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vaccines, question, fact, intersex, placentas, thought, dinosaurs, placental mammals, sperm counts, effect, female, system, humans, imagine, sperm, good, mammals, women, clades, countries

**SPEAKERS**

Bret, Heather

**Bret** 00:14

Hey folks, welcome back to the Dark Horse podcast live stream Q and A number 81 perfect square I am told

**Heather** 00:24

you are told I am told you do the independent fact checking that was required on that I

**Bret** 00:28

have just done a little mental arithmetic and yes, beautiful.

**Heather** 00:32

Excellent. Okay. We are going to begin with three questions from last week. And then go to the discord question and then begin with questions from this last hour before embarking on questions from this hour. A question from my five year old. Why didn't the dinosaurs evolve back after the extinction? Isn't it weird that there aren't many huge animals anymore? 65 million years later? That's really two very different questions. Yes,

**Bret** 00:59

actually, is two very different questions. And I believe one of them, we cannot fully resolve. Yes. The second one, right. So the key thing for your five year old is that the dinosaurs did not go extinct. All the non avian dinosaurs went extinct. So the dinosaurs persisted in large numbers. And in fact, there are many more species of dinosaur than there are mammals, for example, even though this is supposedly the age of mammals. And so anyway, it was something about the diet of the classic dinosaurs, that that was vulnerable. And I'm not sure we have a good sense of why it was that the it's really multiple arrows, but why large size seemed to be more prevalent in, in that ecological environment? I, you have a sense, do you? No.

**Heather** 01:52

No, I think you're clearly we hunting pressure has been has been part of the effect of keeping large animals from thriving right now. But even none of the large animals that humans have been instrumental in killing off or as large as many of the largest dinosaurs. I will say, just to just to add something to the first answer. Yes, is true. Dinosaurs didn't go extinct. But you know, sort of like we say fishy fish, you know, dinosaurs, dinosaurs, non avian dinosaurs did. And whenever anything goes extinct, it would be deeply improbable to the point that we should never ever, ever expect it to happen. That exactly the same thing should come back into existence. Now, what will happen is Oh, actually, it wasn't extinct. After all, there was actually a, you know, a remnant population that was hidden somewhere that was able to make a living, and then it emerged because of environmental change, whatever. But the idea of something that did exist, coming back into existence after going extinct, is just so improbable as to not really be worth worrying

**Bret** 02:59

possible. Something that looked very much like a preexisting would not be the same thing, right. not be the same thing. Yep.

**Heather** 03:06

Yeah, but as for why, why there is a paucity of giant animals today beyond you know, the the explanation of hunting pressure from humans is true, but insufficient. Yep. And I

**Bret** 03:19

think it's so late, you know, humans are right, the last six and a half million years or something like that, but that's not even humans, but, but nonetheless, our divergence from chimps, so anything remotely human like enough to matter is confined to that small space. That said, there are reasons they

**Heather** 03:39

made me climatic.

**Bret** 03:41

While I was thinking about the I live in fear that Jerry Smith is watching somewhere and that he will shake his fist if I say something dumb about the Paleo but there certainly are instances in which clades that we know to be diminutive, were much larger in the past, because of things like increased oxygen in the atmosphere, not

**Heather** 04:02

that the clades weren't speciose but the size of the individuals within them right were like large so when you say size, you're talking about individual size, not plates,

**Bret** 04:10

right? individual size was larger in some things, giant dragonflies, giant spiders, that sort of thing. And that had

**Heather** 04:17

to do lots, right? Even within mammals there. There. There is a Smalling down, yes,

**Bret** 04:24

but that so the large arthropods are the result of the fact that certain things were possible as a result of a very different atmosphere, the large, sloths are not they are effectively capable of existing in the modern circumstance. And we know that because they went extinct this approximately the moment that humans showed up in North America but so anyway, so it's possible that they're you know, I do not think it is the case that very large dinosaurs were limited to a small period in which the atmospheric oxygen was elevated. I don't think that's the explanation for dinosaurs, but at least enough Some other claims there is an explanation like that and I leave yep and the possibility that there's something like that in this in the situation that we don't know about.

**Heather** 05:07

Absolutely. Now I'm going to actually jump before we hit the remaining questions from last week to a question from this week which is what's your favorite dinosaur? And I would say in keeping with our conversation we just had I'm gonna go with squirrel cuckoo squirrel coop, I love the squirrel Cuckoo. I know it's not the kind of dinosaur that they were thinking of. That's the question but I really do love a squirrel cuckoo

**Bret** 05:27

Yeah, and I cannot get over hummingbirds.

**Heather** 05:31

I really enjoy several Hummingbird several dinosaurs.

**Bret** 05:35

It's It's It's a whole plate of dinosaurs. I got to pick one I'll say the the the booted racket tail

**Heather** 05:45

polluted racket tails, a good one.

**Bret** 05:47

booted racket tails a fine, fine Hummingbird. Yeah, you know, if I had if I had to give up with racket tail hummingbirds, I'd go with the train bearers. But anyway, yeah, hummingbirds somewhere in that neck. clade.

**Heather** 06:02

Very nice. All right. Next question. Sorry, I'm messing with my spreadsheet here. Shauna Swan, someone a name I do not recognize at the econ School of Medicine in New York, finds that sperm counts have dropped almost 60% since 1973. Following that trajectory, sperm counts could reach zero by 2045. Zero, comment. Love you too.

**Bret** 06:29

Yeah. not expecting zero? Yeah, because you're gonna get a decay, whatever is causing that decrease. And it could be various things. Undoubtedly, there's the impact of certain novel environmental compounds, estrogens and things floating around, it could be that there are demographic factors, sperm counts drop in individuals over a lifetime. And so you can get a demographic shift that can result in these things. Presumably, much of this has been controlled for in the research. But it's not going to go to zero, it's going to get low. or lower, presumably, but you know, you would expect it to, to asymptote to some number now. Yeah. Well, so

**Heather** 07:11

a diminishing returns. Yeah. But be to the extent that any country, any population, begins to see this as an actual risk and a way to succeed in the future. Yep. To the extent that, you know, the, the obvious factors here are environmental contaminants, environmental hormones that are getting into the water supply, especially right. But there are quite possibly other factors as well. But even just really focusing on cleaning up the endocrine illogical effects of pollution in the water supply, some country could likely begin to reverse that effect.

**Bret** 07:52

Yeah. Now, I would add that I think there's a question of whether decreasing sperm counts are a proxy for something absolutely dire, or absolutely dire in and of themselves, and I feel certain they're a good proxy, things are off. And things being off. This is a symptom that we can measure, like glacial retreat or something like that. On the other hand, what I want to know, and maybe maybe this is known, and maybe it's known for, you know, is any country limited in the number of offspring produced because of an infertility crisis due to low sperm counts? I rather doubt that doesn't mean it couldn't happen. Yeah, the doodle

**Heather** 08:34

or the due to low sperm counts? Part of that is, I think, going to render the answer to that question. No, right? We don't, we don't know. But there are certainly countries that have lower than replacement fertility at this point, and to the extent that there are abundant social factors that are contributing to that and demographic factors as well then add to that low sperm counts, and that may just tip you over the edge and to not, not ever rebounding to greater the replacement rate or greater

**Bret** 09:07

maybe but if the answer is that we have socially changed and technologically changed and people are choosing not to reproduce, that may well be a crisis but it's a very different kind of crisis.

