were if it were us. And we were scheduled, and I had a seven week old baby at the breast. And we had decided that now is the time to get the j&j vaccine. I would I think that I would push for you to go ahead and get it and meet a wait as long as we felt safe. And because that would help protect us collectively.

**Bret** 25:27

Yes. That important thing, though, is if the decision was that it made sense to get it right. If we had come to the conclusion, we'll come back conclusion. And so anyway, we are not eligible yet. So we have not come to any definitive conclusion. But I would say You and I both have trepidations about all of these novel at various different level vaccines, and are at comparatively low risk based on how much we're interacting with other people. So it unfortunately, is a very personal decision. But yes, with a with a child breastfeeding, I would say there is extra, extra risk and reason for caution, especially if you're in a safe situation. Yep.

**Heather** 26:11

Can you see two part question? Can you increase mouse or any animal lifespan by selecting for long lived mice, ie breeding mice in a lab and continually removing descendants of shorter lived mice? Like the bottom half from the breeding group? alternatively, can you increase mouse lifespan by gradually increasing the age in which they are allowed to reproduce? generation over generation selecting for those that can reproduce it ever older ages? I feel like this is in your wheelhouse? Yes,

**Bret** 26:36

yeah. 100%, you

**Heather** 26:38

can the second one,

**Bret** 26:41

you can. So my, my understanding is both of these mechanisms will

**Heather** 26:45

work. So I was just clarifying your what you're saying both of these, removing descendents of short lived mice from the breeding group and increasing the age at which they're allowed to reproduce.

**Bret** 26:55

Yes, and I will point out there was one very tantalizing result, I'm not sure how well it stood up. But back when I was doing my telomere work, there was one result that suggested the telomere length, which is the regulator of tissue repair, and therefore the capacity to live a longer life. telomere length goes up in male in the sperm produced by males with the age of the Father. So that is to say that across the reproductive lifespan of an individual male, the later in the lifespan that the sperm is produced, the longer telomeres and therefore, greater longevity, all else being equal, the offspring are predisposed to and so what that suggests that's fascinating,

**Heather** 27:46

because that runs counter to some of the some of the now known costs of babies across mammals born to older fathers.

**Bret** 27:57

Right? But the imagine the following thing, imagine that you've got a species in which there is dispersal to new habitats, and that the extrinsic risk to an individual varies a lot between habitats. So let's suppose you came from a habitat in which the extrinsic risks were very, very high. And therefore nobody tended to live a very long time, and therefore it made sense to forego the potential for longevity in order to resist cancer at younger ages. But then, you moved into someplace where there were a lack of predators or whatever. And so the question is, do you want to wait for evolution to tinker telomere length? Or do you want to build in a mechanism that detects that males are living longer and ramps up the increase in telomere length by basically saying, Well, if the offspring was produced late, then it should have longer telomeres? Because that means living late is possible, right? So anyway, it's a built in mechanism that could effectively detect a change in circumstance and rapidly change a population even to greater longevity capacity. So anyway, I don't know whether that result has stood up. But it was certainly tantalizing.

**Heather** 29:14

Very good. I have failed from my first university, lost two jobs and spent 1000s on lost items. I suffer from debilitating shame and anxiety attacks when I have to do adult and menial tasks. And so I have been diagnosed with ADHD. I also tested with an IQ of 143. And I'd love to learn, I want to get a PhD but I've been told that it's probably not the best idea for me. How is this fair? Why is my intellect less than just because my brain works differently?

**Bret** 29:46

Yeah, I mean, I feel like it's all built into that question. But yeah,

**Heather** 29:50

no, it's not fair. Yeah, it's not fair. And it's not probably not the best idea for you. Well, I'm not sure that getting a PhD in any modern University. Suppose it for anyone But that's not because you're broken. It's because it's broken. Yep. Yeah. Yeah, I mean, that is just the tweet that I showed about this new drug for, you know, ADHD, you know, broken children like I, I said that hoping that everyone would read it knowing that I was joking that, you know, we we have, we can talk internally about the ways in which we are broken and, and that can be a useful way of thinking about things. And you know, some of the trade offs don't seem as you know, as wonderful, you know, we might, if we could go back, you know, change some of the trade offs that we are now stuck with. But the pathologizing of all variants is a modern thing that is causing people to feel things like shame and embarrassment, and to not pursue things that they would be extraordinarily well suited for. If you love to learn and you're mentally gifted. Of course, a PhD in some field in which you're passionate should be a great choice for you. Again, I'm not sure that I'm not sure that the flaming hoops that you're expected to jump through under the best of conditions in the modern University, will, you know, they might well be nearly impossible for you and add to those the now. Now, even more grotesque hopes, hopes around diversity, equity inclusion, and it may not be worth your while, but not because of you.

