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**SPEAKERS**

Bret, Heather

**Bret** 00:35

Hey folks, welcome to the Dark Horse podcast live stream where you never know exactly how the tech is going to behave until you actually fire up the live stream. It is live stream number 80 5am I correct about that Dr. Hyang.

**Heather** 00:49

That is right.

**Bret** 00:50

I am Dr. Brett Weinstein. And we are in an unusual spot as most of our viewers and listeners will know. So I'm going to ask all of your indulgence and want to talk about our predicament and what it is that we are going to do about it. Before we start the show in the normal sense. Many of you will know that I was in Austin this week I went to do what may be the first in history emergency podcast with Joe Rogan who put me and Dr. Pierre Cory. On to discuss the situation of YouTube Google censorship and repurposed drugs. It's an excellent piece, it's gotten a very positive reaction, I strongly recommend you look it up. I also went on Lex Friedman's wonderful show. And I must say Lex and I had never met before. But Lex is a marvelous, fascinating and very unusual human being. I really thoroughly enjoyed meeting him. And I hope that there are many more discussions to come. But I want to point your attention to one thing in particular, in my discussion with Lex and as on this show, I don't think Lex really does interviews he does discussions with people but less Lex is so fascinating, that obviously, they're all pure conversations. He asked me a question that caught me off guard, but put something together that I hadn't realized before. Lex asked me if I was aware that martyrdom was a kind of drug that people could get addicted to. And it was clear that he wanted to know whether or not that was in some way motivating us to challenge power as held at Google YouTube. And it immediately struck me that this must be something that people are thinking. Now, I don't think there is anything to this idea. But as I said to Lex, we are all mysteries to ourselves. And it is always possible that there's something happening outside the view of our conscious mind that is driving that we are unaware of. But in this case, I believe something else is true. And I want to tell you a little bit The question was so good that I couldn't help it keep thinking about it on the plane home and in the days since. And I've come to a conclusion about what role this analysis is playing and what the analysis that I think is correct, might be. So there's a big difference to me. And I would argue inherently to between people who seek martyrdom, and people who are willing to risk things in the pursuit of important goals. These may superficially look alike, but they're two opposite things. It's a little bit like fusion and fusion power, which you can say are both nuclear power, but really, they are literally opposite processes. The desire for martyrdom is, in my opinion, a selfish process it is comes out of a need in the person. Whereas the willingness to take risks in order to achieve something is more or less the opposite. It is in some sense, selfless. And I don't want to say that we or I are selfless, obviously human beings are complicated, and we all get something out of what we do or we wouldn't do it. But in terms of what is driving us, I believe something that is not entirely visible is playing out.

**Bret** 04:24

In order to see it, I need to point us to a discussion and ongoing discussion that has been taking place largely between me and Jordan Peterson over the course of many years now or several years at least. And it has to do with the meaning of myth. I think Jordan and I both believe that myth is evolved and very important. In other words, it's it's an adaptation and therefore has to be treated very seriously and we dispense with it at our peril. My point to Jordan has been that because all of our myths evolved in a world we no longer live in. We have to look at them with us. certain amount of circumspection, we have to reevaluate them because they may or may not be applicable to our current situation. And I think Jordan takes them to be likely to be much more important as they were presented. Now leave that conversation where it is, I want to revisit a number of myths, really two of them in particular that I think are relevant to our current situation. One of them is the myth of David and Goliath, and the other is the allegory of the cave. Now the allegory of the cave is presented as a methods not presented as a modern story, or as a literal story. And these, in some sense, are opposing mats. David kills Goliath, the person who leaves the cave, and Plato's allegory is killed by those who don't want to understand that the real world is outside the cave and is not contained in the shadows on the wall. So we should take that in some sense as a tension we are trying not to find ourselves in the position that Plato describes, and we are trying to find ourself in David's role, but in order to understand how this myth emerged and what it means to us, I think we actually have to look at the story of David and Goliath and see what it is. Now if you dig into this, you will discover that historians actually believe that Goliath was a real person and we'll return to Him in a second. David was also a real person, but David did not kill Goliath. Apparently, Goliath was actually killed by a person named el Hernan. The story was then subsumed into David's story effectively by the authors of biblical texts and the evolutionary process that followed from their original authorship. In effect, it's like a screenwriter compositing multiple characters into one to simplify a story so that it can fit into two hours of a movie. So Elephant Man fights Goliath and winds and what are we to take from this? Well, the other part of the David and Goliath story, the part that does not involve L. Hannon. And David involves Goliath himself, who in all probability was a real giant. And what does it mean to be a real chart? Well, those of us who have looked at the Guinness Book of World Records and the book of lists and seeing other such discussions know that every so often nature produces a very large person. Now, what is typically going on in the case of these very large people is that they have a pituitary tumor, a pituitary tumor does not shut down the production of growth growth hormone at the point that it should and so the person continues growing beyond the normal point of growth cessation. Now, that has a number of impacts. Those of you who have been following Dark Horse who have listened in on the portal will be aware that if you are accelerating growth past the normal point of cessation, that you will be borrowing from the capacity of repair and maintenance. And that means that giants may be very powerful, but they are also fragile. And that is in all probability, the deepest message of the David and Goliath story or better the allanon and Goliath story. So what does this have to do with Lex Friedman's question, it has to do this.

**Bret** 08:10

I am not interested in martyrdom. As I told Lex. I'm enjoying what we are doing. And I feel that it is far too important to have it come to an end by fighting an unfixable foe I know I speak for you as well, in this regard, either you don't have a desire to die on that hill. But what people don't necessarily realize is that dying on that hill is not the only option. There is dying on that hill, we have no desire for there is also taking that hill. And we do have a desire to do that. Why in this case, because that Hill has to be taken. What Google and YouTube are doing is they're infantilizing a huge fraction of the population. They are making certain discussions off limits, we are only able to discuss the COVID situation if we adhere to certain pre digested conclusions, and we pretend that they emerge from evidence which they do not. The evidence is conflicting and self contradictory. What that demands is an analysis that we are literally not allowed to do on YouTube at this moment. We have to end YouTube's hegemony either YouTube has to relent, and it has to allow that conversation or we have to recognize that YouTube is effectively like Sesame Street now, where it's going to tell us things that it believes to be in our interest and expect us to just simply take them in and not question them. That is obviously an untenable situation. Darkhorse is not a program for children. This is a program for adults who are interested in nuance. It cannot exist on a platform like YouTube. If YouTube is going to exert pressure of this form, we have to take this hill. Now I do not believe that dark horse alone can fight Google. That's very unlikely. But I would point out to the extent that the myth of allanon and Goliath which becomes the myth of David Goliath emerged from an actual historical story, the population of planet Earth when that story took place was less than 1% of the population that we have now. Goliath is not likely to be a person, David, or al anon is not likely to be a person either. These are liable to be conglomerations, Google is playing the role of Goliath. That is what it has chosen to do. I hope that it is free enough to untruth that but we'll find out. David is not going to be a person David is going to emerge people who are courageous enough and see the picture clearly enough are going to join together and they are going to fight this battle. Some of you may have seen Bill Maher last night on his program discussing the predicament of our channel. It is well worth considering how David or al anon is going to form as a matter of emergence and figuring out how one can participate in that. For our part, we are going to have to escape this infantilizing discussion of crucial life and death medical issues that we are seeing unfold on YouTube. And on the other major platforms, they have effectively created the Truman foe medical show and it is intolerable. It's going to kill many, many people if we are not careful. What can we do? Well, the sword of Damocles continues to hang over the Dark Horse, you can see our installation here to demonstrate that jeopardy. And what we are going to have you do is we are going to have you move over to our new home on Odyssey. And I want you to realize that this is both a practical matter. This is a place that we can continue to broadcast no matter what YouTube Google does. But it is also symbolic. The reason that platforms like Google and YouTube continue to exist, even though people find the censorship they are exerting intolerable has to do with something called network effects. network effects mean that once you've got the audience, people have a very hard time figuring out how to leave, of course, you can leave and you can go broadcast somewhere else. But if the audience isn't there, what's the point? So what we're going to do is we are going to move our audience to Odyssey, we are not giving up our spot on YouTube. And hopefully YouTube will realize the gigantic error that it is making. And it will realize that actually, dark horse is meant something as a warning, right? The podcast is named Dark Horse because the dark horse is an entity that is mysterious, one does not know how to bet on it. How would you bet in a fight between people like us and Google YouTube? Well, simplest thing to do is just to bet against us because of course, Google is huge, and we are not. On the other hand, the story of El Han and Goliath tells you something else. It tells you that Goliath, though incredibly powerful is not invulnerable. That is what el henann figured out was that this giant was fragile, and that there was a way to attack him. Now, I believe if you follow the story so far, you will understand that because the new Goliath is an emergent property, it is evolved. And that tells us something about its vulnerabilities. It tells us it will be ferociously powerful on territory that it understands well. And it will be a bit dim on territory it's never seen before. That's the nature of evolved creatures, humans being the lone exception to this pattern. creatures do not deal with novelty well, Goliath does not deal with novelty well, and that is what Goliath is now scratching his head over what the hell is happening in his attempt to shut down this discussion from Dark Horse and elsewhere. And Google is going to find out. So with that, let me ask you, if you are not already watching this on Odyssey to find the link in the YouTube description that will tell you how to get to our Odyssey page and move there now and we will start the podcast as normal. Alright, you ready, Heather? Sure.