**Heather** 09:18

Yeah, but it could not possibly be independent of this well I mean especially even just so there's there's social choice and as I mentioned demographic and simply pushing reproduction later you know when you know later in a man's lifespan, sperm counts decline as well. So if you have environmental reasons for sperm accounts to be declining and dudes are more likely to say yeah, I want to be a dad but not at 25 but at 40 then those two things together may push individual men beyond the possibility of having fertility

**Bret** 09:51

Yeah, although I this is going to be try to keep this simple. The decrease in sperm counts in males seems at first like a senescent effect. I really don't think it is

**Heather** 10:08

so not not this new result, but right across the lifespan normal life status because

**Bret** 10:12

what also decreases spectacularly is the likelihood of testicular cancer. testicular cancer is one of the rare cancers that afflicts people early in life. And so I think what's going on is, you have sperm competition as a powerful evolutionary selective force, early in life. And as men naturally settle down, sperm competition is less and less of an issue. So the point is, the massive numbers of sperm that are produced early in life are really about competition between males, they're not about fertility.

**Heather** 10:54

So at some level, you're asking how much sperm Do you really need?

**Bret** 10:57

Yeah, all it takes is one is something I keep resisting saying here, because I know that actually, all it takes is one is actually a bit glib and wrong. Right?

**Heather** 11:04

But yeah, but but just to restate what you've just said in slightly different words. If, if what we regard as normal sperm counts are actually exaggerated by the sperm competition of young men who historically have gone to war or otherwise engaged in, in behaviors that then allowed their sperm to be competing with the sperm of other men. Yep. Then the lower levels of either you know, late youth or middle age or post industrial societies might not be a problem in and of themselves. Right. And that is your hypothesis. A

**Bret** 11:41

perfectly vivid if somewhat itchy way to understand this is to think about if you live in a place with coniferous trees that produce huge amounts of pollen at some point, that pollen is not necessary to get all of the female conifers pollinated. It's males trying to drown out each other's signal. Right. And so anyway, that has arbitrary bad effects for us because our immune systems mistake the pollen grains for pathogens

**Heather** 12:10

people tend to have allergies to to Jennifer.

**Bret** 12:13

I certainly thinks I think I do. Okay, I thought I thought

**Heather** 12:16

it was mostly other wind dispersed angiosperms flowering plants, like, like grasses and like maple. maples. Yeah.

**Bret** 12:26

Well, I think people have allergies to all of them. I believe there are a bunch of us who have allergies to the conifers. And it is not uncommon to live in a place where your car and everything else gets thoroughly covered for a couple of weeks.

**Heather** 12:38

Yeah, but at least here what it gets covered in is Maple pollen. Well,

**Bret** 12:42

also, I mean, we have like multiple seasons of it. That's true. But anyway, yeah. So you know, there's a question of, well, I guess maybe I've messed this up because in the case of trees that are putting out huge amounts of pollen, a lot of pollen just never reaches a tree. So right, you know, you've got two things going on, males tried to drown out each other signal. A lot of pollen has to be put into the air. If you're not using insect insect pollen to that particular target, you have to over produce.

**Heather** 13:09

Yeah. men tried to reproduce this. So it's not going to be very

**Bret** 13:14

effective with using insect hiring insects to do their bidding. Yeah, that's spreading

**Heather** 13:19

their sperm into the wind and hoping it lands somewhere.

**Bret** 13:23

It does make you wonder about men who are overly enthusiastic about buying flowers in the context of you know, does it well i think it does. Yes, no, I don't think it does. I think

**Heather** 13:35

we're gonna move on. Last question from last week. Looks like it's three parts is it's it's, it's a bunch of stuff. And there's a question embedded in here. Big Pharma, big food and the USDA have failed to mention that 95% of the COVID comorbidities are caused by insulin resistance from a high carb diet. Eat I think that's a typo lchf that's going to be a low carb high fat diet I think. Who benefits I'm not sure that's actually I'm not sure I got that acronym. Right. Who benefits the NHS and those who stand the NHS is Britain was the NHS here.

**Bret** 14:20

The FDA know the Yeah, but

**Heather** 14:23

I just don't this is other otherwise this is the US I'm wondering if the NHS is an acronym in the US anyway, and those that want them to benefit by the death of people with pre existing health problems to lower the cost of national health care Oh, so who benefits NHS in Britain I think and those that want them to benefit by the death of people with pre existing health problems. So basically the insurance companies I the person continues lost 110 pounds reversed insulin dependent type two diabetes to a specific Sara got rid of high blood pressure and more in eight months eating keto four years ago. I think this was in response to, I think last week I said something to the effect of, you know, as I did this week, obesity is not not as entirely as under people's control as those of us who aren't obese may imagine, right? Especially once, once you're there, especially if there are developmental things that happened. It's, it's, it's far easier to stay fit than to recover fitness when you are no longer fit. But there are plenty of stories of people who do so it's actually just a lot harder to do. And then, you know, there's an interesting nugget in here about potentially, insurers engaging in a kind of Malthusian dynamic, right, in terms of, you know, seeking, preferring a world in which there are fewer people who require more medical care.

**Bret** 15:54

You know, I don't think we need to, I don't think we need to assume any such thing is happening. Yeah, I think this all arises out of very mundane processes in which people carve out, you have little leaks that allow for corruption to invade the system. Once a corrupting influence invades the system, and enlarges the hole it got in through, and it creates more and more control. It generates capture. And then once you have industries, or you have regulatory apparatus captured by the industries that they regulate, those things just learn to think like their captors. Right. And, you know, so I'm never surprised to see. Yep, absolutely. I mean, you know, this is this is important. When we look at something like pharmaceutical companies, and emergency use authorizations for vaccines in, in the case of COVID, and the possibility of a huge amount of harm being done to humans, I don't for a moment imagine that in anybody's boardroom, there was a discussion about all sorts of people being desperately harmed and a lack of care about that, right? I think there's some very mundane way in which these things are discussed. And probably even in the case of ivermectin, you would hear a very normal process in which a company goes through a very standard thing where it's like, which drugs are bad for our business? Yep. And then it learns to oppose them. And it doesn't think in terms of, you know, deaths, villains don't look like they do in the comic books. Yeah, not at all. There's an emergent way in which this villainy happens and it's no less harmful. In fact, it may be more harmful, because the people involved don't understand that they are maiming people. Well,

**Heather** 17:42

they they are covered by their own self deception to the degree that that's happening. And for the rest of us, especially those of us who are looking for this really, you know, naive form of villain villain Gree, villany, villany villany. That looks like it does in the comic books. We don't find those people. And, and they're just not gonna

**Bret** 18:02

look that way. Yeah, well, they exist very, very rarely.

**Heather** 18:05

Yeah, they're not they're not most of who are doing damage in the world. Yep. Okay, this from the discord server this week. Perhaps the biggest flaw with democracy is that it disincentivizes honesty, because mistakes are easily capitalized on by political opponents. And therefore, lies are used to cover up transgressions for which forgiveness would not be possible. Is there a way to incentivize honesty, accountability and forgiveness within a democratic framework? Or is this an inevitable trade off of the system?

**Bret** 18:32

Great question. I would say you've kind of built the answer into the question, though, because this is, in essence, the reason that systems that once governed, like, let's say, religions, have a pathway back, right? You never want to create a system in which once somebody has done a certain amount of bad, they have no incentive to stop doing more bad, right? You always so you know, the idea that at any moment, you can, you know, clean the slate by confessing to God what you've done wrong, and then not doing it anymore, is an incentive to always come back into the fold. So what you need is a system that incentivizes coming clean, incentivizes whistleblowing, it incentivizes admitting what you've gotten wrong, an honest accounting, unlike what we're seeing now an honest accounting of how you got it wrong. So that, you know, let's put it this way, when a person apologizes to another person for a serious breach, it is important that they do an open accounting of how it happened. And the reason for that is because it makes it a lot harder for it to happen again, they can't fool themselves. And be it means that if they do it again, they did it with full knowledge of how the thing happens. So you know, that process needs to have an analogue in public space, which also means that we in the public, have to not be petty about this stuff. Right. And so I would just in closing, same petty

**Heather** 20:03

about penalizing any error, right? So what you mean.