**Bret** 31:26

Yeah, I would also say there's really very little that you need unless you're talking about a very technical field, there's very little you need a PhD program in order to learn. It would be lovely if these programs were excellent for fostering high quality thought, but they're getting worse and worse and, and access to information that's never been better. So if the point is level of learning, rather than acquiring a credential, don't let the fact that a Ph D. program might not be the right place for you dissuade you from figuring out how to learn the material that fascinates you.

**Heather** 32:06

It's also possible. Just one more thing, before we move topics, I used to stay up on this ish when we were professors, because, you know, part of part of what I saw my job as was to advise people who came to me and said, I'm interested in graduate school. And so I was thinking a lot about the already by then decaying academic system within the US and was able, at least for a while to, to feel good about recommending some programs in Europe, and the UK and Australia. And I don't know at this point, you know, how, how captured all the other offshore offshore from the perspective of the US. programs are I think Canada is just as bad as the US. But Australia, Europe, UK might have some some pockets that look a little different, but I don't know. Yeah, it's good point. And then you get to live somewhere else and experience different cultural expectations and all of that. And that in itself is an education. I worked in a hospital. Next question. I worked in a hospital for years with a huge psych service there. I saw drugs make zombies out of people just good to hear rational thoughts. Thank you. Thank you. Love the book, Dart recommendation. You read my mind on what I needed. Good. Also, I think every movement could benefit from a good anthem to help convey its message if the Unity movement doesn't have one yet, may I suggest a better bridge by thrice you know the song I don't Okay, well, you're gonna look into it. All right, you're gonna listen to that song, and I'm alright, oops, hold on, I just grade that out. Rather than making it bright. It's the exact opposite of what I was trying to do. There we go. We tend to think of humans as naturally diurnal. However, for as long as I can remember, I've always had an easier time staying awake all night, then arising before noon, even as a child are some people naturally nocturnal. I saw this question and I forgot to grab the book that I wanted to show that I've mentioned on screen before it's called when I think it's called when and I can't remember anything more about it. Except that he basically the author, because it rather than a how to guide or when to guide and basically talks about the diversity in timing of people. Mostly, he's talking about weird cultures, you know, Western educated, industrial lized, rich, democratic, but also, I think, to some anthropological stuff and like, Sure, of course, there'll be variability in terms of, you know, larks versus night owls, I think is the usual bird analogy that is used

**Bret** 34:39

well. So we suggested in a recent live stream, that it's possible that older people as take on a staying up and watching over a population roles that would suggest some reason variability but not between people. Yes, a change of lifespan, right? I would just say the important thing to say about our some people nocturnal is no, not ancestrally. And we know that they're not nocturnal ancestrally because their eyes aren't built for it. So to the extent that anything you would do, would require you to be able to see this is really only novelty possible as a result of electric lights.

**Heather** 35:25

Yeah, we don't have that to Pete on most of them the coyotes and cats and other nocturnal mammals do, right, that's how you can really see we can tell is a species historically nocturnal or not,

**Bret** 35:35

that said, modernity, I went through a stage in which I was much more productive, late at night, than any other time. And the basic reason was because I was easily distracted by interesting stuff going on in the world. And when we were limited to interacting with people who were local, when the world was asleep, it meant there was nothing to do.

**Heather** 35:58

Did you also stand up sometimes when you were expected to be sitting?

**Bret** 36:02

Sometimes I would find myself one minute in a chair, the very next minute, not in a chair, I would stand up. And whether this was ADHD or some as yet undiagnosed, non chair sitting kind of disorder? I don't know. I feel like

**Heather** 36:19

I should have been warned.

**Bret** 36:20

You probably should have been. Yeah, but anyway, my point is, this has changed for me, because there's no longer a period when the world is sleep. Because we now

**Heather** 36:28

used to say, because the entire world has gotten so boring, nothing is distracting to you

**Bret** 36:33

know, quite the opposite problem is because we're interacting with people from all over the globe. There is no period in which if you stay up late enough, suddenly you can get worked on because there's nobody to talk to. Right. So anyway, that ship has sailed. But my point is, it was a matter of novelty. That people were up to some point, it was a matter of convention that people locally would go to sleep leaving your free to work. Yeah, that's now evaporated as a result of the way the internet functions. But none of this is ancestral ancestrally. barring the kinds of considerations about older people watching out for danger when others are asleep.

**Heather** 37:12

Well, no I so not nocturnal versus diurnal. But, you know, this book and I found the name of it when the scientific secrets of perfect timing by Daniel Pink published in 2018. Made for me a very compelling argument for natural variation. And you know, you tend to be most active and alert and able to do sort of creative work in the early morning as opposed to, you know, midday as opposed to evening before before bed, so it's not a diurnal nocturnal question. But a question of variability within the optimal period of time when humans are adapted within

**Bret** 37:48

the daylight daylight period, which then contracts and expands weirdly, for those of us living in the temperate zones. So that raises questions to ride but oh, well, anyway, I think we've answered it, which is yes, you're built to be awake when it's light. As for within that there might be variation. There probably is.