**Bret** 14:06

Okay. Hey, folks, welcome to the main part of the podcast number 85. If I am thinking of this correctly, 85 I will point out you don't need to tell me it's not a prime number.

**Heather** 14:19

It's not a prime number. Does it get an asterisk?

**Bret** 14:23

Does it get an asterisk? Oh, why would it get an asterisk?

**Heather** 14:26

Oh, just because of everything you just talked about?

**Bret** 14:28

Hell yeah. Oh, yeah. It at least or has earned an asterisk. It has earned at least one asterisk. Absolutely.

**Heather** 14:34

Yeah. So I mean, it's just it's it's hard to start out normally after after getting right into the deep stuff. But um, but yeah, here we are. So if you were asking quite if you were paying attention on YouTube, and you were asking questions in this in the Super Chat, very sorry. We are not doing Super Chat, obviously because of YouTube and the q&a system that we were hoping to be live this week. had one last glitch. So we're gonna do one more week of Twitter questions, right? So use the hashtag, hashtag take the hill. And we will compile your questions and answer as many as possible in the second live stream today. The Patreon the private q&a that we have at my Patreon, once a month, the last Sunday of the month is tomorrow. So consider joining us there it's a lot of fun at 11am Pacific

**Bret** 15:23

Can I point out it is going to be off the hook.

**Heather** 15:27

It is going to be off the hook it is going has been it has been before and it's it's it's small enough that we get to pay attention to the chat and engage with the chat for the Patreon q&a, which is great. There's some interesting big good news on Tuesday that we may come back and just talk a little bit about but maybe, maybe not. But we'll be able to talk to you about it next week. And today, you know, we're going to do some things that we wouldn't be able to do on YouTube profitably. We're going to talk a little bit about some some stuff around vaccines and breakthrough cases and how the CDC is responding and suggesting that both laboratories and and health agencies reporting agencies are responding. We're going to talk a little bit about what OSHA is doing the occupational safe and Safety and Health Administration here in the United States. We are going to talk a little bit about just a little bit about a brand new paper that tried to do an analysis of how many lives are being saved versus lost by the current vaccine protocols. And we are of course as has become our was going to read a little bit from this week it's chapter two of our forthcoming book The the chapter on deep histories are going to read a little bit about mammals, we're gonna do that at the end of the hour. Today, and and we have a couple of paid ads, we're gonna pay the rent here we have a couple of paid ads, and then also, just in order to make Odyssey a little bit more like Sesame Street. And since since YouTube is today's episode is brought to you by the letter B, and we are going to read the index for the hunter gatherers guide from the letter B.

**Bret** 17:08

Yes. Is it the number 85 and a letter B? Is

**Heather** 17:11

that this this week's episode brought to you by the number 85 and the letter B

**Bret** 17:15

and the letter B? Yeah, yes. Okay.

**Heather** 17:17

So I'm going to start with we got a couple ads today for public goods and for omaxe to sponsors that we've, we've talked to you about before. Let us go. Alright, public goods is a company that can simplify your life as a one stop shop for high quality, everyday essentials. Their ingredients are carefully sourced and affordable. public goods is towels and glassware and sponges, razors and shampoo and toilet paper mustard coffee, coconut oil, and they've got niche items to like small batch marshmallows, bone broth, concentrate, gluten free pasta, a lot of stuff. public goods also cares about health and sustainability for its customers and for its planet. It plants a tree every time an order is placed in the ingredients are ethically sourced, their products are also largely free of harmful ingredients and additives. Their products have a great design to the aesthetic is clean and simple and they're no garish colors. Personally I don't like the products that I bring into the house draw attention to themselves and public goods is great from this perspective. And finally, their subscription service is efficient and simple and easy to use. Members of public goods can buy really all of their premium essentials in one place. It really can be in everything store for you replacing some other everything store you might have in mind. For Darkhorse listeners therefore we have the following offer receive $15 off your first public goods order with no minimum purchase. They are so confident that you will absolutely love their products and come back again and again. They are going to give you $15 to spend on your first purchase. So go to public goods.com slash Darkhorse or use code Darkhorse at checkout that is bubi Li, C, G o, d s.com. Slash Darkhorse to receive $15 off your first order.

**Bret** 18:56

Awesome. All right, and I am going to be talking to you about oh Max cryofreeze. Now the obvious thing to do would be to read to you about oh Max cryofreeze but as a lifelong dyslexic, that is a very frightening prospect and so I'm simply going to tell you that living with chronic pain sucks and the pain and soreness that you get after you do something like exercise is also really unpleasant. Once you get the message that something needs to be protected. It's nice be able to do something about it and oh Max cryofreeze is a very interesting thing that you can do. I have used the product I can say that it does seem to work. It is a nice smelling rolawn based on CBD, it does not trigger my allergy to cannabis which is interesting. If any of you have an allergy to cannabis I would be interested to know if you also find that it seems to work without triggering those allergies. It's 100% natural, you just roll it on and within something like 10 minutes It seems to alleviate pain. They are giving 20% off to Dark Horse listeners and viewers, you go to their site omaxe oh MAX health.com and you enter the code dark horse to get 20% off site wide. If you've got pain that needs treating, and it's in your joints or your muscles, I suggest you try it.

**Heather** 20:20

All right. Just since we're doing since this episode is brought to us, brought to us not brought to us, it's brought to you by the letter B. We are going to share with you now last time I did this Brett you wanted me to be more animated no wild, wild eyed better. Okay. Today's episode brought to you by letter B, specifically, the index form from the forthcoming hunter gatherers guide. Beginning with the letter B. baboons, deltoid rotifers, beer being in the zone Beringia bilateral symmetry biological clock by parental care bipedalism, birds, lots of things in birds. I'm not gonna read all the things in birds birth control, blood pressure, blue spectrum, light bone setting, bonobos boredom, Jorge Louis bar has breaky Asian brains bred breasts. And last but not least, can you guess? bush turkeys?

**Bret** 21:17

turkeys? Hell yeah, there

**Heather** 21:19

it is. There it is. So this episode brought to you by all of those things.

**Bret** 21:23

Yeah. Bush turkeys first turkeys, turkeys, one of the only bird species in which parents do not meet their offspring. Exactly why they're in the butter. That's why they're in the book exception that proves every damn

**Heather** 21:38

rule. Yeah, birds anyway. Yeah, the birds. A lot of birds in the book.

**Bret** 21:42

Cool. That, by the way, is very good on the wild eyed front.

**Heather** 21:45

Thank you.

**Bret** 21:45

It does make me excited for the book all the more.

**Heather** 21:49

Excellent. Okay, so let's talk about what counts as a positive COVID test? Shall we? Yes. So there, you know, there are a lot of kinds of tests out there. And early in the pandemic, you know, March, April of last year of 2020, we were talking about the difference between the antigen test and antibody tests. And there is and and now we've got PCR tests as well. And I'm not actually sure when the PCR tests were rolled out or started to be used. So there's there's a lot of type of tests, there's a lot of question out there about how reliable the various tests are. A number of people, you know, have even been told by doctors, you know, I'm pretty sure you had it. But you know, you're not testing positive. I don't know what to tell you. So that's actually that's not really the focus for today, though, the focus for today is we're going to specifically talk about the PCR tests, which are have become, have become described as like the gold standard for testing whether or not you have it now your infection and active infection. Exactly. And well, actually, back in August of 2020, The New York Times reported a bit on these PCR tests on the very high cycle threshold values in the PCR test being run meaning, so cycle threshold is like how many cycles? How many amplifications? Do you have to do have the data that you brought in, in order for the test to find a positive result?

**Bret** 23:18

Do you want me to explain a little bit about how PCR works? So people should why that's such an important parameter. Okay, so PCR is the brilliant insight of Kary mullis, who got a Nobel Prize for it, he is now unfortunately deceased, fascinating character. And what he did was he reasoned from the characteristics of DNA, that one could amplify a very small amount of DNA using the enzymes that are involved in the copying. And that basically, what you get is exponential growth. And so any of you who have played one of these games, where you put like a piece of rice on the first square of a chessboard, and then you double it each square thereafter, and then you don't get to the end of the chessboard, for reasons that I will allow you and your rice vendor to discover

**Heather** 24:04

this, Einstein's point about compound interest being the most powerful force in the universe, or whatever exactly, he said,

**Bret** 24:09

right? Or didn't say, but it's really attributed to Einstein. But anyway, the point is, exponential growth is so freakin powerful that you can take the tiniest signal in something like DNA, or RNA, and you can amplify it to an amount that it's readily readable by you just by asking the enzymes to keep doubling, right. So the point is cycle threshold is about how how much intensity you point at the amplification, a very strong signal doesn't need much amplification to show up a very weak signal needs a lot. And one of the things that I believe Melissa himself warns about is that this is so powerful, the amplification is so powerful that you can take at a signal that is on the verge of non existence, and you can get it to show up by simply turning up the number of cycles high enough so the

**Heather** 24:55

higher your cycle threshold, the more false positives you will get and even more to the point point, you know COVID. At one level, it's binary like you have it or you don't you've ever had it or you haven't. Ish, though, right? Because there's there's a lot of people who have been sort of a little exposed and may have a little immunity and whether or not they're going to get really sick, actually, there is a density of dependence to it right? That, that the more the more of it you have in you, the sicker you are likely to be, and the worse your outcome is likely to be.