**Bret** 20:07

And to me, this is very tightly linked with the question of people who got things like the Evergreen story wrong. And they seem to come in two classes, one class are people who got it wrong and bend over backwards not to take responsibility and keep doubling down on wrong stuff. And the other or change positions that don't acknowledge that that's what's happened, right. And then there are other people who their instinct as soon as they discover that they've had it wrong, they absolutely want to do a complete accounting, they come to you and they say, I really have this wrong, I feel terrible about it. And, you know, I'm just shocked that I made the error. And for one thing that actually does neutralize, I don't feel bad about any of those people. I understand how you get it wrong. And the fact that you're honest with yourself about the fact that you did is, you know, that's all you owe us. So we need that we need an analog of that for all of these things where there's even much more at stake than there wasn't a case like that.

**Heather** 21:10

Absolutely. Okay, next first question. Well, actually, we already asked the dinosaur question. Next question to begin questions from last hour. Brett, you said before that it is fair to ask someone who disagrees to be on the record stating it so the disagreement can be inspected? Do you disagree with the theory of evolution put forth in the revolutionary phenotype? And this seems like a totally unrelated question. Although I may be wrong, do you believe CRISPR will change our evolution negatively? So I'm gonna I know this is aimed at you. But I will just say that I have not read it. If we've been asked this multiple times, we've we've been sent the book, you have not read I have not read it, we are not. We are not intentionally not reading it. But there is a lot to be done. And we are also putting forth new ideas into the world ourselves. So so that, you know, we are in a position of putting forth evolutionary models of of what is what we think to be true into the world, it is not our responsibility to be assessing other people's alternative models of what is going on, I have seen some indication that Bob, maybe Bob rivers, had read it and thought highly of it, which of course, is a, you know, a huge mark, potentially in its favor, but it is certainly not the burden of anyone who knows something about a field to read or respond to everything that is possibly doing interesting in that field. That would be an interesting world, but it is, but it's not our responsibility.

**Bret** 22:42

Yeah. And I would say in this case, passing familiarity with the author, and his style of thinking is encouraging. But, you know, I'm not going to, I'm not going to say what I think about a theory, I don't know, in detail. And, you know, as you point out, yes, it would be good to get to it, but it's not, you know,

**Heather** 23:03

it's really not high on the priority list. And that's, you know, that's not because we're scared of what we'll find there anything, it's just there's a lot of things going on. Do you believe CRISPR will change your evolution negatively?

**Bret** 23:14

Well, I believe, like so many of these things, that part of the problem is that people believe the hype that they use to get grants and, you know, to make their papers get cited, and all of that. And so, the fact is CRISPR is an amazing technology, I have analogized in the past to having a typewriter that would allow you to write any gene, but we don't have the Rosetta Stone that allows us to figure out how the language of genes work yet, now we're getting better. You can see in the gain of function stuff, whether or not gain a function has anything to do with COVID, you can certainly see that the techniques that were being applied begin to suggest about, you know, knowledge that would allow you to edit things in ways that you know, enhanced them for for good or evil. So yeah, the potential is there for CRISPR to be transformative in some ways, but I think we're a lot farther from what you know, what those who tend to see the power of these things are not the limits of these things. Imagine CRISPR is going to do right, you know, you have the power to edit in a language you don't speak Okay. How powerful is that? Yeah.

**Heather** 24:37

What are your thoughts on the Russian microwave weapon hypothesis?

**Bret** 24:43

That depends.

**Heather** 24:44

Yeah, that's where I am, too. I don't we don't know it. I think I'm reading you correctly. Yes, yes. not familiar with it. That is to say therefore we have no thoughts on it.

**Bret** 24:54

And I would say in my personal experience, microwaves are too unwieldy to be a useful weapon and Most scenarios you can

**Heather** 25:01

use them in strength training though I

**Bret** 25:02

would think if you're preparing for battle exactly or if you drop them from a height I would imagine that could be devastating but

**Heather** 25:09

could but you have to get them up there exactly. Well

**Bret** 25:11

elevator

**Heather** 25:12

functional landscape then wartime

**Bret** 25:15

no right exactly.

**Heather** 25:17

Yeah. I'm surprised that many intellectuals I admire talk about recent UFO leaks as, as it's possible alien life when there are very simple explanations check Thunder foots work on YouTube, he debunks all the reason with logical arguments. I really hope that the Pentagon, which is necessarily aware that these are not aliens, is not preparing propaganda for us to pass I do not know what funding or paid project for.

**Bret** 25:42

Alright, so I don't know quite what to make of that comment. I think we were careful. I don't think we said anything about a belief that these are aliens. What I do believe that this is is harder to explain by earthly technology that the simple fact of you know, the speed and agility of these things make it inconsistent with well known technologies. Now, if that's absolutely wrong, wow. Then there is something weird going on where some story that as a mundane explanation is being allowed out, but sure, hard to imagine that the people, the military personnel who have had these experiences, could be unaware that there was a mundane, earthly technology that easily explained the experience they had. So anyway, I remained to be convinced that there are simple explanations for these things, which does not mean there are not terrestrial explanations that are fully knowable. But I think the jury is very much still out. I remained to be convinced otherwise.

**Heather** 26:46

Okay, there are three more questions about about this. UFO check here again, I started digging into UFO FOIA requests Freedom of Information Act requests and cogent research last year after the New York Times article, my leading hypothesis unfortunately is a movie level cover up if correct how well trust and government survive hugs. So I'm not sure as much to add level of cover up of what doesn't say.

**Bret** 27:14

like to know I'd like to know what what the implication of that is it's a little bit too compacted to deduce whether you're talking about the cover up of something extra terrestrial or you're talking about this is movie level cover up of you know, earthly weapons programs or something like that.

**Heather** 27:33

If you if you sent a clarification to that dark horse moderator@gmail.com address we would both certainly see it. That is not true for anything that gets sent to that address, but in this case, we would both certainly say then this I would love to see discussion with you and Luis Elizondo on UAP I don't know that him although you aren't experts in the subject I think you have such a strong grounding for scientific thinking that it would be beneficial

**Bret** 28:00

now you do know the name I do he's he was in that 60 minutes piece. Oh he was the lead guy. Oh, the glasses was now class I don't remember his glasses

**Heather** 28:13

but different guy Zack notice the classes. Yeah,

**Bret** 28:17

yeah, you glasses people would go to such I guess.

**Heather** 28:20

And then finally one last item this in this vein UAP is being talked about because SpaceX is successful. And talking about UAP gives credibility to creating a whole new investment sector.

**Bret** 28:34

Wow, there's a lot of cynicism about this which is interesting. Now I will say stay tuned to Dark Horse we are going to delve here in a way that you and I are not well positioned to but others are.

**Heather** 28:49

Wow. I don't know what that refers to my I'm excited to see what happens being

**Bret** 28:54

oblique because I'm excited for it to be in the can and then to be released.

**Heather** 29:00

Alright. Okay. Change of Change of topic. If ivermectin is such a promising candidate for COVID prophylaxis prophylaxis, then why haven't more enlightened countries Israel, Taiwan, New Zealand, etc. Explore it more seriously. I find it hard to believe that they have all been corrupted by Big Pharma.