**Heather** 38:14

Congratulations on 75 episodes, you've covered it all from testicular tanning to sexy bees. That does seem like a like it's a narrow, narrow slice. Unless the were the bees during the testicular tanning, they don't have external genitalia. And actually, the sexy bees, I don't remember what the bees thing was, but it's probably all females.

**Bret** 38:36

Remember sexy bees

**Heather** 38:37

remember the bees? Without us? I'm sure it was. Shout out to echo and the rest of the gang for all the cool questions. Brett paraphrasing, paraphrasing has said that he believes individual consciousness to be an illusion, an artifact of shared consciousness. This sounds very Buddhist, Hindu Taoist. Cool. Why? elaborate? Please?

**Bret** 38:59

Not an illusion, a secondary, an epiphenomenon. Right. So individual consciousness definitely exists, you can check on your own individual consciousness and in fact, you have better evidence for your own individual consciousness than you have for anybody else's consciousness or certainly for collective consciousness. However, it's very hard to explain individual consciousness in evolutionary terms as the initial driving force because what advantage does subjective experience habit has tons of costs, right, including misperceiving things and just the energetic expensive creating an internal world that mirrors the outside world, why not just be wired to do right? That is not the case with respect to exchanging ideas, right? When you exchange ideas with others, there's a very definite reason that to have a subjective experience so that you can take what you think is going on and what you believe somebody else thinks is going on and integrate them in order that you know, so the conversation really does exist. What's the term for it? intersubjectively. So anyway, if you imagine that there being some place where the content of a conversation is modeled, then it's very easy to understand why individual consciousness evolves on top of that, because once you have the ability to converse with somebody else, and exchange abstract ideas and make progress, you also then have the prerequisite to have a dialogue with yourself and debate between two possibilities. So if consciousness existing between individuals evolves, for the obvious reason that it is useful, then individual consciousness has a reason to exist, but it's hard to understand how you would get to individual consciousness first. That's the reasoning.

**Heather** 40:53

Very good. Work. Where did the idea we can't tell people the truth, because they won't know what to do with it come from? Is it true? You guys are dope, thank you very much for your efforts. Yeah, I have wondered this. I don't know where it came from. It feels it feels like a mechanism of social control, rather than anything that anyone actually ever thought was true. But maybe I'm under estimating the dimness of people who make such pronouncements.

**Bret** 41:18

No, I think it's purely a rationalization designed to excuse not telling people what the fuck is going on, because it's in your interest not to tell them? Yeah. And so I am, I am one who believes it is you know, that that is not to say that you can't architect a scenario, there are

**Heather** 41:35

situations when, you know, Nash, national security means that you can't tell the populace what is going on.

**Bret** 41:43

Yeah, but there are probably circumstances in which the likelihood of people surviving, something goes up, if you tell white lies about what they're up against, blah, blah, blah. You could imagine it in a small context. Yeah. It's very hard to imagine. It being anything other than an excuse when the question is what circumstances the nation in and what what is its implication for us? Although, you know, I guess I guess you could come up with something where a nation had a low chance of surviving a military encounter and the chance went up. If people didn't realize how dire was you could imagine it. But in my lifetime, I've watched this thing abused so many times.

**Heather** 42:29

And it's abused at all scales. This thing is fractal like and you see this, you see this in classrooms all the time, you see so many, you know, we've got more experience seeing other college level faculty, but I assume it also happens in K 12. classrooms where just lie to students, because it's easier for the faculty in the moment. Yeah. About You know, about what's true about what's expected about all sorts of things like, boy, and you're supposed to be educating them,

**Bret** 42:53

right? Yeah. Yeah. not lying to students, is amazing what it does for your ability to be productive with them,

**Heather** 43:02

and like, have good relationships. And yeah, it's pretty easy to don't why. Every time I try to talk about the lab like hypothesis with my peers, I'm shut down aberrated people seem to have total apathy towards the origin of COVID. Why is this? Any advice? is totally related to the last question, different person. But But, you know, I don't I think we've all been informed. People who get their news from left leaning publications have been informed that apathy is the only at some level, the only patriotic response to fit to be thinking about it is, frankly, now to be a sign of phobe to be your racist, you're secretly I don't know, hoping that Trump is in office. I don't even know what exactly it is. But there's just a whole lot of societal level control behind this thing that comes out looking like apathy.