**Bret** 25:29

I believe it is also the case, though, that there's every danger of amplifying tiny amounts of contamination, Yes, right. And so COVID in the air COVID, from a past patient that isn't fully removed from some piece of glassware, there are a lot of ways to take COVID that is not present in the actual sample you have taken from somebody and to amplify something so it feels like it is

**Heather** 25:52

exactly so and this is all just sort of background to the actual story that we want to tell you about today. But I'm just going to read a few paragraphs from this article, again, published in August of last year. So I'll just point out August of last year, we still had Trump as president. And so the New York Times was still actually coming after what the current policy on COVID with a somewhat negative bent, and they appear to have basically switched it based on who the President is. And so I suspect that this article wouldn't have been written today under a Biden administration. So Zack, if you want to show my screen, I'll link to the actual article, but I've just got a PDF here. So that I can so that I can show you guys what I've highlighted the PCR test. Well, we already talked about this, but let's just PCR test amplifies genetic matter from the virus and cycles, the fewer cycles required, the greater the amount of virus or viral load in the sample. The greater the viral load, the more likely the patient is to be contagious. There's number of amplification cycles needed to find the virus called the cycle threshold is never included in the results sent to doctors and Coronavirus patients, although it could tell them how infectious the patients are. And let me take a break there. So one thing which was implied in what we already said is that the lower the cycle threshold on a positive test, the more infectious and infected the patient is, and the higher the number that it took to get to a positive result, the less likely that result is meaningful at all. And I will also say that this last thing and I've got one more excerpt to read from this but this last thing I read here, the cycle threshold is never included in the results on two doctors and Coronavirus patients that basically doctors and Coronavirus patients are only getting a binary Yes, positive, no negative. And I spoke to a doctor who said that has never been the case for other tests for which she has sent in PCR labs before the threshold value has always been next to the tests. And so this raises all sorts of questions about why, once again, why we are being denied data, right? Like why would you move this into a binary data set as opposed to one with actual information in

**Bret** 27:57

it a binary is actually a kind of pseudo quantification because what you have is a member getting there. Okay, so but by taking out that data, which is automatically inherently generated by the process, so in other words, the data is there and not reporting it as a choice, right. And it requires nothing additional, right? It allows it does not allow the clinician to say Actually, I wonder if that test is accurate, because the number of amplifications is so high that it might just been contamination, right.

**Heather** 28:27

And that's and you know, to that point, just a little bit more from this article again from August 2020 from The New York Times, one solution and so you know, the problem being laid out in the article is that probably a ton of the positive tests that were coming back last summer, because that's when this was done. We're not necessarily positive. So one solution would be to adjust the cycle threshold use now to decide that a patient's infected. Most tests set the limit at 40. Let's just 40 cycles, a few at 37. This means that you're positive for the Coronavirus of the test process required up to 40 cycles or 37 to detect the virus. Remember, the higher the cycle threshold, the more likely you are to test positive even if you're not test with thresholds so high may detect not just live virus but also check fragments leftovers from infection that pose no particular risk akin to finding a hair in a room long after a person is left. Dr. Meena said any test with a cycle threshold above 35 is too sensitive. A great Juliette Morrison of neurologists in the University of California Riverside, I'm shocked that people would think that 40 could represent a positive, she said, a more reasonable cutoff would be 30 to 35. She added Dr. Mina said he would set the figure at 30. Or even less, those changes would mean the amount of genetic material and a patient sample would have to be 100 to 1000 fold that of the current standard for the test to return a positive result, at least one worth acting on. So that last bit points to the fact that this is not a linear test. The difference between 35 and 40 is not the same thing as the difference between 30 and 35. Given that number either they're just doing the math shoddy or you know it's not it's not exactly exponential. It's no it's not it's on a log scale, but it's not it's not Linear, and maybe it is a log scale and these numbers are just off. I'm not sure. But can I have my screen?

**Bret** 30:07

Thank you. You think it has to be a log scale has to it has to be exponential.

**Heather** 30:12

Yeah. So I don't I didn't look into that those numbers are that that 100 to 1000 fold difference is way off. If that's if it's a log scale. So let me then just bring us to you have something quick to say here before we

**Bret** 30:30

do I hope I'm not stealing your thunder. Maybe we should we should wait for it. Maybe we

**Heather** 30:33

should just talk through this then. So on May 1. Yeah. On May 31. Zachary, you can show Wait a minute, Oh, boy. This changed since I created this this morning. On May 1, the CDC said and I'm not gonna show you my screen because I'm not seeing it there at the link anymore. vaccine breakthrough cases are expected. COVID-19 vaccines are effective and are a critical tool to bring the pandemic under control. However, no vaccines are 100% effective at preventing illness and vaccinate people, there will be a small percentage of fully vaccinated people who still get sick or hospitalized or die from COVID-19. Make sense? That totally makes sense, right? However, quote, as of May 1 2021, CDC transition from monitoring all reported vaccine breakthrough cases to focusing on identifying and investigating only hospitalized or fatal cases due to any cause, this shift will help maximize the quality of the data collected on cases of greatest clinical and public health importance. So the CDC is no longer monitoring cases of COVID in people who have been vaccinated unless they are also hospitalized or dead. That is obviously going to skew the data tremendously. And so when we are told, for instance, as we are any of us who's paying attention to, you know, state reports that are coming out daily, or national reports, or national reports that are saying, well, the case count is rising, but it's mostly among unvaccinated people. How would you know, we actually are being told by the CDC hear that they have that they are not collecting the data with which we would be able to tell. So they also claim on the same page vaccine breakthrough cases occur and only a small percentage of vaccinated people again, on what basis Wait,

**Bret** 32:19

wait, wait, no, that's just a simple tautology. If they're not going to test you, unless you have a case that requires hospitalization, they have built that conclusion into their collection method.

**Heather** 32:30

Yes, yes, yes. So this, this gets, this gets worse. Here. Actually, I'll just show you can show my screen here. So this I've got two documents. I think this is actually this is showing up in this is the COVID-19 vaccine breakthrough case investigation, information for public health, clinical and reference laboratories. So this is CDC is instructions to the labs who are doing the actual work with regard to testing, but not testing. Everyone, this is just testing people who haven't backside. And so they describe what it is that the lab should be doing. And how it is that you will know if you've got a a breakthrough case. And note here that even boy, I can't even select it well, that although I could find no indication in till May of this year that the CDC had actually set a threshold value even with all of the story in from last summer about the threshold values are way too high, please CDC, why don't you set a lower threshold values so that we don't keep getting so many false positives? They never did it? As far as I can tell. And I would, I need to know if I'm wrong about that. But I can't find any evidence that CDC had set a threshold value, except now, in those cases, where someone has presented more than two weeks after being fully vaccinated with one of the COVID vaccines, quote, clinical specimens for sequencing should have an RT PCR critical threshold value of less than or equal to 28. Now 28 is a lot lower than 37 or 40, or any of the other numbers that are being used in general, without any advice from the CDC, and which will presumably still continue to be used in those people who come in with possible COVID who have not been vaccinated. Therefore, what we've done is we've set totally different standards for Do you have COVID. If you're vaccinated, well, let's just put the critical threshold value really, you know, basically at appropriate level, and you're less likely to get false positives, but we're not going to advise on what to do for people who come in who aren't vaccinated, probably it's going to stay where it's been, you're going to continue to get that same rate of false positives, and that is going to falsely exaggerate the rate of people who are getting COVID who are not vaccinated. It is it is an Absolute, like monkeying with the baseline. It's messing with data. It's lying to all of us.

**Bret** 35:06

Yeah, it is creating an environment in which the conclusion to the story, which is, vaccines are highly effective. People without them are getting COVID like crazy, right? That is built into the collection methodology. And the fact is, you have to be able to actually analyze these things. And as much as I hate the analogy, compare apples to apples, you have to compare apples to apples in order to know if I can point out one other thing. Oh, go ahead. Yeah,

**Heather** 35:32

just just one more thing on this on this story. So you can show my screen again, Zack. So there's a comparable document the CDC produced, same title CDs, COVID-19 vaccine breakthrough case investigation, but this one is not for the labs who are doing the work but information for state and local health departments. And again, I'm looking at a PDF here, but we'll link to the to the pages that are available on the CDC site. And so here's what they are, they're informing the health department's how it is to interpret the tests that come in. Number two, so screening questions to assess if the case meets vaccine breakthrough investigation criteria. Respiratory specimen tested positive for SARS, kobie to RNA or antigen and was collected more than 14 days after receiving the last dose of an FDA authorized COVID-19 vaccine stop if there was only a negative or equivocal test result. So equivocal here is vague. And again, negative in this case means do not ever amplify those tests beyond 28 cycles. And maybe equivocal means you also get a little bit more fudge room in there, I don't know. So we see no sorts No, no instructions like this. And I could find no documents like this for how to read these tests, if you're the health department, or if you're the labs, and you're dealing with people who are coming in with possible COVID. And they're not vaccinated. This is the CDC putting together very formal, highly detailed scripts about how it is to deal with people who are coming in who've been vaccinated in order to frankly, clearly minimize the number of breakthrough cases that are being recorded.