**Bret** 29:18

Yep. First of all, you ought to sit down metaphorically and figure out how you're going to deal with having your faith in the systems that are supposed to protect us shaken because the system globally has failed us on so many fronts simultaneously, that in fact, the truth is hard to believe. Right. Now I say that, having looked at the data on ivermectin, so, it is clear from the data on ivermectin. That there is some Kind of global ignorance about the potential here. And it's not like there are four studies and they look really promising. It's like the data continues to grow in this direction.

**Heather** 30:12

So there I mean, we, we talked about some of the Africa data. So you're not clinical trials, not ivermectin being brought in to treat COVID. But because it was already backgrounded as prophylaxis for other diseases, the differences in COVID outcomes in Africa, in countries that do and do not have ivermectin, this prophylaxis, there has been interesting, but still to kind of hazy to, for us to really talk about stuff going on in India. There's stuff in Mexico, I think there are, I think, maybe at least one or two countries in South America. And, and then evidence also of when successful, it not being able to be talked about now. You know, it's just really hard to say with regard to the by chance, you know, the three countries that you mentioned here, Israel, Taiwan, New Zealand, I feel like those are three very distinct situations, both Taiwan and New Zealand had had a response early on, that was pretty effective. And New Zealand was helped, of course, by being an island, an island nation with borders that they could shut down. And, and being relatively small, and I don't I actually don't know what their vaccine rollout has looked like. I know that early on both New Zealand and Australia were holding off, but I assume that they are now going forward with a vaccine rollout.

**Bret** 31:40

I'm going to try a slightly different tack. Okay. There is the thing that screws up American politics so badly this first past the post voting, which results in the production of a duopoly that same game theory ends up afflicting the world. Right? In effect, what you don't want to be is an independent actor when everybody else has joined a coalition because you won't have any power. So the temptation is to join the coalition that advances your interests, which tends to produce too large incoherent Coalition's. So I don't know exactly how that maps onto planet Earth. But I have the sense that we're looking at essentially a couple of teams, and team, rah, rah, novel, pharmaceutical vaccine, authoritarian controls, blah, blah, blah, that team put together a slate of beliefs, and prescriptions that followed from them that loosely matched. What a behind the scenes discussion of here are my things that I care about. And here are the things you care about and all advocate for the things you care about, if you advocate for the things that I care about, and that creates this whole thing where somehow, even though it would appear, that if one were to follow the science, you would follow the science to ivermectin, right, that those who may in many ways be science advocates actually are resistant to the very science that would tell them this was an exception to their team's perspective. And the implications of this are dire that we are being governed by team dynamics rather than insight. But I think that's what you will find and then we could spend a long time figuring out the details of how that works. But in general, that's what I see is you've got teams and some team has decided ivermectin bad and because ivermectin bad. Millions of people are gonna die needlessly.

**Heather** 33:51

Yeah, that's, that's a better answer than the road I was going down. That's That's good.

**Bret** 33:56

Very good. It's very good and very bad.

**Heather** 33:59

It's a pretty good answer. It's bleak. It is a good answer.

**Bret** 34:02

Well, it also if you know if we can figure it, we can diagnose it. Yeah. If we can fix it. That would

**Heather** 34:07

be great. Do your mom and dad, if if prophylactic ivermectin disrupts the attachment of COVID spike proteins to human cell membranes, would it not also interfere with the vaccine and do spike proteins thus reducing vaccine efficacy? Much love? Well, possibly,

**Bret** 34:27

I would say you're gonna find a general effect that what we think ivermectin does bind to the spike protein. That means anything that has spike protein as an important part of its mechanism of action will be similarly blocked, and that may have effects on COVID on vaccine on Spike protein that has broken free and started circulating in the body as a result of the fact that these vaccines are not As surgical and implement as you would imagine, so anyway, there are lots of potential implications just based on the general electromagnetic affinity of ivermectin for spike protein. So, you know, prepare for whatever that full library of impact is.

**Heather** 35:21

This is just a comment, the establishment. The establishment controlled the chronology and timeline for COVID investigation, publications and revelations. As it's only after the vaccine had gained foothold, and control that some of the revelations have been mainstreamed. So that's, I think they're trying to smash a bunch of stuff in but I think the idea is that the timeline, the control over the chronology and the narrative, and the and the media and all has been released now that the vaccine rollout is just is going in it's would be very, very difficult to halt it turn around, etc

**Bret** 35:59

mentum of the rollout, I think that's the ficient. That they're the, the need to maintain. They, they lie about other things. Yeah, I think there's some truth about that. And I think the you know, the other side of that is that the lie was becoming a liability. Yeah, so many people could see that this made no sense that it was eroding their credibility. And so you know, the, the most efficient thing to do was to stop the hemorrhage. Yep.

**Heather** 36:30

We want more children, and my 29 year old spouse is considering the COVID-19 shot. What are your thoughts on COVID vaccine potentially causing fertility problems in men and women? I have not delved much into this, except that it looks like in some people, there are some issues.

**Bret** 36:50

Yeah. You know, we have to say this, every time I wish we didn't, I wish we could say at once, and then everything that followed could just simply be assumed to be under this umbrella. We are not doctors, we are not medical authorities. We are scientists, we are capable of reading a scientific paper, we are capable of knowing what a systematic bias is, and where it compromises our ability to infer things from from data. Personally, I am worried about the impacts of the vaccines. And I do not believe anybody who thinks they know what the likely limits are. This is a welcome to complex systems problem. And the nature of a welcome to complex systems problem is that you can't predict what the impacts are going to be until you see them you find them out empirically because the system is so complex, that you cannot systematically explore them. Right? Doesn't mean this is in fact admitted. This is the reason that we have clinical trials. This is the reason that we do animal testing is that there is no way to predict from you know, a computer model or whatever, what the impacts are going to be. So I would say I'm worried about everything, I am much less worried about a drug that's been in wide use wide regular use across a large swath of the human population for many decades and has not shown unpredictable impacts. A drug that was in fact, taken from a natural source and is therefore of a type where the body is likely to be able to deal with such molecules. So I'm much less worried about that than I am a novel technology being deployed for the first time in humans. And so you can take that for what it's worth. But I would say, exercise extreme caution and look very carefully at the evidence that suggests to some of us, that ivermectin may be as effective as these vaccines at preventing people from contracting COVID because if that is the case, and if it is safer, if this logic is robust, then it might suggest something about what a reasonable person would do in your circumstance.

**Heather** 39:16

In a similar vein, in Mississippi where the least physically active state and the least vaccinated 25% within number five state and COVID deaths probably worse, no restrictions. Should our families follow y'all taking ivermectin and get outside or backs up? Love the poem by the way? Yeah, definitely get outside, you know, the, you know, with 100% Yeah, that that's that's an easy one, get physically active, be physically active. Figure out something to be doing with your body that is moving and that you love and that does not feel like a burden, and that you will keep doing,

**Bret** 39:52

I would say vitamin D safe. And as well as we've been talking about, we stopped to talk about as much as we once were, but it clearly has a very positive effect on preventing and minimizing the harm of COVID. So the formulation that I've been using is I can't give you advice about what you should do, but I can tell you what I would do in your shoes, right? So this is advice to me. The advice in your situation would be yes, outside is good. sunlight is good. Vitamin D. is good. ivermectin is not totally safe, but it is very safe. Comparatively, it's an old drug and a drug with minimal impacts. I cannot say the same for these vaccines. And I can say there is reason to worry about how much information we actually have about short term harms. And there is no ability to know anything about long term harms. yet. I mean, we're beginning to get into what I would call longer term, but it's all new. So yeah, you know, sure, don't, I don't want to give you advice can't give you advice, but I know what I do in your shoes. And the comparison between approaches is Stark.