**Bret** 43:58

Yes, you've been predisposed to believe that if you question this thing, that bad stuff will happen to us people are rationalizing that doing it is also though, a problem where because people don't understand evolution or complex systems. I hear all the time, well, probably it makes no difference where it came from in terms of what we will do about it. But it would be good to know, or why do we need to know? We wouldn't change anything about how we approach it, which is

**Heather** 44:28

and then your motives are suspect. Why do you care so much right

**Bret** 44:31

now, but this is absolutely not true, right? To the extent that we are talking about something that may have been modified in a lab, it has every implication or at least potentially has every implication for what we would do and what we would predict and therefore how we might modify our behavior. And basically, when somebody tells you Well, it doesn't make any difference. They're telling you they don't understand how evolution works, because we're really asking, you know, where did it come from? Well, if it came from a lab that was trying to make it more transmissible between humans in order to study its effect, then that's a whole set of information about what the thing is and how it behaves. Of course, it's going to have implications. So, you know, I think the answer is sorry, you just failed the logic part of the test. Yeah. You know, try again. Yeah.

**Heather** 45:22

Okay, one more question. Then we'll move to the next. Our questions. Our fingernails. Our fingernails and evolution of claws are an unrelated adaptation. Thanks, love the podcast. Yes. Yeah, they are.

**Heather** 45:37

what's called homologous with claws. And yeah, I mean, we could go on and on and on. But

**Bret** 45:43

I've always wondered whether they've been modified in order to increase the acuity of the fingertips.

**Heather** 45:49

Well, so so finger nails is a I believe it's a primate synapomorphy it might be simian, so so nevermore humans, a shared derived character that is new to that group and new at the new at the level of that group. And although the thing might show up in some distantly related group, that would be a co evolution. And so for instance, you could talk about you know, wings in birds are probably a snap Morphy for birds, but wings and ducks are not as snap Morphe all ducks have wings. But the wickedness of ducks is not new with ducks, you have to go back to the most recent common ancestor of all birds before you find the origin of wings. Similarly, I believe that nails if memory serves are a it's either a primate synapomorphy, or it's a slightly smaller group within primates. And the eye actually, I think, I think and it's, you know, it's not a discrete character. It's not like claws versus nail. So I believe that things like lemurs, and like bush babies, and even tarsiers, which lives in this weird, weird space in the primate phylogeny have a sort of a clock claw like thing and as soon as you get nails you also get finger pads and toe pads. And you get like the so you get fingerprints. You get top brands and you get more dexterity.

**Bret** 47:09

Yep. Yeah, that's more or less what I'm thinking. Yeah, to increase your neurological feedback. Yeah, fingers. Yeah, I will point out though, as long as we're here, claws continue in. pinnipeds that his seals and sea lions on their flippers so if you look at the flipper of a sea lion you will see that it has the claws on the on the flipper itself even though the fingers have been lost. Yeah. Anyway, so it's kind of cool.

**Heather** 47:41

Very cool. You remind me actually so I didn't we didn't end up talking about it today and we probably want later but even if we do, I came across just some ridiculous big formal document from I don't think European agency on sex and gender and how we need to be thinking a lot more about how sex and gender plays out in medicine and all of this into the middle of this they're like and didn't see turtles. The role of gender is important because temperature sex determination Yeah, because because suddenly, if this is a real concern that there's a because of climate change a lot a lot more turtles are coming out female than male because sex is actually determined by the temperature which the develop as opposed to by chromosomes, which has zero to do with gender. It's all about sex. And also they put that into a document that's also about how AI can't recognize trans people as well as people who identify as the second airborne to sea turtles have anything to do with that at all. People are just trying to throw everything together and everything fuse everyone such that they just shut up already. Yeah, can see apathy. Yeah. Okay, we're gonna go to the this hours questions which will be somewhere. Have you guys seen softly tiny? Have you guys seen the not cloning your grandpa clip from Rick and Morty? No, I have not either. Okay, that's the answer to that. Is this is from echo. Is there a purpose to flowers and plants smelling stronger during an after rain? Even though pollinating insects can't fly? During the rain? Certainly. Also, do animals have more after rain? One sensor magnified? love you both be well.

**Bret** 49:28

Yeah, that's a good question about whether the plant is investing something in. Smelling after a rain. I can see a lot of arguments for why if an insect can't fly during the rain,

**Heather** 49:40

and it normally flies to get to the plants upon it,

**Bret** 49:43

then there would at least in circumstances where it has rained a lot, be an incentive to to compete for pollinators at that moment. You might imagine an arms race between plants. They put out more smell chemical so the prediction of that hypothesis would be that there's actually measurable difference in investment and that the plants are choosing to invest after the rain rather than the rain and the humidity that is therefore around increase the degree to which the plant smell without them changing anything about what they're doing. I like

**Heather** 50:18

it. proximate level it could well be that the types of odorants that plants use are water limiting, and so they don't have to be as as parsimonious with them when water is abundant, yep, that's true. I don't know if that's true. It's also if if the if the production of veterans is water limited normally then let's do this

**Bret** 50:42

also possible that if it is true that insects cannot fly in the rain and certainly many of them will not then the flowers will presumably delay maturation until the rain has stopped which might result in just there being more flowers and therefore more surface area

**Heather** 51:01

Yeah, or like a slowing of development and then acceleration of development such that you just like put put out more odorant per unit time because you're now you're concentrating that over a smaller lifetime

**Bret** 51:14

and the the way to test all of these things is to use things that are pollinated by different critters as controls so you know, if hummingbirds for example, fly during a rain that is sufficiently light whereas insects don't because that same amount of rain disrupts them then you would expect the hummingbird flowers to be less affected. So things like that Yeah, good. I mean bird flowers don't smell I just do not mean to imply that one of the things that diagnosis Hummingbird pollinated flowers is that they don't smell in general.