**Bret** 37:13

Alright, so I want to point out two things, in addition to this one, scientifically speaking, it is very important reproducibility is important, right? It is important that the data be available in order to interpret or reinterpret a result to take the thing that somebody proceeded from when they reached a conclusion and say, actually, if I run up through an analysis, I don't reach the same conclusion, or I do. In this case, by denying you the information about how many what the cycle threshold was for the test, we cannot do is the following thing. We cannot compare the number of cases in any group for which we don't have that number. With the data from before, if you did have the number, you could say, Alright, we're only going to count cases that showed up above some threshold, right? And you could see whether or not things were moving up or down. But this effectively leaves you having to accept their conclusion because there's no mechanism for going back into the data and saying, actually, if we compare apples to apples with the new standard, you know, there's nothing wrong with finding a new threshold that works better. But you have to be able to go out, go and throw out the things that are one end to the other. In order to be able to reevaluate the data so they are forcing us into this infantilized, you have to accept our conclusions. The other thing is that these breakthrough cases, right, there's this weird attitude towards them, right? Yes, of course, all vaccines have some breakthrough cases. And I have no doubt that that's true. At some level. I mean, for one thing, there will be cases in which somebody administers the wrong vaccination and somebody isn't vaccinated who thinks there is there will always be some reason that you will see a few breakthrough cases. But the number of breakthrough cases here is probably not small based on what we've seen. And what's more, those breakthrough cases have an importance in the story that shows up nowhere in the official record. And that has to do with two things that I spot, others may spot more, but one of them has to do with antibody dependent enhancement, right, which could result in places where the pathogen is capable of actually utilizing the immune response generated through vaccination or through prior exposure to COVID in order to infect cells that it couldn't gain access to otherwise, this is something that on one of the videos that YouTube removed with Robert Malone, we discuss it cited here and you can find it here on it. Right? So anyway, that's a very interesting and frankly, in the context of coronaviruses. Very dangerous possibility that may or may not be occurring here. We don't know but we do have to be able to look for it. The other one has to do with Garrett vandenbosch. And his model for what's going to take place when you vaccinate with vaccines that are not as effective as they might be in shutting down new infections in which people who are partially vaccinated may get COVID and this becomes a

**Heather** 39:56

well specifically when you do so during a pandemic during the middle of the pack. Right.

**Bret** 40:00

So the point is, when the pathogen and the vaccines are being are moving through the population together, you're going to get lots of people with incomplete immunity either because their immune system is still working on the puzzle, they've had one vaccination and not two, right? They've got a breakthrough case in which this vaccinated or partially vaccinated person is now imposing a kind of selection on the pathogen that is basically selection in favor of escape from immunity created by either COVID or vaccines. So the problem is, we are seeing a proliferation of variants. So in order to understand what its relationship is, we would need to actually start looking at breakthrough cases very directly, and figure out whether what they are shedding is actually new variants that pose an increased danger. And if this pandemic comes roaring back, and I have to tell you, I do believe the vaccines are working. There are other things that may be working as well. Possibly seasonality, for example, people have been cooped up there now outside more where the virus is not very effective. restaurants have changed the way they serve food, people are dining outdoors more. So there lots of reasons that you might see a decline in cases, let's say it's all of them working together. Right? If the pandemic comes roaring back at some point, there's going to be a question about what caused that right. And what we are specifically doing is not collecting the information that will tell us if one of the things that contributed to it roaring back was the effect as Garrett, Vonda bush lays out, then in Bush, sorry, Garrett. As he lays out, one of the things that may drive this is the escape mutants that will be driven by this particular mode of deploying a vaccine into an ongoing pandemic, right? You would want to know whether he was right, because a you wouldn't want to make the mistake again and be you might want to change course. So that didn't continue to happen. Unless, of course, I can't imagine anybody on earth wants the pandemic to continue. But should such people exist somewhere?

**Heather** 41:53

Yes, you can.

**Bret** 41:54

I guess I can imagine it in a certain sci fi kind of way. But

**Heather** 41:57

well, no, not not individuals, but individuals who have a business model that benefits from

**Bret** 42:03

doing so that I can imagine I can imagine emerge, I can imagine entities reaching that conclusion where people are doing their own little part of the thing, and they don't realize what they've become party to. Right. So it is possible that what's going on here has to

**Heather** 42:16

do or they can keep their consciousness clear, by not actually doing the dirty work.

**Bret** 42:21

Actually, that's a that's an excellent point there.

**Heather** 42:23

I mean, I think it's it's, it's it's classic, it's it's the way it's part of the way that the entity is enable themselves to act sociopathically even if there are in fact, none, no individuals there who are right. But you have, you know, you have one individual who made me maybe the closest thing to the sociopath, deciding who does all the things and all the people doing the things may really not even know,

**Bret** 42:48

well, actually it fits really well. I think I mentioned recently, somewhere probably here. The TEDx talk I gave many years ago on the personal responsibility vortex. And the point, the part I want to call your attention to is I lay out a model for why we face sociopathic corporations. And it basically starts out imagining that corporations will come in three varieties very rarely, the corporation will be committed to doing the profitable thing. No matter what the harm, very rarely, a corporation will be committed to doing the right thing, irrespective of the cost. And more generally, corporations will be somewhere in the middle and they will do some stuff that's harmful, and they will resist other stuff that's harmful. But the point is, if you iterate competition between them over time, the ones that are committed to doing the right thing, no matter what the cost will go extinct. And the ones that are balanced somewhere in the middle will evolve in towards towards ones that will do the wrong thing if it makes a profit. And you're left with a market that's more or less constantly moving in this direction of ruthlessness. And so the question is, well, what does that work? What does that look like on the inside? And the answer is one of the things that will look like is let's figure out how to avoid collecting the data that will cause people on the inside to say Holy shit, what are we doing? Yeah,

**Heather** 44:03

I mean, it's a point that's been made many many times by many many people but you know, it's it's it's that is the theoretical description for how you go from. Do no evil. Don't be evil. Do do some fine. Evil. Yeah.

**Bret** 44:19

Right. Oh, I want to correct one thing just so I don't get a flood of correspondence over this. So I was describing PCR in its original form, which was DNA. Obviously these viruses are RNA. It doesn't take much to change the protocol, but you said both. Alright, well, I should have Alright, I think that's what I've got remaining on this. You got anything else on?

**Heather** 44:41

I mean, I guess the the OSHA stuff is related. Should we should we segue into that and

**Bret** 44:45

let's do it.

**Heather** 44:48

Cool. So on the so OSHA is the Occupational Safety and Health Administration and the the DLL is Is the Department of Labor so we're just gonna go to their facts page www.osha.gov Coronavirus facts hashtag vaccine. were one of the questions is tiny are adverse reactions to the COVID-19 vaccine recordable on the OSHA record keeping log. It asks on the on the page. The answer is Department of Labor and OSHA as well as other federal agencies are working diligently to encourage COVID-19 vaccinations. OSHA does not wish to have any appearance of discouraging workers from receiving COVID-19 vaccination and also does not wish to disincentivize employers vaccination efforts. As a result, OSHA will not enforce 29 CFR 1904 is recording requirements to require any employers to record worker side effects from COVID-19 vaccination through May 2022. We will reevaluate the agency's position at that time to determine the best course of action moving forward. I've read that like eight times now. And every time I'm just stunned.

**Bret** 45:56

Yeah, first time I read it to me, my jaw literally dropped. I

**Heather** 46:01

cannot believe I cannot believe I haven't yet found an agency that isn't somehow complicit. Yeah. Right. So so just to put it in non OSHA language, they've got some new 29 CFR 1904. Recording requirements for when employers end up doing harm to employees, they have to report it. But if an employee wants to require or strongly encourage, I don't know about strongly encouraged but certainly if an employer wants to mandate vaccination, and the employee ends up harmed as a result of the vaccination, the employer doesn't have to keep track of that. They don't have to keep track of that no one has to know the federal government's not interested. Thank you very much.

**Bret** 46:42

So I would argue we've seen a lot of monkeying with the baseline, I think there's a strong argument to be made. This is one more manifestation of it. It's also a manifestation, as you say, you can't find the agency that says no, actually, this looks different to us. Because zero is a special number, right? This is a case in which you can't have an agency breaking ranks. Now a question for the rest of us. How the hell does this all work? Right? I don't know why it is that nothing makes any sense. If you analyze it in the context of either public health or individual health. The advice does not add up from the point of view of doctors trying to help their patients or public health officials trying to prevent the pandemic from continuing. I'm not saying it's causal, it does all make sense. If you modify the objective, and you say the objective is to deliver as many vaccinations as possible, whether or not they're medically useful or counterproductive, or whatever. It's like

**Heather** 47:35

where the Borg

**Bret** 47:37

something

**Heather** 47:37

is, I mean, we're just not the decision was arrived at, for the most part. I mean, no one I know was consulted. And it was just handed down. This is a decree as if from God, and there will be no strength, there will be no strength, there will

**Bret** 47:53

be no strength, and we're not going to play it on the show. But there is a recording circulating of a doctor being effectively fired for talking to his patients about what he was seeing and giving advice vaccine was on the basis of that. And anyway, I will make it available someplace. It's a fairly long 20 minute recording or something like this. But anyway, I don't know how this all works. And frankly, I don't know. Yes, I can say none of this is consistent with the hypothesis that the thing in charge, whatever it is, whatever its nature emergent, or a cabal or whatever. It is not consistent with health. It is consistent with the delivery of vaccines at all costs. I cannot say that that's actually what's driving it's possible. There is a third hypothesis that is not on the table that we haven't thought of yet. If that hypothesis exists. I'd love to hear it. Yeah, but damn in the absence of that hypothesis, this just looks like a headlong rush into a giant novel vaccine experiment with no thought to what happens if this is harmful? Yeah, no thought no stopping condition. How can that be