**Heather** 41:10

Yep. This is just a comment. 60 minutes Australia recently covered the lab leak, exclusively blaming Trump's rhetoric for ignoring it till now. This is a quote Trump almost single handedly derailed any serious scientific debate about the possibility.

**Bret** 41:25

Well, here's news for you. I recently saw what I think is incontrovertible evidence that Trump uses stairs now. Yes. And so I'm imagining that all of these people who feel obligated to do the opposite of whatever Trump does are going to throw themselves over the rail instead of use the stairs. Right? Because that's their logic. Right? If Trump said it, it's wrong. That explains how we missed this immense story.

**Heather** 41:57

Yeah, it's it's so juvenile. So juvenile? Yeah. As a kid, I remember looking at streetlights at night and seeing what seemed to be 1000s of bugs flying around today, not so much is there more brighter lights so they are spread out or just fewer bugs. There may also be a light regime issue, but there are far fewer bugs or we have we have a it's it's sort of Armageddon level we got we have a serious problem with insect

**Bret** 42:28

population crash

**Heather** 42:29

population crash, which is then causing the insect towards the birds. And the other things that you're eating the bugs and the plants. They're relying on the insects for pollination and dispersal, not so much dispersal, but for pollination, causing that crash as well. So we have a serious, serious problem. And this is one of the big culprits there is again, going to be pollution downstream of the herbicides and fertilizers, but especially the herbicides like glyphosate that are being spread so widely. And the insecticides Yeah,

**Bret** 43:03

yeah. So yeah, I will say we used to talk about this all the time, which was that there's just a stark difference between summer driving, right, which summer driving on the highway used to involve this extremely sticky residue that was very hard to get off your car. And there were products that sort of worked. And, and the point is, it was it was just not a subtle fact, it was of such a dominant fact that, you know, everybody knew it. And that is no longer the case. And it's right, absolutely dramatic. Now, we have since seen going from that anecdote, something has changed. We have now seen scientific study that actually validates this Yes, the 100% the insect population density is just a fraction of what it was. I will say, if you had described to me in advance the level of population crash, I would have imagined it would have been much more devastating to humanity than it has been so far. so far. But nonetheless, I would have thought that that in and of itself would have been near catastrophic for many ecosystems. And I believe that all of our ecosystems are being heavily damaged by the fact that that, you know, sort of bottom or second to bottom trophic layer is largely missing. Yeah, that affects everything stacked on top of that layer. But nonetheless, it's amazing how long it even took people to notice.

**Heather** 44:34

Yes. I have found so much hope and courage here over the past year. Thank you both so much for your expertise and a willingness to speak the truth.

**Bret** 44:45

Thank you.

**Heather** 44:45

Thank you. One more here and then we'll go to the next hour. What do you think about intersex people competing against women?

**Bret** 44:56

Well, you know, I've said before that I think if you start pulling on this thread about sex and sport that effectively sport as we know it is going to disappear. And that that may in fact, this may just be our maturation into an adult understanding of human variation. I don't know what to do with intersex people because, you know, they are exceptional and each one but the very nature of intersex is that each one is a one off phenomenon, right? You know, I'm sympathetic to these people have as much right to live and participate as anyone but there's no obviously natural way given the binary nature of sex to integrate them into sex that is divided by those categories. Yep. So it may be that that's bad, but that we have to in order to preserve sex divided sports, that we have to just accept that there is nothing to be done in that

**Heather** 45:58

case. Yeah, it may be and yet on this question, it's a much it's a much murkier question than the question of trans people playing against people of the gender that they now identify with as opposed to of the sex that they are born to. That that is not a marquee question. Whereas intersex is in part because intersex can look a lot of different ways. And, and

**Bret** 46:26

let me ask you this. What about the following rubric? an intersex person if they want to compete in men's sports? Certainly can there's no reason to bar anyone, I think for men's sports if they want to try to compete there. Well, I've

**Heather** 46:40

actually I've seen I've seen an argument I've said something I guess I didn't say intersex but I said you know, trans men want to compete against men fine. Trans women against women. Not so much. And I have heard pushback that made me think that for some sports for something like wrestling Yep. Actually. it you know, akin to actually one woman soldier in no at war is really going to change the dynamics of everything and this this is it's a difficult thing. You're like what what is the answer? What you're how you're what what should you allow, and you're maybe you're a trans man wrestling against a bunch of other men is going to throw those men in some way that has nothing to do with sport, but has to do with us being sexual beings that may may render that not fair and unsportsmanlike. Okay,

**Bret** 47:28

so let's upgrade the rubric. Okay, rubric is for most sports. Anybody who wants to compete in the men's division is free to try out. Some sports are exceptional contact sports, contact sports, let's say and those who want to compete who are intersex and want to compete in women's sports would have to be evaluated by some criteria that suggests that it was actually an appropriate that you know, that their female nature of their physiology was that

**Heather** 48:06

criteria is exactly the point where it's, it's money, right? So yes, yes to everything you said except exactly that criteria, which is

**Bret** 48:13

well, but suppose that what you did was you set a standard that ensured that this this did not disadvantage. I don't know what the terminology would be women with an uncomplicated

**Heather** 48:31

Natal born women.

**Bret** 48:33

Yeah, Natal board what the problem is, I'm stumbling over this because I believe that the nature of intersex is such that there are people in that category who are essentially like native born

**Heather** 48:45

Well, no, and this is I mean, as much as as much as an Fausto Sterling contributed you know helped create this this complete chaos we're living in right now. As I understand it, her maybe even slightly spoofing original formulation of like, there's men, and there's women and there's what she was called hermaphrodites, which is what we call intersex organisms that aren't people and she was using that word for people and then she said there's female like hermaphrodites and there's male like hermaphrodites that's getting us to the five sexes, which of course is not true. There's two sexes, right? But you know, the, the the actually like, really, you know, completely equally male and female intersex person is the rarity, yeah, and the different kinds of developmental mistakes that happen that end up rendering a person intersex might leave you much more male, or much more female,

**Bret** 49:36

right? And in fact, what I'm alluding to though, is my understanding and you tell me if you think I've got it wrong, but that some people who are intersex wouldn't know that they were intersex, right, but for let's say, a carry a type of chromosomal test and my sense is, and that's the person probably is perfectly fine and in fact, totally appropriate to be competing in You know, sport on whichever side of that

**Heather** 50:03

depending right? Like if you know if you if you appear female and you were raised female and you grew up female, you believe yourself to be female, but you have undescended testicles that are producing testosterone levels that are higher than, you know, other Natal women. And they have been throughout your developmental period as well. You know that that is a tricky situation,

**Bret** 50:28

right? That is a tricky situation. On the other hand, let's say that you are x y female where your SROI gene is defective. That sounds less tricky, frankly, right? It's not tricky, because effectively you're female in every regard, but to write a technical chromosomal issue and a fertility issue,

**Heather** 50:48

exactly. And those yet those reasons, those those, rather, those ways in which you are not female, have not affected your development, your anatomy, your physiology, your brain, so far as we know, but these really seem not to,

**Bret** 51:02

right, right. And so, my interest is when somebody is effectively female, and then there is a technical exception to that I don't want to see them denied access to anything, I don't think it's necessary to protect anybody else's rights. So I would love to see that covered. But the problem is, there is a vast gray area in which, right?