**Heather** 51:56

Bird pollinated bird pollinate flowers and bird dispersed fruits both will have far less smell. Yeah and mammal dispersed fruits there's not much mound upon pollinated that I can think of oh well bat bat bat stuff of course. Yeah. Or insect. Both insects and mammals have much more developed sense of smell than birds

**Bret** 52:18

do. Yes. Interestingly bat I forgot about bats there. That's bats right now. Bat so you can diagnose what pollinates is something based on things like the intersection of the color and the smell. So a beautiful red flower that has no smell tends to be Hummingbird. A red or yellow flower that has an intense smell tends to be insect a white flower especially if it smells a little bit like a rotting pumpkin tends to be bad So anyway, it's it's interesting, but you can walking through the forest with a little bit of knowledge, you can almost always figure out what is supposed to pollinate or what

**Heather** 52:56

yeah, there's also the timing of course you get like, you know, you had some of these crepuscular blooming flowers that are Hawkmoth pollinated, for instance,

**Bret** 53:03

totally bad ones do that, too. I remember Yes. photographing that mark. Yeah, again,

**Heather** 53:08

I forgot about the bats. Yeah, again,

**Bret** 53:09

you forgot about the bat. they're beginning to take it personally as am I and I'm

**Heather** 53:16

not even four months in. This person I asked says states, okay, not even four months in and Biden's putting kids in cages banning guns by Fiat expanding the court, bribing illegals ending Abraham accords surrendering to China and more anyone regret their vote yet. You both are exempted. There's two things on that list. So this again, is someone writing in and I don't know. I don't know anything about the expanded the court. I know there's a lot of talk about it before the election. Is that is that happening?

**Bret** 53:45

I don't know. I don't know anything about me.

**Heather** 53:49

But yeah, there's a few things on this list that I'm not aware of. But yeah, you know, the kids in cages thing. It's just it makes it so clear how much political theater we're engaged in. Because as was abundantly clear to anyone paying attention during the Trump administration, no matter how much you hated the man. This was not new with him. Yeah. And presumably, little has changed. Since you know, the current presidents president who, you know, he served under was an office, you know, I think that Obama, Trump and Biden have all basically kept the same policies in place and it's it's producing a tremendous amount of misery. And somehow we see about it only when we're trying to win political scores.

**Bret** 54:36

Yep, no, there's an awful awful lot that was just very easy to to predict about what was coming. Right. And here we are, here we are. shouldn't surprise no matter how you voted, this shouldn't surprise anybody right?

**Heather** 54:49

Check out Jordans response to Red Skull. He is merchandised it with a comedic and artistic flair with all proceeds going to charity. Classy,

**Bret** 54:57

cool class.

**Heather** 54:58

I don't know about that. I had a lizard interrupt your live stream as I was doing yard work Pacific Northwest northeast of Seattle. Can I keep him? How do I release them? We already have one herb. I'll send the moderator a couple of pictures.

**Bret** 55:13

Yeah, what what lizard was was is a sculptris. fence lizard blue belly or

**Heather** 55:18

north east of Seattle. Yeah, it's gonna be shiny, Coby and ooda. Some pictures. Yes, I love lizards. And maybe some pictures and maybe we'll return to this next time. Start with lizards. We do an all lizard podcast.

**Bret** 55:40

And we just do all all lizard podcasts.

**Heather** 55:43

Thank you. But they'll be very rapid. Yes. Good way. Okay. Is there a theory of homosexuality and evolutionary psychology? One source claims it's a strategy for tricking women into sex, which seems to ring true.

**Bret** 56:02

No, I don't think that's a very good explanation. Yeah, I got one. I haven't I haven't unveiled it yet. It's coming.

**Heather** 56:08

Wait, oh, wait, which doesn't next question, which is not ring true. I mean, not a strategy for meeting women. Okay. The person asking the question is not confused by that hypothesis, which is a stupid hypothesis. Yeah, that just doesn't fit. Yeah. So you're not going to share what what you think here? No, it

**Bret** 56:24

deserves a proper venue. So anyway, it's coming, but it's not. This isn't the one.