**Heather** 49:08

no stopping condition? Exactly. So I barely know what's going on in this paper. But oops, there is a new paper out. called the safety of COVID-19 vaccinations, we should rethink the policy published in the journal it looks like the journal vaccines, although that's not a journal and just the Journal of vaccines. So you know, peer reviewed the whole shebang. Interestingly, what these guys what these authors did was they went and looked at the data in Israel and Israel as probably all of our listeners and watchers know was you know, came out very strong, you know, mass vaccination effort got, you know, tremendous percentage of their population vaccinated. And, you know, we really pushed it with very little, as far as we could tell on the outside. And a couple people I know on the inside, like it just didn't seem like there was there was pushback on the ground. And so we also have not seen any evidence of that. And it could be out there, that the Israelis equivalent of like the CDC and OSHA and such are doing the same kind of monkeying with the baseline that the US is doing. I you know, I don't know if it's happening, but the because because it's a relatively small population where the vaccines were pushed out, you know, early and strong. And we have reason to think that the data are relatively clean. It's a good population on which to look at, actually what are your what are the values of these vaccines. And, again, I haven't spent much time with it, but hear from the end of the abstract. The number of I'll just do the result here, which, so the number needed to vaccinate is between 200 to 700. To prevent one case of COVID-19 for the mRNA vaccine marketed by Pfizer. While the number needed to vaccinate to prevent one death is between 9050 1000 with a 95% confidence interval with 16 1000s of point estimate. The number of cases experiencing adverse reactions has been reported to be 700 per 100,000 vaccinations. Currently, we see 16 serious side effects for 100,000 vaccinations, and the number of fatal side effects is at 4.11. At 100,000 vaccinations, then they conclude and this is based on the math that they do that I haven't fully assessed for three deaths prevented by vaccination we have to accept to inflicted by vaccination conclusions, this lack of clear benefits should cause governments to rethink their vaccination policy. Save three lives cost two. And that doesn't include the side effects, the lingering side effects of the vaccines. And of course, that doesn't I think that's actually a conservative estimate of the of the costs. But let's also talk about what are the lives so you know that you know, actuaries do this, and it seems harsh and horrible, but people have to do this. So what three lives are being saved. When you cost two other different lives by vaccinating, by and large, the lives that we are seeing lost in vaccinations are of young people who would have been very unlikely I don't I don't actually know the numbers. So I don't know if that's the majority. But there are at least what we are seeing for sure is that young people are having serious effects and sometimes dying from from vaccination, and those young people would have been almost certain not even to get COVID.

**Bret** 52:45

So I will be unembarrassed about the actuarial aspect of this. Now I'm going to blow this I was saying for a long time, in many places, that in order to do a compassionate analysis, one has to or to make compassionate policy, one has to do a dispassionate analysis, it turns out that actually, I'm not the first person to say that, I have not heard of the first person to say it, but I've now forgotten his name. So we will post a link in the description. But anyway, that's to say I'm if you give it to me, I'm borrowing and borrowing that. But in this case, I don't believe there's any justification whatsoever, even if the number of children lost or young people lost was much smaller than the number of older people saved. I don't believe a healthy society is ever going to sacrifice the young to save the old, it is not a tenable position, we have to protect the young and we used to understand that like five minutes ago, so there is no justification in this case, given that at the very least, kids and young people appear to endure COVID very, very well, and therefore the justification for vaccinating them for their own well being is not in evidence. There is an argument I don't believe it's a very strong one. But there is an argument that because we don't know how much COVID they are getting and transmitting, since they typically tolerate the disease so well, that the population requires them to to get this. Again, not fair. We don't do that to our children and our young people. It doesn't make any sense to start. But I would also point out all of this, all of this is in the context that assumes that the alternative to vaccination is nothing at all. Yes, when you have an alternative that appears safe and effective to do this, to run these risks for people who don't need it is absolutely ghastly. And I feel like I need 30 synonyms for the word ghastly because across this story, it's like ghastly, ghastly, ghastly. That's all it is. Right? Yeah. So

**Heather** 54:57

it's it's it's guess it's reprehensible. It's It's,

**Bret** 55:00

it's rapidly forgivable. And you know, we can argue about how strong the evidence is in various cases. But what we can't argue about is that again, if you want to analyze this through Well, what's the conclusion we're being sold? The conclusion we're being sold is vaccines safe and effective? repurpose drugs, not safe, not effective, right? And that's all we got. That's all we got. Now, this paper suggests vaccines, these vaccines are arguably effective. Okay. Let's say that that's true. It doesn't say that they're safe. Are they safe enough? Depends on how you compare them to and then you've got to step over to the repurpose drug thing and say, well, but wait a second, we appear to have strong evidence. And yes, these meta analyses are strong evidence, they might not be the evidence you want. But you know, this is an emergency, the very reason that we suspended the normal rules for the vaccines is that this is an emergency. Right? In an emergency, you maybe don't get the data exactly the way you want it. You have to read the signal into data that's a little noisier, but we've got people who are, that's what they do for a living. And what they found is, yep, highly effective, not only highly effective when you give it early in the course of disease, but highly effective as a prophylactic, and yet, we are pretending that that evidence isn't there, as we are exposing people to this danger. And okay, here's where I'm lacking that synonym. It's ghastly, we're killing people. Right. That's what the evidence suggests. Could that be wrong? I guess so. But certainly the evidence that we have currently suggests this, and you know, I have to tell you, I hope that paper is dead wrong.

**Heather** 56:33

I do too. Yeah. And you know, I, I, like I said, I didn't spend much time with it. But boy, those are those are not even the numbers I was expecting. That's dark as hell, they are really Stark, Stark number needed, oh, boy, the number needed to vaccinate is so high, right, and so high.

**Bret** 56:52

The other thing, which you sort of pointed to is, realize that there is a bias in the data built in, I think it's inherent, and you know, you'd have to build a study very carefully to avoid it, right. But the adverse events recording system has an obvious bias towards recording events that are so close in time to vaccination, that people recognize them as inherently connected. And the longer the period of time goes, before you have an adverse event, the more likely it is that something else has intervened. So even if there's a very strong signal of delayed events, the likelihood that we will see it is low. Right?

**Heather** 57:27

Well, I would I do think that is, again, makes Israel a better test population for this kind of analysis as a smaller, confined population. I don't I don't know. Do they use various do they use something else? I honestly don't. I don't have any idea about what's going on. Israel? Yeah. Didn't I say Israel? I might have just missed Yeah. So but it's gonna be a very different assessment here in the United States,

**Bret** 57:49

right? Well, and in the United States as Robert Malone, who, frankly is part of the regulatory process, he's seen it up close as an insider who's inside the rooms where these things are being discussed. He said luck, they had a choice as to whether or not to collect extra data given that this was an experimental vaccine being delivered to a large population, they had a choice to collect extra data to figure out whether there was a signal and of course, they made the choice that you would make if your purpose was to deliver vaccines and not to protect the public health, which was not to collect the data. So anyway, boy, do I hope there's another hypothesis that explains this because otherwise what we've got is this institutional capture that seems to touch as you point out everything, there isn't an agency that's dissenting,

**Heather** 58:34

and frankly, I mean this you know, neither was voted for Trump not ever supported Biden either couldn't bring ourselves to but the media's just dog with a bone single minded hatred of that man meant that they were actually doing somewhat better journalism simply to fight anything that he did when he was in office with like this new york times article that I led with right this from August of last year the New York Times could talk about well i don't know maybe the stock price is a little higher we're getting false positives maybe this isn't what it seems. There's no way they would publish that now we're just like, as of January 20 of this year whenever actual Inauguration Day was everyone stopped doing journalism to the degree that they were doing it at all and you know, yes, the journalism for the last four years was just you know, driven by ridiculous hatred, you know, single minded hatred. But if that was the thing that was needed to get a little bit of truth out there, okay. I mean, it was it did not help the public discussion or, or many things larger, but I feel like now, with the transition, just everything is pointing in the same direction. There is like, Where is the Where are the voices, beyond the constituent parts of David Wright against Goliath, who are saying, actually, no, and just don't talk to me about data driven, show me the data, stop monkeying with the data. You're just During the data like what the hell are you people doing?

**Bret** 1:00:03

Yeah it's a it's an amazing predicament to find ourselves in with nothing you know, we end up having to like, you know, rant about the fact that there's obviously yelling on Odyssey god yeah, it's, it's amazing. So I do find this all I don't know how to do this carefully because one of the so here's the here's the problem. Okay, as you have pointed out before. And I think the place to see this is to go back to the aftermath of lab lake at the point that it started to be officially okay to discuss lab leak, and it didn't make you a conspiracy theorist for thinking in these terms are officially considered a conspiracy theorist. The evidence that Trump derangement syndrome is not just a cheeky way of poking fun at people who are single minded about the one individual, but that it's an actual disease. And I don't know if it's fair to say it's an actual disease of individuals. But it does appear to be an actual disease of our evaluative capacity. Our sense making apparatus has parts of it that are diseased with this thing. And you can tell because at the point at the point that the lab leak thing emerged in public, what the people who had gotten it wrong, all said and I really think it was across the board of all of the major publications that had gotten it wrong, was well, right. But the people who were saying that it might have been a lab leak. We're all crazy Trump supporters. So how could we possibly have been expected to figure it out? Now? A That's a lie. Right? Right. We were there. We've never been Trump supporters. Yeah, right. We were right. There we were. We were right there on their televisions. We said it on Bill Maher, right on Joe Rogan. You know, you go into a room with Joe Rogan. And you say loudly hypothesis is where all of the evidence like winning last July or last July. And you know what? That's a roomful of liberals. Yeah, talking about the lab leak. So this excuse doesn't make sense. But the point is, okay, if their point is because Trump was in the story somewhere, we didn't do what we should have done, which is assume that, what if we thought Trump was just a liar than what he says, has no content? It doesn't mean that the truth is the opposite of what he says, right? That's why you're so dumb. It's so dumb, right? You couldn't get dumber than that. But okay, so what that means the fact that we are still dealing with this, the fact that somehow we can't talk about ivermectin because Trump talked about hydroxychloroquine, which, of course, we also see Trump derangement syndrome in the way hydroxychloroquine was evaluated, right. And we can now see that that you know, so it's ranging our medical policy,