**Heather** 51:22

I mean, this is part of the I feel like some of it is intentional confusion by the trans rights people. It's like, it's not just the chromosomes like no one, no one who thinks about this carefully thought it was the chromosomes at all. The fact is that mammals, like birds, like some other clades have chromosomal sex determination. But that is quite different from saying that it's the chromosomes that are fundamental to being male or female, male and female pre exists kromus sex chromosomes, by the 100 million years or

**Bret** 51:50

more. Yeah, I disagree with you that people don't believe this, though. I thought

**Heather** 51:54

which Wait, what do you think I said, what I think you

**Bret** 51:57

said is that nobody who thinks about this deeply thinks that the chromosomes are essential, and I think there are lots of people who think about it deeply but don't think evolutionarily deeply and therefore don't know that the relationship between maleness and femaleness is not fundamentally about chromosomes, their senses so

**Heather** 52:13

yeah, it's easy to find PhDs in biology who think it's all about the chromosomes and that's why we have such bafflingly, naive but seemingly confused, right? Experts you're actually confused but naive conversations in which everyone's got their their PhD they can try it out and say, Well, you know, an x y female must improve is that the sex isn't binary. No, it doesn't. It does no such

**Bret** 52:38

thing right which is why the rubric that you've been advocating for is so important, which is that this is actually about gamete size and that is an ambiguous you know, we have two sides gametes

**Heather** 52:51

and that's just such a gametes just so you know silane large or Zippy and small you know, cytoplasm rich cytoplasm poor, right? Yep. All right. First question in this next hour is there's an easy way to tell an ad a girl and from a boy yet it's dropping water. If it sinks it's a girl and if it floats it's Boy

**Bret** 53:15

Boy terrible awful. Very good, but awful. Also,

**Heather** 53:22

that's the nature of puns you know that right as the person who's usually inflicting them on the rest of me

**Bret** 53:28

I'm not usually staring down the business end of upon like that.

**Heather** 53:31

I am no and you deserve to do so more. So I'm trying to work on the boys to create more. I don't know what this next question means. I'm right of the con, but I love you guys for what you do. $2 ain't enough. No more. That I don't know what that's a reference to.

**Bret** 53:52

I don't either. Right at the con that sounds pretty far right?

**Heather** 53:55

Sounds pretty right? Yeah. Plus centers. Plus centers evolved through a series of retroviruses. We use retroviruses to manipulate genomes. Now, I'm not saying it was aliens, but it's aliens, right? Do placental species skew towards cooperation?

**Bret** 54:16

Wow, this is too telegraphic for me to put those Yeah,

**Heather** 54:19

I mean, this is someone who's sent us who's written in with very good questions in the past, I recognize the name. And I don't know it seems there might be a conflict of interest. I just don't know what to make of it. But there also might be a conflation between like placenta, placental mammals and placentas themselves placentas within placental mammals, which is a is a good it's a good monophyletic group that is to say placental mammals evolved once we think. But within placental mammals, there's actually a point three or four or even five very different developmental and even maybe even genomic origins of placentas. When you've got some placentas, I believe Leave and it's been a long time since I've looked at this that are like in us, a combination of maternal and fetal tissue and originate from, I don't know, the chorion, maybe. And then in some different clades within placental mammals. It's a different admixture of maternal and paternal, fetal and maternal tissue and maybe from the allantoin like I actually I'm, I'm now kind of making stuff up, but like, you've got these four layers, these four new tissues of the amniotic egg, that is what, what the amniotes have, what the reptiles including the birds and the mammals have. And the placenta derives from different developmental parts and sometimes it's fetal in origin sizes, paternal origins and as it comes together well sometimes it comes together badly. So the idea that there's you know, evolved through a series of retroviruses I'm not convinced that there's that kind of a clean story here

**Bret** 55:53

but way to say the first thing you said seems to me a certain to be true and and at odds with sistent. With that observation,

**Heather** 56:01

I write that there are so so so let's just fill in what you just said, which I immediately know why it feels like an inconsistency. It does to me too. Yeah. If placental mammals are monophyletic if there's a single origin of placental mammals, but there are three or four different developmental types of placentas. It aren't your placentas themselves not originating single mammals like do placentas come later even though the you know eponymous trait of placental mammals is the placenta but we weren't there. So who knows? Or, or what? And I think that's really the only explanation if placental mammals are going to be are actually monophyletic. No,

**Bret** 56:39

I'll bet that I will bet that if the story is substantially correct monophyletic placentas, which I think is essentially certain and many different forms

**Heather** 56:53

of placentas,

**Bret** 56:55

right that you will have a you will have a tension between mother and fetus that results in a battle over who controls the development of this tissue.

**Heather** 57:12

So so the idea being that there was the premise the hypothesis is placental mammals evolved with the placenta and that that that originating placenta has now diversified along with mammals into distinct types due to effectively interesting ohmic conflict between mother and fetus

**Bret** 57:36

Yeah, I must say

**Heather** 57:37

but the different images the different developmental origins in terms of like the parts the MAR gag that make it more confusing.

**Bret** 57:44

Yeah, although I can see mechanisms whereby you might sweat especially if you had some version of the placenta that derived from to two origins or

**Heather** 57:58

something. Yeah, the placenta is is multi organismic I want to know more about this virus connection though. Yeah, I don't know anything about that. So tell us more thoughts on prints calling first amendment bonkers My first reaction was isn't prints dead? Yeah. Yeah, now we're talking about Prince it's Harry right I always forget which Terry set the one who lives here now with his his Hollywood wife

**Bret** 58:27

it's definitely Harry or William sorry okay. You can tell how interested in the Royals we are well

**Heather** 58:35

I'm here but we did what we watched the Oprah interview and we were properly appalled and I ran into the story yeah yeah yeah the the print Prince Harry coming to the United States UK on the First Amendment bonkers is bonkers. That's basically it, but like, What the hell's he doing man?

**Bret** 58:52

But I mean, there's something so delightful about it. I'm this must have been pointed out 100 times. Right. But, you know, the First Amendment was written by geniuses who were suffering PTSD as a result of frickin crown. Right? Exactly. And so you know, not surprising that

**Heather** 59:12

the windsors might not have

**Bret** 59:15

a dim view or you mean anybody can say anything bad about the crown that they want that doesn't sound like a very smart system does it right you know, so anyway, someone do something about that, right? I actually kind of love this.

**Heather** 59:26

Okay. Yeah, no, I that's that's good. That's a good spin. Yep. Just you know, true to form. You can take the prints out of the UK, but you can't take the crown out of the prints. There

**Bret** 59:35

you go. Yeah. Now.

**Heather** 59:38

Okay. Oops, that scrolled fast. Um, here we go. What do you think the chance is? that the reason we never received good stays on prophylaxis, prophylaxis and therapeutics is that big pharma can make money on the vaccine for which they have a patent? Yeah, this was our implied hypothesis. In Episode 80,

**Bret** 1:00:01

so I think something that works like that is very likely, but some sounds like that. Yeah, is very unlikely.

**Heather** 1:00:11

This is an important distinction, say more about that. So,

**Bret** 1:00:14

again, somehow people who end up getting ahead in the world in things like pharmaceuticals have some way of thinking and talking and doing business that does not leave them feeling that they have gone to work and done evil, and then they have to somehow go home and look their families in the eyes. Yeah, right. Somehow the mundane. You know, I'm imagining that those who built these vaccines and did the business necessary to get them done and they are a triumph, in many regards, whether they're harmful or not, the technological triumph is real. The people who managed to do that know what is hostile to their interests, and what is in their interests. And they tend to view those things that are hostile to their interests through the dumbest possible lens, and they tend to view things that are hospitable to their interests with an overly generous perspective. And that that is almost all you need for the capture of the governmental regulatory apparatus that they have arranged as a normal feature of business, right for that thing to end up becoming incredibly hostile to ivermectin because there was an awareness that ivermectin was a potential challenge in getting an emergency use authorization. Yep. So I suspect, you know, it's, it's the banality of evil again, and again, and again, I suspect if you heard the conversations that resulted in the shutting down of very promising prophylactic and therapeutic agents, those conversations would bore the crap out of you. Right? They just would, yeah.