**Heather** 56:31

Yeah. Okay. Where are we at sack hour and something yet? Okay, so we're gonna try get through? I don't know, five, eight more of these. Did you get a chance to watch the selfish ledger? No, and I don't even remember it by that name. So apologies. The Novavax vaccine seems to use a more traditional mechanism. Would you feel safer taking Novavax Once approved pending good trial data versus mRNA? I don't know what no facts uses. I have been. I've been saying, you know, I wish there was a traditional vaccine available. And I'm not finding it immediately with a quick

**Heather** 57:09

DuckDuckGo search. So that's probably not the place to do it. But um,

**Heather** 57:20

your year in the making will of course, of course, it's a year in the making, that's not surprising. using math cells, Spike proteins? I can't tell quickly. So if it was traditional, if it was an actually traditional form? Yes, I would be more excited about taking it. I don't think that any traditional vaccine has been developed in this amount of time, I think that would be that would be, I think it's like three years might might be something like the record for a traditionally traditional vaccine development. As it is, you know, as we've said, many times the DNA vaccines, like j&j, which is available in the US now, which have one rather than two for the mRNA vaccines, very novel pieces of technology they're employing is all being equal likely to be safer, just because there's less totally new stuff that we don't have experience historical experience with. But neither of us know enough about the no fax vaccine to answer that question. Particularly. I am not jealous of Brett's hair. The next person says I am jealous of Eric's hair. I save all my other patient IRA for him. Really? I know. Okay, okay. Sure. That's it. You got that? If George bridges resigned, oh, he's he's leaving. He's getting a sweet deal, too. But if George bridges resigned, and you were put in charge of fixing evergreen, what steps would you take to curb the problems with our woke educational system?

**Bret** 58:52

This is a longer topic. Yep. The fact is, is probably too late for evergreen. Maybe not, but they've doubled down so many times, it's gonna be very hard for them to rescue their reputation

**Heather** 59:07

with evergreen, you'd have to be allowed to clean house. Yeah, both staff and faculty. But then I think I think it could be done.

**Bret** 59:15

Yeah. But the fact is any college that could figure out how to go back to educating and resist the wealth revolution would have a massive advantage. So really, the answer is can you figure out how to get the mechanisms that want to enforce Diversity, Equity and Inclusion fictions on to higher ed, can you just fend that off and you can fend that off? Then you imagine that you were the only college in the country that managed to fend it off? Of course everyone's going to want to send their kids there because that's where you'll get educated. So in some ways, it's an easy puzzle, logically speaking, but obviously those mechanisms are industrial strength, or they wouldn't be universal.

**Heather** 59:57

Yeah. So a conversation, many conversations. For longer for later, but that's a good, good first step. Just thank you. Thank you for the credit today. It's not It's not that there was no new world megafauna, but hypothesis they were driven to extinction by human hunting. All the world megafauna co evolved with humans and no survived, and so survived to be domesticated. So I think this is in response to the guns, germs and steel argument that I think there was a misunderstanding of what you would describe this as hypothesis, which is that there wasn't any, any, what you would say was, there wasn't anything domestic bowl you have in the new world. And that is true, it is also true. And so and diamond says, the lack of domestic herbal megafauna in particular is about basically you know, that it's far too simple level, whether or not the continent is arranged, arranged, arranged, sort of like a long line of latitude, or along several lines of latitude, such that the range in which you can take a once domesticated animal can travel. But it is certainly true that there was a ton of megafauna in the new world. And that largely, it went extinct probably around, you know, some some combination of sudden extreme hunting pressure and climate.

**Bret** 1:01:24

Yeah, I will say diamonds model, I think which is partially borrowed from other people for why the animals aren't domestic a ball involves multiple different things, it'd be worth going into in greater depth, but for example, the fact that horses have been domesticated, but zebras, which would be equally useful, have never been domesticated, equally. Good one, equally useful, yes. is attributed to the fact that horses have to have the right temperament whereas zebras don't, because of the risk of predation, that zebras experience are too flighty. So anyway, the point is, there's several characteristics you need in order to be domestic and ball. Elephants are very useful, and I've been utilized, but they're too slow to reproduce. So they are always taken from the wild, rather than raised in captivity. Too many ideas too. Well, then they don't have too many ideas to be put to human work. But anyway, so the point is, you you did have humans, presumably hunting out, you know, and the over hunting hypothesis is controversial. But I think it's almost certain to be right. As a result of the fact that, yes, in the new world, because the animals didn't know what to be afraid of people because they hadn't seen any. Yep. And so you can still experience their level of indifference to people in the Galapagos, for example, where the animals strangely don't move out of your way, tripping over relatively large animals. Yeah. But in any case, that the only

**Heather** 1:02:56

thing that's skittish in the Galapagos is the housecats, which are there is an attempt ongoing to exterminate them as they put the bird eggs at risk.