**Heather** 1:02:44

but even even Dr. Lena Chen, who was, you know, early and persistent on lab leak, and was one of the I think, was at 18. Authors on the

**Bret** 1:02:55

mme nature or science, Ralph berec. Containing but nature

**Heather** 1:02:59

of science, it was on the science paper that included Ralph Barrick, who runs the North Carolina lab that is sort of would be a sister lab to the Wuhan Institute of archaeology, if they call them that. Even she has said, and I don't have it pulled up because I don't know we're gonna be talking about this. Yeah, you know, people I know, I was hesitant, I think she says, and she says, people were hesitant to talk about this, because it was something that Trump was talking about. And that's a terrifying statement. Yeah, that that, you know, that is the chilling effect. You know, that's this the soft the self censorship as a result of a, a social environment that accommodates one and only one set of views and conclusions.

**Bret** 1:03:42

And it would be an absolute disaster, if all it was was that people were self censoring, when they start censoring others who are interested in talking about what's visible, that isn't being discussed, then this becomes a cryptic totalitarian nightmare, and that I increasingly feel like that is what we are seeing. And I increasingly hear the following thing said by multiple people who have no connection to each other, as far as I can tell, people who have lived under totalitarian regimes are much less confused at this moment about what is taking place in our public discourse. Yeah, they all have some sort of sense that they have seen something like this before, and I'm sure it wasn't exactly like it, it can't possibly have been. But there is some sense of like, Oh, yeah, the public discussion has gone to noise, right. And the only discussions that make sense are private discussions in which the people present feel safe enough to look each other in the eye and say what they actually think. Right? And the problem partly, is that the places where people say feel safe to say what they think are ever fewer, which is why you and I have talked about, you know, the utility of family as the you know, like the last place that you can be sure you can talk and, you know, say what you think and it's not going to show up online.

**Heather** 1:04:56

Absolutely. And it's and it's so yes, absolutely, but it's also part Part of why we're able to do what we do, right? Because you and I, when we're off screen, we still live here. I mean, we don't hang out right here mostly but, you know, you kind of do. It's very often makes sense, right? Your opposite sauna studio, right? Speaking of which, it's like it's gonna hit triple digits here today. Yeah, it's gonna go for 110 degrees here tomorrow, this is an insane moment in Portland, Oregon. But we, we can do this in part because we can look each other in the eye. And we can also then say, you know, we're gonna look you in the eye. Because Oh, it turns out YouTube was kind of our boss, guess what Odyssey came along. There's other alternatives. And there's lots of other alternatives. Frankly, we no longer have a an actual boss who can say, you really shouldn't be saying that. And we know that we have each other's backs. And frankly, many so many of you have been have been supporting us, mostly, you know, quietly, you know, we see it as you know, it's the support of our Patreon. And the subscriptions on the channels, and the Super Chat questions. And basically, you know, where we are financially, okay, because of you not because of anyone else, not through the grace of YouTube or Google or Facebook or anyone, right. But But individuals who are seeing what is going on and saying actually agree or disagree with them. 10% 90% of the time, I see that voices that are able to speak truth without censorship are necessary to a functioning democracy. Yep.

**Bret** 1:06:35

And they are whether whether they understand it in these terms, or not cultivating our security because they want to see more of this discussion, which doesn't mean the discussion doesn't contain errors, but I think it does mean that worse, it does deal with those errors honorably when they when they occur.

**Heather** 1:06:49

Yeah. So I guess there's actually there's one more this is, there's one more sort of related piece in this that I think I mentioned it to you at one point, but you may have even been in Austin at the time. So that's how much of it you heard. You don't peg is PJ do yeah.

**Bret** 1:07:05

So what's peg, polyethylene glycol? Yeah.

**Heather** 1:07:07

Why do you know what it is?

**Bret** 1:07:09

I believe I know what it is.

**Heather** 1:07:12

I'm quick money. I'm

**Bret** 1:07:13

about I'm about to date myself as a as a as a scientist and

**Heather** 1:07:20

as an easy question. Yeah. You think it's good for you?

**Bret** 1:07:24

No, okay. No idea. Am I right? That it's a component in antifreeze.

**Heather** 1:07:28

Oh, boy, mate, mate. It may be Yeah, actually, there's a whole I can actually find it a long list of places. This is a live fire exercise. Yes. Well, but it's also a component, the mRNA vaccine, I know right? So along with lipid nanoparticles and so we've talked about lipid nanoparticles and like exactly what is the you know, what is the nature of those and Oh, boy, that seems dangerous. But peg is, you know, a little bit ubiquitous in our environment at this point, and that's not good for any of us and I wasn't thinking about peg I was this not what I was thinking about. I want to think about frogs. I wanted to go think about neotropical frogs for a bit. And

**Bret** 1:08:05

frogs who have their own antifreeze that I am pretty damn sure does not involve polyethylene glycol, but it might

**Heather** 1:08:11

but not the neotropical ones because they don't need I don't know it's the ones in Iowa that have the antifreeze we'll come back to you later with the Iowan antifreeze frogs. I should make a note to myself to talk about that. It's cool, it's cool storage. But there's a paper that came out here I am blindly searching scientific databases for five Salinas, which is a genus of frogs that you're familiar with. It's the same genus as the Tenggara frog that is that calls it exactly the frequency that the what is the bat.

**Bret** 1:08:43

It's Hold on. Don't tell me it's tray cups, three cups

**Heather** 1:08:46

Yeah, so tray cups, bat, whatever the species is, and photolemur pustulosis tray cups loves to eat them bats, no frog, no frogs and the frogs. The males have to sing for their sex. They don't sing for their supper, they sing for their sex, if they don't sing. The females don't find them. They're not interested. And they call it exactly the frequency that the Drake ops are suited to find them by and so those who are successfully still calling are also demonstrating how masterful they are about activating predation and thus look even sexier to the would be female suitors. Yes, why

**Bret** 1:09:22

it's I have just a resurrected from deep story call of the tongue Gara frog should you want me to deploy I do I do. I used to do this in classrooms all the time. One possibility is that I will do this and either female frogs or tray cups bats or both are going to find some way in here. It could happen Yeah. All right. So you tell me if I've got it, right? Yeah. Who? Am I wrong?

**Heather** 1:09:48

Yeah. But you know, the more chicks the better. The chicks are the sexy

**Bret** 1:09:51

didn't want the frogs, or the bats frankly, coming in here because

**Heather** 1:09:55

I think the Boo is the part that the tradeoffs is is honing in on that frequency. Then the chicks. I can't remember what right one of one of them is species specific. And so you get to the right species because the females definitely want to find the right species. And then another one is sort of within within species who's the sexiest I don't remember. I think it's the more

**Bret** 1:10:15

the more that the females, but it's both because the basically the females by selecting for the part of the call, are forcing the males to do that more, which then puts them in the bullseye of the bats. That was the Kodak pond work. Yep. Kodak pond named after the Kodak building, which was next to on BCI the place that I did my graduate work, and I was, I think I may have been the last resident of the Kodak building. codec building was one of the original buildings built when the field station was put in as the Panama Canal canal filled into a 19 1314 And so anyway, that building was really decrepid at the point that I was doing my graduate work there and it was slated for destruction and it wasn't air conditioned and it was way far away from all of the other buildings but I loved it because it meant that I went to sleep every night in the forest with nobody else around and pet lizards I had came in Yeah,

**Heather** 1:11:17

yeah you knew and you could put out you could raise a crocodile in your bathtub without anybody

**Bret** 1:11:21

being the wiser I probably could have done that in any building but but anyway yeah, so I lived in Kodak which was a termite infested building that I loved dearly which I think is now gone

**Heather** 1:11:32

but and I was there for the three four months that I was there with you yeah,

**Bret** 1:11:35

I was there with you totally and Kodak pond which sounds like a four I

**Heather** 1:11:38

went to my field station in on an island in Madagascar

**Bret** 1:11:42

truly remote wasn't 200 stairs away from other people it was a long way but anyway, the pond Kodak pond where the work on the tray cups frogs and the tray copies of bats and the tons are a frog it is a little concrete lined you know? I don't know if it was a metre and a half wide or

**Heather** 1:12:03

was it a bag it wasn't beautiful?