**Heather** 1:02:05

Can excellence exist under equivalence of outcome? equity?

**Bret** 1:02:11

No,

**Heather** 1:02:12

it can come into existence, but it gets wiped out pretty quickly outside.

**Bret** 1:02:16

Yeah, I mean, it doesn't persist. The The only way to create equality of outcome is to hobble everybody. And you know, if, if you haven't thought about that, I will remind people of the Harrison Harrison burger and bear jiron, which was written by Kurt Vonnegut by Kurt Vonnegut, a student in the middle of the Evergreen insane week alerted me. A black woman in my class kept one of your students, one of my students kept coming up to me and saying Harrison Bergeron read this. Yeah. And I at first, you know, it was so much I've got a lot going on, right. There's a lot going on. But eventually I did read it. I was like, Wow, she's absolutely right.

**Heather** 1:02:57

Yeah, it's a short short story. Totally worth Yes. Totally worth looking at. Yeah. Maybe space aliens are interested in our planet because mammals are a rare evolutionary path. Besides, who in the galaxy wouldn't like cheese or ice cream? I can't imagine who wouldn't like cheese or ice cream? Can you know I mean, only a crazy person. Only a crazy person, I would think Yeah, yeah. Zach, can you imagine anyone who wouldn't like cheese or ice cream? You got an example of someone? Right? Right there in the producers chair. Yeah. Yeah, the thing is that everything on our planet is a revolutionary path. Right? Like everything here happened here and only here. And there may be some there may be some convergences and a totally different rerunning of evolution with a different information molecule and a different everything. But convergence is all it would be, you know, the the fact that we ended up you know that the the organism that controls this planet is a mammal, maybe was bound to be given the trajectory. We're already on trajectory. We were already on 200 million years ago, ish around the origin of mammals. But that was not, that was not inherently going to be the case either.

**Bret** 1:04:10

Yeah. Yeah. Agreed.

**Heather** 1:04:13

Some people are wary of the jab because of the short development time. Can you comment on the fact that the benefit of mRNA is that proteins are produced in our bodies much quicker than could be grown in a lab in an egg? A good thing? I o w one to W. ws? Yeah.

**Bret** 1:04:33

comment on that? Yeah. So first of all, I will say I saw absolutely atrocious cartoon, designed to explain that the rapid development and authorization of these vaccines did not really cut any corners anyway, it's worth looking up. I found it very misleading. That's not so much about the developments about the regulatory process. But yeah,

**Heather** 1:04:59

I mean, the development is quite a separate question. Yeah, the I mean, the rapid develop the ability to rapidly develop mRNA vaccines is absolutely a plus here. It's so if if MRI vaccines turn out to be as awesome as we are assured they are, the rapid development time is the thing that prevents future pandemics brightly.

**Bret** 1:05:20

And one can imagine these vaccines, I'm not saying that they are, but you can imagine these vaccines being a total disaster with respect to their long term harms. And that we would figure out, if we can do a proper analysis of what happens here that we would figure out what about them is causing that harm, and that they can be refined into something useful and safe enough to deploy, which then means that you could have ultra rapid generation and deployment and then presumably, it would be possible to shorten the regulatory path, you know, in accordance so that you could actually respond very quickly to new emerging pathogens?

**Heather** 1:06:05

I guess I would say so there's, maybe we are lumping two things into development, I don't think either of us is in terms of how we're thinking about it. But when people think rapid development time, they may be thinking about not just the r&d stage, but also the clinical trial stage. And so, you know, the lack of long term critical clinical trials, which would have, you know, required a few years here is part of our concern, for sure. Largely, because the mRNA technology itself is not vetted yet. That emergency use authorization for a kind of technology and a new instantiation that had already been used successfully, in in previous pandemic say, would be I would be having a very different reaction to, to the lack of the clinical trial data. But the the rapid ability to actually develop the vaccine itself, as opposed to the testing of whether or not it's safe and effective, is exactly a feature of the mRNA vaccine technology. And there should be nothing concerning about that.

**Bret** 1:07:09

Yeah, I think you've identified something important that we haven't we haven't been clear by yet. Which is, you've got two things requiring a safety test, a proper safety test, one of them has to do with the basic principle of delivery, and one of them has to do with the content of the message that's being delivered. And, yes, we're we 10 years into mRNA delivery mechanisms and simply testing this particular informational content and the spike protein that it creates, and whether that's by protein properly lodges in the surface of the cell, and whether it frees itself and does damage on its own, then we would be in a much better position to say, Alright, here's what we don't know, when in fact, what we don't know is everything. Right? And you don't want to be in a city, you know, welcome to complex systems. The last thing you want to say is, well, actually, we don't know anything because not only have we never dealt with the spike protein before. And we're going to get surprised by things like lo and behold, the spike protein itself is disruptive of tissue, right? But we also have a well how are you going to get it into the cells problem, and we've got a fancy new technology with unknown implications that could include almost anything, if lipid

**Heather** 1:08:21

nanoparticles had been in widespread use in humans for 10 years at this point, scientists still prefer at but you know, 10 years at this point, your my reaction to the lack of clinical trials and the rapid deployment would be very different. Right?

**Bret** 1:08:36

And, yeah, it is completely invisible, that you would have a platform in which delivery mechanism was on the shelf. And the question is, oh, here's this one work. Yeah. new emerging virus, here's our plan for what to load into that thing. And that's a much more tractable question.

**Heather** 1:08:54

Absolutely. So you know, again, let's, you know, let's hope these are everything that we are being told they are. What do you think about the move to canceled Darwin? I don't know if there's Is there a new move to canceled our golf courses? Just sort of an ongoing? Yeah, I hate Darwin because he was right or something. But is there something new?

**Bret** 1:09:15

Yeah, there is I didn't look very deep into it. But you know, I think it has to do with the descent of man, and the fact that Darwin was weirdly a man of his time, and therefore the descent of man as opposed to descent of humans as opposed to the origin of species.

**Heather** 1:09:35

So what's in the descent of man that we're objecting to now?

**Bret** 1:09:38

Well, you know, imagine imagine a wealthy white European guy's a Victorian Yeah, the problem the problem? Well, he's a Victorian and he's got some Victorian blind spots, right? No,

**Heather** 1:09:49

that's what I mean. So he's got these. Yeah, he's not an egalitarian and he's not entirely race blind. And yes, I'm some some views that

**Bret** 1:10:00

Language is jarring. And some of the conclusions are, again, that modern and you know, somehow, how could he know level of contribution to our understanding of ourselves and to how we might function in the world and what the hazards in the world to us might be, and no level of contribution is sufficient to look past the fact that you had the blind spots of your error,

**Heather** 1:10:25

right? We're not as serious people, are we I guess? No,

**Bret** 1:10:30

no, we're a team team people. And Darwin is not on Team us apparently. anymore. evicted?