**Bret** 1:03:05

Yeah. So anyway, the domestic ability question is complex, it's multiple factors, but those animals that were those large animals that were domesticated successfully, were heavily concentrated in Asia and then moved into Europe. So I don't think it is the overhunting that caused there not to be those animals.

**Heather** 1:03:33

Where was I? Here? Yeah. Would it be viable to distribute the cat droppings or hairballs at increasing distances away from the house to lurk coyotes away over time? No, I don't think so. We're basically connected via green space to a many 100 acre park that they are rotating among and they you know, this is just the longest they've stuck here. Usually they would have moved on by now and for some reason they're not but I'm going to skip I'll come back to these questions but there's another one try wolf You're in for the coyote issues I live in the forest and have tons of coyote they're even coming out in the day hunting my chickens and goats no issues since refresh it a few times a year. Cool. Where did we get it? Yeah, I was in the dinosaur store.

**Bret** 1:04:17

I don't think they're gonna have it but where we get i don't know i was tell

**Heather** 1:04:21

us email the mod please. Yeah, we can Google it. DuckDuckGo it is the case is right. You were sorry. You know,

**Bret** 1:04:30

I was in a shop looking for coyote repellent and I couldn't find anybody to talk to and I assumed it didn't exist. Wolf urine seems really improbable. Like how do you get enough wolf you're into. Right? They're liable to resist that I'm guessing that the

**Heather** 1:04:48

muscles on first and squeeze them right. Oh, wait, that's the herpetologist and we talking it's probably different for mammals.

**Bret** 1:04:56

I'm guessing that they figured out what components are important. constituents yeah

**Heather** 1:05:01

it's like a vanilla version it's vanilla is vanilla and is too vanilla as the Wolfie are and you can buy to write to scare Katie's is do actual foot. I don't know that either way if it works that's that's a great suggestion. Thank you because we are obviously suffering all sorts of downstream effects of this. It's not good.

**Bret** 1:05:15

No Actually it will solve the problem two ways it will drive the Cody coyotes away and it'll cause the cats never to want to go outside again.

**Heather** 1:05:22

So it'll probably it'll baffle it enrage Maddie, though. Yeah, our dog will be. She may never speak to us again. Right. Okay, Heather, I love your voice. I noticed that you get hoarse. Sometimes I suffer from the same problem. Any tips on how to manage this with your experience as a teacher and public speaker? I don't. I have actually heard from a couple of people saying, find a good speech therapist. There are exercises. I tried to address this for years and just had terrible doctors who said, Take our drugs and then take our drugs for the things that these drugs will cause and I never did. And they said if you don't take our drugs, we can't help you. I said, Why do you think I'm getting hoarse? We don't know. But we think that drugs might help. So I am drinking today. However, this Gosh, this thing is life. Right? And I used to get actual laryngitis like twice a year, and I don't get actual total laryngitis anymore, but I do get hoarse a fair bit and this this life elixir is super hot water with a overfall tablespoon or more depending on what you like of real honey, and the juice of the entire the juice of an entire fairly large lemon. And it's just amazing.

**Bret** 1:06:38

It is amazing. It tastes great and it's sick. It's really good to man. Yeah, I will say I think there may be nothing to be done for those of us who have these kinds of issues, including apnea or whatever. But I think a lot of it is being caused by deformations of the laryngeal apparatus that are the result of radical changes in diet Checkout, Mike mew. But there's a lot to

**Heather** 1:07:06

be said it talks about hoarseness as well, no, but um, because I mean apnea, sleep, jaw stuff, like I've heard that. But I've never heard anything about the soft tissue around the larynx. And I don't know why it wouldn't. Well, he

**Bret** 1:07:18

does talk about the soft tissue around the larynx. He is not, as far as I know talked about hoarseness in particular. But my sense is that there's just an awful lot of pathology in this one neighborhood an awful lot of mystery. You know, Why are people so prone to snoring? Right? It's like, something novel has happened. Yeah,

**Heather** 1:07:36

yeah. But that mean that is it feels. I feel like that's related, but it feels different. Also, like you're bringing up apnea is and here we're talking about speech. Like it's, it's, it's a somewhat different space. I will say, if people if anyone in Portland is watching who knows of actual voice therapists that they that they think are actually skilled and qualified, I would be very interested to know, to know that. Because I did I did engage actually in a dialogue with someone who really knows what they're talking about, but they're in Europe, who said that they could, you know, they could probably help with what they hear as sort of fatigue very quickly and like that's great, but I don't I don't trust anyone here because I haven't I haven't yet found anyone. relevant. Okay. Follow up from last week, Eg a virus host mutualism. Supposedly, it is. It is suggested that parasitoid wasps inject Polly DNA virus into prey to suppress their immunity, so their eggs won't be attacked. Are there other such examples?

**Bret** 1:08:48

I'm trying to understand what's being suggested here.