**Bret** 1:12:05

No it wasn't big it was it was full of frogs. Yeah and it was a great place to correct collect the data but yeah,

**Heather** 1:12:11

well except me if we're halfway this is this is far far afield. It wasn't a great place to collect data actually. So there's a whole monograph written I think the random Ryan do a whole you know a whole story on the sexual selection of these frogs in this pond and you know, to some degree, I think it was about the breakouts but also about how the high concentration of the frogs was affecting mate choice and mating systems and such. And well it turns out you have this like this resource of this permanent pond that's concrete line so it's not seasonal at all and a lot of the stuff that a lot of the still water and BCI was seasonal. And so you have this pretty artificial resource where the frogs are super concentrated. And actually it was it was a friend of ours. right i think i think Dave Marsh who did the work where he's like I'm going to go see if they do the same thing out in the forest whether or not so highly concentrated. And sure enough, the you know, the mating systems and the mating strategies are somewhat different where you don't have all the males clustered together calling all at once

**Bret** 1:13:11

Yeah, all right. Somehow we need to link this to the CDC and I don't know how we're going

**Heather** 1:13:17

to do well so I'm, I just don't want to think about COVID I want to I want to find a cool paper on fries. I don't even know how I ended up here but I did have a paper called polyethylene glycol, acute and sublethal toxicity in neotropical Feisal leamas kooberi tadpoles in the journal environmental pollution and so there's there's a lot that could be said here. But the here's the thing about this computer is very functional at this point. Here. Yeah, here it is. Zach. So this is just the end of this paper by Nascimento at all. The conclusions are data confirm the hypothesis that short term exposure of isolators curvier tadpoles to sub lethal pad concentrations can induce physiological changes in animals. All changes related to oxidative stress are evident in animals exposed to the highest concentration of peg the neurotoxic effects are similar in the treated groups both low and medium levels. So we've got metabolic stress oxidative stress neurotoxicity in tadpoles with exposure to peg and of course the you know the only reason to be exposed to peg is not is not from being vaccinated then you were talking about you know it's in the water pollution, environment pollution and also everyone you know, everyone who is taking this stuff and it's it pegs in a lot of pharmaceuticals, and of course you know it's getting peed out and into our water supplies just like their estrogens, our water supplies. There's all of this stuff in our water supply. And sure enough peg is just yet one more thing that isn't good for the other organisms. We're sharing the planet with either Alright, I

**Bret** 1:15:01

want to say one other thing. And Zack me I said I thank you. Now remember as I tell you this I am Brett Weinstein notorious pro vaxxer. I'm very enthusiastic about vaccines as a general matter. I am a little skeptical of these current vaccines for reasons that have been well explored here. But did

**Heather** 1:15:20

you call yourself a notorious pro? vaxxer? Yeah, Torres probax.

**Bret** 1:15:25

I am vaccinated against rabies. I'm proud of it. I actually have my eye on another vaccination, which I'm hoping to get. I know you do. Actually. Yeah, I'm of an age where being vaccinated against shingles would make sense. So anyway, I'm kind of excited about that. I'm not excited about shingles, which is why I'm excited about the vaccine. But, but that aside, notorious pro vaxxer, Bret Weinstein, there is a kind of sleight of hand right? There's various slights of hands that get played one of them has to do with the amount of radiation and a banana when. Right yeah, the other one has to do with the amount of mercury in vaccines with the Marisol and we are frequently told things like it's the same amount or less than is in a syringe terms of your sandwich, right? Here's my point. Okay, there shouldn't be any mercury in a goddamn tuna fish sandwich. So the fact that you're feeling safe because a tuna fish sandwich is more toxic than it should be. And that we recommend that pregnant women don't eat them, tells me that your safety standard sucks. But it is also not the case that consuming a tuna fish sandwich with however much mercury in it and being injected with that same amount of mercury are the same thing. And the point is that topical topologically speaking, the stuff that you ingest is not inside of you in the same sense that something injected into you is inside of you. You are

**Heather** 1:16:50

live yourself as a donor, I

**Bret** 1:16:51

think of yourself as a donor Taurus. You're Taurus, and you're welcome for us pointing that out. You'd be better off if you were a Tesla, but it turns out you're a Taurus get used to it. A Ford Taurus.

**Heather** 1:17:07

You know it's spelled differently, right? All right. Actually, I don't know how the car is spelled. I assume it's spelled like the bull thing. Yes. Right. Yeah. So

**Bret** 1:17:15

they're spelled differently. Yeah, they are. There. Oh, no, not even pronounced the same. All right. Well, I'm thoroughly embarrassed myself on today's episode of Dark Horse, but we'll just go with it. Anyway, things that you ingest are not inside of you, in the same sense that things that are injected into you are inside of you. So comparing the amount of mercury in one place versus another is not a fair comparison, right? Likewise, being injected with polio, which

**Heather** 1:17:40

is, which is one of the reasons that leaky gut syndrome is such a problem, because it makes the things that you ingest, potentially have access to what's inside of you right away even when they shouldn't.

**Bret** 1:17:49

Exactly. And, you know, let's put it this way, you'll get a lot of pushback on leaky gut syndrome, right? Because it is abused as a claim. But it is apparently a real thing. So let's just say what we're talking about is places where your gut develops holes that expose things in your gut to things like your immune system, which are not supposed to, or parts of your immune system that are not supposed to be seeing what's in your gut, etc. But we have another one of these now live, which is the evidence that spike protein actually shreds the blood brain barrier. God now I did talk to Dr. Corey about

**Heather** 1:18:24

this. And yeah, you don't have a paper on that. Yeah, I do.

**Bret** 1:18:28

Cool. You can check my recent Twitter thread, but

**Heather** 1:18:32

you heard it here first, guys. I can check his recent Twitter

**Bret** 1:18:36

is the easiest place to find it. But anyway, I asked Dr. Corey, a couple questions that have been on my mind since finding out that the blood brain barrier is apparently disrupted meaningfully by spike protein, does the blood brain barrier repair itself? He says yes. So that's great news right? Now, it will create some vulnerability, because pathogens and toxins that do not normally get into the brain will be able to get into the brain until it repairs. And unfortunately, I don't have a good sense from him or anywhere else of how long it takes to repair. But in any case, the idea that your body is built to exclude things that are in one place from another place, and that that's part of the magic of how it works and that certain features of modernity, cause breaches in these things so that your gut may expose things on its own. It's in its

**Heather** 1:19:28

fullness panna Silva paper, the stages of discovery, a student stroke,

**Bret** 1:19:32

no, it's not that one. Anyway, so the point is, you've got novel influences which your body which was not built to resist and the meaning of why spoke spike protein has the effect on the blood brain barrier that it seems to at least in in vitro models, and I think mice is not clear. I think that that there stands a fair chance that actually the pathogen Probably utilizes that to what effect I don't know. But it's at least possible that that's an adaptation and not an incidental destruction. But we need to be aware that we're talking about having taken delicate tissues that protect one part of the body from phenomena and other parts of the body are disrupted all the time. They're disrupted by things that we eat, that we're not supposed to be eating. And they may be disrupted by things that we are injected with. And they may be disrupted by diseases like COVID, which produces spike protein on its own, obviously. So these are all worthy questions, and they should be built into our model. And they basically make us very cautious about novel phenomenon from SARS COBie to to polyethylene glycol in a vaccine to mercury and a sandwich or a vaccine or any of these things. Alright, that's it for the rant from Brett Weinstein, notorious pro vaxxer.

**Heather** 1:21:05

It's good. All right. could talk about mammals a little bit, please. All right. We, as you regular listeners know, have this book coming out in in September a hunter gatherers guide the 21st century, we have a website up which sack you can show. As usual when I'm reading. We have on this site links to preorder. We also have some lovely blurbs from some awesome people who have already indicated that they like it. Robert sapolsky and Jimmy Wales Sebastian younger Jordan Peterson, Jonathan Hite, Christina Hoff Sommers are the really lovely comments from them. So Well, actually, sorry, oh, no, I don't even need it back. The chapter two, which we are on for this week, is the deep history chapter. So chapter one, which we talked about last week, sort of introduces a number of big theory concepts. Chapter Two talks, basically walks the human lineage through time. And then starting next week, we get into medicine, and then food and sleep and sex and gender and on and on and on. But so I just picked a segment that I have not marked here. An excerpt from this deep history chapter. Beginning was 65 million years ago. So we're going back We're not going that far back, you know, 65 million years ago. It's not that far back. Do you think it's that far back?

**Bret** 1:22:37

I know roughly how far back it is. That's not a that's not a number chosen out of thin air. No, no,

**Heather** 1:22:43

it's not so.

**Bret** 1:22:47

Yeah. That is a number that emerges out of deep space.