**Heather** 1:10:37

Yeah. Okay, what are we at timewise? You were at an hour. Okay, let's skip through just maybe three more. I'm not sure what this next one means. But I will read it. Taiwan and New Zealand, also Singapore etc. are some of the countries have more contact both business, tourism and family visits with Mainland China? Doesn't that seem like a more plausible relationship relation between those countries than illumination? And this is clearly a reference to the earlier question about New Zealand and Taiwan and Israel being pro Vax. Rather than and not talking about ivermectin, but I don't, I can't quite, I don't see the connection, I don't have

**Heather** 1:11:25

a lot of these, I can tell there's something in there. But the way they're written, I'm having a hard time making sense of this week. AD, excuse me, as a low ad as a low percentage of the conspiracy chart by helicopter parenting elites, it's in the best interest of man in the world to reduce human population by any means. So this, I think, is sort of adding to the idea that maybe insurance would benefit from the Malthusian approach to human population. You know, so I, yeah, I don't know. I don't think we need to go conspiracy wise, wise here. But clearly, if the if the robot revolution is coming, and so much of the work that is currently being done by humans will not be necessary to be done by humans, then we will have a what do we do with other humans who are doing that work issue?

**Bret** 1:12:18

Yeah, I mean, I also just at a technical level, wonder if robots will ever be able to pretend that they are busy in the way that human beings have gotten so adept at.

**Heather** 1:12:31

Yeah, yeah,

**Bret** 1:12:31

I mean, I can certainly I can see them learning it, but I could do Yeah, but it's, you know, it's not gonna be the first skill they they develop. Yeah. But I also I just think you need to be very careful with the idea of making any simple conclusion about you know, a reduction in population would be good for insurance companies this data The fact is, the

**Heather** 1:12:55

countries where this is happening are are scrambling, they're trying to figure out how to increase fertility,

**Bret** 1:13:00

right? Yeah. Yeah. And you know, you can do an awful lot of damage by having lots of individual whatever's serve their own interests and then making policy collectively out of Yeah, what emerges Yeah.

**Heather** 1:13:13

What is known about magnets sticking to vaccinated sites on arms, watch the high wire.com

**Bret** 1:13:21

Yeah, I have seen this I think most of it is likely to be nonsense, but I am not completely compelled that every video I have seen does not show this. My sense is I know nothing until I've seen this in person. It should get trivially easy to demonstrate a magnetic connection. I do not believe there's anything whatsoever to the idea that there's metal stuff in the vaccines that is causing this if there is an effect at all, which I still doubt then it has to do probably with iron in the blood and I know there's a physiological reason to think that iron in the blood would not magnetize but in any case that could be well yeah, I think I've said it I don't I don't believe this until I see it in person or see it properly demonstrated with a protocol I have seen some videos that do appear to show this I've seen lots of other videos in which it could be a little metal thing sticking to skin that's a little greasy, or a little damp or whatever and yeah, that's that's what I assume most of it is but i i you know, I'm not going to leap to conclusions.

**Heather** 1:14:32

Okay, let's do two more here. Because this next one is really just a comment does is the right not using terms in theory, but not practice. For example, victim was victimhood is bad, but they support Trump as a victim. Same with them using identity politics. So I suspect this is true. I don't I don't think either either side over in politics space is immune to hypocrisy and and You know, just as the left appears to have picked up, so many of the tools of the Republican, like 1990s Republicans, like the the democrats have just gobbled up all the stuff that newt gingrich introduced during Clinton era 90s and are reveling in it now. And of course the right is gonna start to pick up a bunch of the garbage that the left is now going on about and start making hay with that. I don't I know very little about the party. I just paid so little attention to the particular politicians because I find them all excruciating.

**Bret** 1:15:35

So there's a simpler taxonomy we can use, which is that there's plenty of Sukkot to go around for both major parties. Okay. All right, is Yeah, there it is. Yeah, and a lot of these things, you know, each side for hurls the accusation conspiracy theorist at the other side when it suits them and produces their own, you know, conspiracy beliefs aren't equally susceptible to the accusation. It's clear as day right, you know, people believe that their own fears about election tampering are legit and that the other side is just playing games. And, you know, it's it's almost too symmetrical to be believed.

**Heather** 1:16:13

Yeah, that's, that's right. Okay, one last question for today for this week. Is anyone in science putting it all together? I hear about low sperm count low testosterone and high rates of people identifying as trans connection. I think there is a connection, but I think it's many more pieces than that. Yeah. There's just there's an endocrine illogical disruption that is happening system wide. Some of it Yo, now we are supposed to celebrate it when people choose to disrupt their own endocrine illogical systems. But Originally, it was presumably unintentional and unintended, and was ignored for a long time. And you got to laugh at you know, Alex Jones for claiming they're turning the frogs gay. And, you know, the estrogens in the water turn out to create hermaphrodites in frogs, not gay frogs, as far as I know, but hermaphrodites and frogs aren't supposed to be hermaphroditic. And, gee, what might be the effects on organisms with genic? Sex determination? could well be similar?

**Bret** 1:17:13

Yep. I would say if you zoom out one layer, you know, you've outlined several things which somebody could put it all together. And I think there are people working in this realm, I don't know, you know, we would have to delve deeper. But if you zoom out, we have a crisis with hyper novelty. And you know, that's the problem. That's the subject of our upcoming book. And we need to start thinking in in these terms, we are very adaptable creatures living in an environment for which we are not designed. And that is making us unhealthy on every front. And as soon as we start getting wise about the fact that we are making ourselves socially physiological, physiologically and psychologically sick, we will get better at not doing it so frequently.

**Heather** 1:18:01

That's right. Because I was just looking at this paper yesterday. I'll just, I'll just show this paper sack. Hey, is it all published in 2001? No, published in 2002. hermaphroditic de masculinized frogs after exposure to the herbicide Atrazine at low ecologically relevant doses. This is such a deep, long standing diabolical story. And what we don't know is what the effects of many of these herbicides and insecticides are having on us. We increasingly know a lot about the effects they're having on frogs, and insects and whole ecosystems. And somehow we imagine that because we are made different somehow it's totally religious perspective, that we are immune. No, we are not immune. No way.

**Bret** 1:19:01

We are not immune. And, you know, by multiple mechanisms, and I, we do not have the material to show but the comparison that emerged in this recent week, between the propaganda put out by the Russian military and the propaganda being put out by our military was nothing if not striking,

**Heather** 1:19:20

so you need to save something to explain what you're talking about.

**Bret** 1:19:23

Well, there was basically a very sort of traditional masculine military view of, you know, joining the Russian army and, you know, be a tough guy kind of stuff and then the peace that was put up that was juxtaposed to it. Well, the US Yeah, was, you know, a sort of very feminized Girl Power kind of approach, which, you know, look, I'm all for women discovering that. Traditionally masculine stuff may be more appealing to them than they thought and partners. Appearing in it, but for God's sake, don't feminize your military that's like an invitation to your enemies, you know?

**Heather** 1:20:07

Yeah, yeah. Yeah, yes. It really is. Yeah. First, the feminized the frogs, now they're feminized in the military.

**Bret** 1:20:16

What could possibly go wrong?

**Heather** 1:20:18

Okay, on that note, Maddie says we're out. Our people will have says pay attention to me. Yep. I think I think it's time So join us again here next week. In the meantime, if you join me at my Patreon, within the next 24 hours or so you could ask a question that we would perhaps get to in our next q&a which is not tomorrow but the following Sunday, and consider joining credit his Patreon for we monthly conversations there. Join either of them for access to the discord server. And please SUBSCRIBE, LIKE SHARE to the to the channel of this video and go to the clips channel and do the same there. In the meantime, be good to the people you love and eat good food and get outside.

**Bret** 1:21:04

Yes, set it off. All right, be well, everyone