**Heather** 1:08:50

So we had a question last week about poly DNA virus didn't know what they're talking about. And this person probably the same person. Oh. It's just the parasitoid wasps inject poly DNA virus, which is a word that ever heard before into prey to suppress their immunity so their eggs won't be attacked. The idea is parasitoid wasps as you know, basically immobilize prey like like tarantulas and lay their eggs inside of it and then as their eggs hatch they basically eat their way out and the prey obviously dies at some point but it doesn't die until it starts being eaten from the inside out thus basically preserving a living meal for the eggs when they do hatch the eggs of the wasp yeah i mean i've never I've never heard this hypothesis

**Bret** 1:09:39

so I want to know whether or not this is actually a true virus a separately evolved from the wasp or is the wasp injecting something that is having a effect on the prey item.

**Heather** 1:09:52

Yeah. Anyway, yeah, interesting. We will look into it very cool. Um, are there other such examples? I don't know of any. Yeah, yeah. I didn't know if this one I don't know of any try wolf here and thank you yes. If evolution is try wolf you're in apparently great Okay, we're doing it

**Bret** 1:10:14

ready here first your word wolf urine from Amazon where there are no

**Heather** 1:10:19

wolves there bush dogs Yes. I wonder if bush dog era would work?

**Bret** 1:10:25

Probably not.

**Heather** 1:10:28

If evolution is driven by a drivel we may be about done Yep. If evolution is driven by survival of the fittest, would you say it's not surprising that capitalism is a s of t f for the market? Is there any other is there another evolutionary mechanic means mechanism? He I assume that would work on markets. So evolution is I'm sure I would know what to make of this I just in the context of not being able to fill in the acronym here. If evolution is driven by survival of the fittest, would you say it's not surprising that capitalism is srtf? For the market? Is there another evolutionary mechanism that would work on markets?

**Bret** 1:11:19

It will occur to me what this question means in about an hour and a half? Yeah, I don't know what it means.

**Heather** 1:11:25

Sorry. Okay, we got to get to one or two that we could answer Well, before we stop here. Oh, here's a link to the antibody testing is not recommended to assess for immunity thing from the CDC. Thank you for that.

**Heather** 1:11:47

This first part of this question is in quotes, and I don't know who was being quoted and then it has a question. Tin soldiers and Nixon's coming. We're finally on our own. This summer. I hear the drumming for dead in Ohio.

**Bret** 1:11:59

Yeah, it's a lyric from a Crosby, Stills, Nash and young

**Heather** 1:12:04

song. Okay. How do you predict a Biden presidency will handle massive scale writing?

**Bret** 1:12:11

Ah, boy, I mean, I'm I'm I'm not sure there's any reason to predict other than virtue signaling an effective response. A sensitivity to what the claimed motive for a riot is rather than enforcing the law. Right, that's what I predict.

**Heather** 1:12:41

Okay, one last question. I'm just gonna jump to the bottom because it's a good one. Good one to finish on. I think and we'll pick up one or two more of these next week. What is your take on woke CDC calling racism a public health threat? Will this destroy the CDC is already fragile credibility. So they just they just did this image? It's it's akin to what all those public health officials sign that letter at the beginning of last summer, shortly after the after George Floyd's death. But the CDC is taking this moment to declare racism a public health threat.

**Bret** 1:13:18

Yes, it will destroy comments what level of credibility they have. Feel like that certain.

**Heather** 1:13:27

Anything more.

**Bret** 1:13:29

I don't know what else there is to say. I mean, obviously, racism is bad. It is being diagnosed. Rather universally even where there's no evidence for it. It's not surprising to see government agencies piling on and, you know, yes, it's it's basically what happened to the ACLU will happen to the CDC, and we will end up having to reinvent these things. Yeah, maybe

**Heather** 1:13:54

that's the place to go is that we needed the ACLU. And now we don't have it. And we need the CDC. And it's not clear to what degree we we have it I have hope yet that it is not lost. Because I really don't know how, how that gets rebuilt

**Bret** 1:14:14

from scratch in a moment like this. Yeah, play games with these things is insane.

**Heather** 1:14:18

Yeah. And that's what it is. They're playing games as if they don't understand what the actual risks are. Yep. Which, which, yes, that does destroy their fragile credibility legitimately. Because if they don't actually know, the risks of the games that they are now playing then what do they know? Yep. Yeah. All right. I think that takes us about to the end of this week. Wow. Right. So we'll be back in a week for Episode 76 with the requisite number of trombones, right? Yeah. Yes, trombones, trombones, and yeah, please consider joining us on our panel. Drones subscribe to this channel. Subscribe to the clips channel if you like those a lot more frequent videos they're like download the audio app to the audio app the podcast on on audio, that helps as well and be good to each other.

**Bret** 1:15:20

We will see you next week.