**Heather** 1:22:53

That is a number that emerges at a deep

**Bret** 1:22:55

space out of thin air. It did thin the air. It did. And then

**Heather** 1:22:59

it sort of thickened it yeah articulated it. 65 million years ago, the chicks love Meteor hit the Earth near the Yucatan Peninsula. Its impact kicked up so much dust the sun was blocked for years, photosynthesis ground to a halt. On the other side of the planet perhaps accelerated by chicks. Allah, one of the largest volcanic features on the planet was forming the Indian Deccan traps belching out large amounts of climate changing gases. mass extinctions followed, including that of all the non avian dinosaurs, which have been doing pretty well for themselves for many 10s of millions of years. There was still disagreement about how long it took me almost to begin to diversify to turn into the great chaotic mess of nearly 5000 mammal species extent on the planet today, half of which are rodents, another quarter of what your bats and the remaining quarter of which include forms as varied as dolphins and kangaroos, elephant seals and antelope, rhinoceroses, and lemurs. sometime back when dinosaurs still ran primates emerged from the mammalian ranks. against the odds, our primate ancestors managed to survive the mass extinction 65 million years ago, as the ancestors of every other organism on the planet today 100 million years ago, well before chicks uleb the common ancestor of all humans was a small nocturnal tree dwelling primate. It was cute and fuzzy to one point here I have a footnote that you're not sure you disagree or agree with that. It was cute and fuzzy and live in small family groups

**Bret** 1:24:18

you just want it on dignified to call it cute and I

**Heather** 1:24:22

think that are 100 million year old primate ancestor was undignified. That's what I think is possible. Yeah, it was cute and fuzzy and lived in small family groups. As primates we develop greater agility, dexterity and sociality. We primates are still eukaryotes, animals, vertebrates creates bony fish, amniotes, and mammals. Each successive less inclusive group providing greater precision rather than putting the light in the earlier group membership. primates developed opposable thumbs and big toes, acquired pads on our finger and toe tips and replace claws with nails. Everything about our hands and feet was becoming more dexterous, more suited to fine motor activities. We early primates became excellent climbers too by virtue of the terminal long bones and our legs and arms becoming less cemented to one another, less stuck in place. Climbing ability came at the cost of some stability on flat ground, which provided even more reason to hang out and trees. As primates, we became more visual and less olfactory, our noses shrunk and our eyes grew. primates are not as good at the chemical senses olfaction or taste as the other mammals. Just as mammals before us got bringuier relative to their ancestors, we primates got brainy or two compared to the other mammals. At the same time, gestation length expanded, babies cooked for longer inside mom before being born, litter size fell. So mothers had fewer children at a time to tend to the period of parental investment after birth, lengthened and intensified. And sexual development happened later and later, giving ever more time for young primates to learn how to feel, how to think and how to be. And there's another section about that long that I can read, or we can stop there.

**Bret** 1:25:57

Your call? Yeah,

**Heather** 1:25:58

well, that's primates for you,

**Bret** 1:26:01

that's primates for

**Heather** 1:26:02

you, right. And, in part, I wanted to read that section to point out that so many of the things that we think are so unique to humans, are not, are not what we would call snap orbs of humans. They're not they're not unique, and derive to humans, we inherited them from our ancestors. And it's certainly true that humans are unique in ways that far surpass the uniqueness of really any other species were more unique as as dick Alexander, you're your advisor, and one of my mentors, wrote in his extraordinary monograph from 1999 to 91, the uniquely unique species and that sounds like a redundancy, but it's intentional. It's utterly true. And yet the fact of us having, you know, having these Neo Neo cortexes or Neo cortices, along with indexes and indices of going on Neo cortices is way better. Yeah, we have these Neo cortices that are doing jobs have been borrowed, like in ancient times the, the, what's now you know, what is now curled up and this massive brain here, a lot of it was entirely about smell. And so the fact that smells can trigger memories, for instance, is not just an accent, it's not just, you know, a delightful error. In fact, it's just a repurposing of structures that, especially for primates, as we became more and more visual, so your mammals became these great smelters. birds don't smell very well as birds are incredibly visual

**Bret** 1:27:39

with some exceptions. Birds like vultures. Yes, true,

**Heather** 1:27:43

true. And similarly, mammals are the great smelters of the of the vertebrate world with some exceptions, notably, primates, and probably the aquatic ones as well.

**Bret** 1:27:53

Fish are the great stinkers. At least on land, you know,

**Heather** 1:27:57

they're not mammals, right? Yes, no. And you're talking about fish sensory lotto

**Bret** 1:28:01

mammals of the great smelters? Fisher, the great stinkers? That's not helpful. No,

**Heather** 1:28:06

no, that's really not sorry. So we So essentially, some of what we imagine is unique to us being so visually acute is really about what are what our primate ancestors were doing. And then there's a lot more than the closer you get to us in time, the more you see, you know, this reduction in litter size, and this extending of childhood, and then we get, you know, a move away from seasonal births, to having, you know, having babies and therefore being reproductively available and interested all times of year. All of these things are not unique to humans, but they are in our relatively recent past. And they all inform what it is that we're doing today.

**Bret** 1:28:47

So I would just I had that we had a discussion, I can't remember maybe it was in a q&a from a reason live stream, in which we talked about what creatures had the potential to, you know, if we disappeared, what creatures might have the potential to do something like what we had done, and one of the things that that conversation settled on, was that it isn't just being a very intelligent social creature, it's also having the body plan that facilitates the manipulation of the world, the testing of hypotheses, etc. And so something like a tooth whale or a dolphin or an orca, which is a dolphin would be handicapped in some sense in reproducing our gains because having flippers instead of hands, it's not in a good position to construct things, from experiments to buildings to anything. And the point is, okay, How marvelous the opposable thumb, right, which we all, you know, understand to be somehow important, is really initially about gripping branches. Right. And the point is, that's a practical maneuvering around the world condition, but that ends up being a precondition for the manipulation of objects. And anyway,

**Heather** 1:29:54

yeah, yeah, I'm actually I'm not totally sure of that. Because I mean, it's very hard to figure out what The ordering of the character evolution but the opposable thumbs, and the loss of claws and replacement by nails are kind of right next to each other in, in evolutionary space in our history. And it feels like if it was really if it was about gripping branches specifically like a we can, you know, we can pronate and supinate. But if it was mostly about gripping than the claws, it seems like would be helpful. And instead, we see a loss of claws around something like the same time. And it's possible that someone has better better granularity on the timing of that character evolution relative to the other, but I don't at the moment.

**Bret** 1:30:38

Yeah, well, I'm now out of my depth, I've always imagined that nails are somehow better backing for the sensory capacity of the fingers.

**Heather** 1:30:50

Right? But that's that's about manipulation of stuff,

**Bret** 1:30:53

right? But so I guess nothing, you know, I could be dead wrong about the gripping of branches and the role that it plays. I doubt it. But even if the gripping of branches very quickly leads to Oh, well, now you've got a structure that is capable of manipulation. And so even in very primitive primates, you still have an advantage in being able to manipulate and sense up here, which, you know, so even if nails are quickly on the heels, it doesn't mean that it is not the precursor to the manipulative capacity that is so key to what we accomplished as humans.

**Heather** 1:31:30

I'm just saying it just requires you have implicit in what you're saying a hypothesis by character order, about the order of character evolution, and I don't know that we know that to be the case.

**Bret** 1:31:40

All right. Well, it'll be interesting to find out Yeah, I guess it is a hypothesis that makes a prediction

**Heather** 1:31:44

and and right and you were you were you were introducing you as an assumption rather than a hypothesis, and I'm not sure that's borne out by the evidence.

**Bret** 1:31:52

All right. Well, we're gonna find out because it's gonna come No, I

**Heather** 1:31:55

don't I don't think we are. It's my point. I don't think art I don't I because this is such deep history. And, you know, claws and nails don't fossilize. And I don't think like the attachment. It's, it's all going to be soft tissue. I just I'm not sure there's going to be any evidence. Really,

**Bret** 1:32:12

but Well, yeah, well, we'll see if there is evidence that will show up. It will contact us probably over

**Heather** 1:32:19

email. That's not actually how it works. But okay. I will go looking and I suspected that won't that I won't find anything. Okay. What else? What else do you want to talk

**Bret** 1:32:29

about? Uh, well, please, I feel like we've done an awful lot. We've gotten to mammals whether you see them as cute and fuzzy or

**Heather** 1:32:41

I think now most of them are. I think that first one though. Not elephant seals, not elephant seals, not manatees, frankly. Some people think so. But you know, whenever people say yeah, man, he's is probably the origin story for mermaids.

**Bret** 1:32:55

You got to be at sea a lot. Yeah,

**Heather** 1:32:57

it'd be really near sighted something. Something

**Bret** 1:32:59

Yeah, Yeah, I agree. I agree. Yeah, there I mean, there were there a few not so not so cute mammals.

**Heather** 1:33:06

Yeah, that's interio cynic Sagittarius flap of skin that he uses to cover his face. So he doesn't want

**Bret** 1:33:11

to demonstrate that properly. You have to hang upside down and pull the flap.

**Heather** 1:33:14

You got to put some locks on

**Bret** 1:33:17

it fair enough. Yeah, what other mammals are really hard to look at?

**Heather** 1:33:22

Some people, sadly, yeah. All right. We have reached the end. For now we're gonna take a 15 minute break. And then we're back with that live q&a, answering questions that you have posed on Twitter and you can continue to pose them using the hashtag take the hell hashtag take the hill, which we are attempting to do with your help. The darkness membership. my patreon has its monthly private q&a tomorrow, two hours starting at 11am 11am. Pacific. We have a fun time with that all the questions have been asked already. And we'll be I'll be calling them tonight and and answering them but we can engage with the chat and it's a lot of fun. I encourage you to join us there. Also Brett has his conversations at patreon every month as well. And I guess if this is happening tomorrow, then yours will be happening next Saturday and Sunday from nine to 11am. So consider joining Brett there as well. You can send me logistical questions you have not questions with the q&a but logistical questions to Darkhorse dot moderator@gmail.com. We do have some merge at dub dub dub dot stored at Dark Horse podcast.org. But we haven't put anything new up in a while but we got hopefully something coming we got a piece of art. We got a piece of artwork actually in the mix, as opposed to ideas that you just mentioned today.

**Bret** 1:34:43

Right now a couple of I've been on the drawing board, okay.

**Heather** 1:34:48

And please consider certainly supporting us on our Patreon but subscribing to maybe all of them but on Odyssey Especially on YouTube, both the main channel and the clips channel, like the videos, share the videos and and keep on keepin on and be good to love ones you love and eat amazing food and get outside.

**Bret** 1:35:16

Get outside and wear shorts if you're in the Pacific Northwest cuz it's hot. Alright, see everybody