2021-06-18\_your-questions-answered-bret-and-77 - Your Questi...

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vaccine, virus, question, point, mrna, fact, long term effects, feel, biology, people, person, mechanism, mask, hope, find, immunity, windows, move, innate immunity, effect

**SPEAKERS**

Bret, Heather

**Bret** 00:07

Hey folks, welcome back to the Dark Horse podcast live stream q&a buzz avoidance team. That's right. Yep, we're gonna do it. All right, we're gonna do at Q's nice Q's

**Heather** 00:21

and A's last time we got through almost all the questions. So we have just two questions from last week and a comment before embarking on our discord question. And then today's questions we have a lot this week, so we won't get through anywhere close to all of them this week. What does COVID look like, without PCR, the internet and a standard diagnosis of case?

**Bret** 00:44

You know, I've I've wondered about a related question. Yeah, not editing out certain technologies. But you know, what would this look like if it had somehow happened and gotten loose? You know, in a primitive, in a primitive version of civilization,

**Heather** 01:02

it's I mean, it's you can't separate it from if you think there's a good chance it was a lab leak, right, therefore, is moving through the world differently than any wild type virus would have. It's impossible to play it forward, because they'll let you know that well, function research couldn't have been happening,

**Bret** 01:19

right. But you could you could, you know, let's say that you gave the virus a couple years of bumping around tricks, you know, so the ancestral virus picks up enough tricks to become a severe human pathogen. What would it look like? a, you know, there's question about what would be noticed, you know, yeah, how easily I mean, you know, how able

**Heather** 01:41

to discriminate between it and the other 30 pathogens that people run into in a decade or something? I totally make up those numbers. Yeah.

**Bret** 01:50

Yeah. I mean, the more I think about it, you're either on the technological side where people would have noticed that it wasn't flu, right? Or you're in a primitive state in which flu is really a syndrome more than it is a particular pathogen. Yeah. And so

**Heather** 02:07

it sounded it seems pretty unfriendly.

**Bret** 02:11

Yeah, although there were so many things that people had before we currently think

**Heather** 02:17

Yeah, that's true. I mean, I guess the loss of taste and smell which seems to be is obviously pretty damn unique, and also almost everyone at least anecdotally that I've heard who shows any symptoms at all? Yeah, has that one Yep. would be noticed. Right? Like we actually we have a friend who is it was born without a sense of smell. And you know, his his moving around through life is so different from everyone else's, and it seems like odd the taste we am it's the taste It's the sense that we use the least but you 100% notice that Oh, and even he notices that never having experienced it. So you know, that's that's something that I think people would definitely notice. So maybe that would mean that it was like Wow, what's this? What's this new thing? Yep. But um, but you know, if, if what we're doing is going back in time, where people are more active spending more time outside, you know, if we're talking about like Victorian era England, like Dickensian conditions that might have been much it might, it might I was gonna say worse, but it might have been as bad as it is, in some places now because of the tight conditions and the inability to escape from other people who are sick.

**Bret** 03:33

Well, in fact, I was working on something this week, and I was wondering about the difference between this pandemic before and after buildings with glass in their windows. Yeah, right. And you know, leaky castles that don't have glasses glass in their windows, it's not entirely clear that this pathogen has any route forward. It might be so yeah, the outdoors IE, to thwart it.

**Heather** 04:04

I don't remember how like how is plagued drones transmitted, it's only is it only through but fleabite fleabites

**Bret** 04:10

it's well vecto it because a lot of times pneumonic

**Heather** 04:16

I guess bubonic is vectored by fleas or something. And

**Bret** 04:21

I'm concerned because Monique is obviously turned to mean something else, but I think it's bubonic and pneumonic plague. And pneumonic plague is the is the respiratory reversion,

**Heather** 04:30

which obviously was was devastating in an era without glass on windows so well, but

**Bret** 04:35

right, but I mean, the question I think we're answering is this pathogen and so this pathogen might have been inconceivable if you go far enough back and it isn't all that far might have been just inconceivable.

**Heather** 04:47

Maybe I'm not sure how you arrived

**Bret** 04:49

there, because the spaces that allow it to concentrate Are you know, modern, sealed, cars, trains, planes, boats,

**Heather** 04:58

but my point is other respiratory Viruses have thrived,

**Bret** 05:01

right? I'm not saying that all respiratory viruses have this pattern at all. I'm just saying that this one is special. And so to the extent that we projected back in time, it there might be a relatively short period over which it was actually viable.

**Heather** 05:18

Do you have thoughts on natural immunity versus vaccine immunity? and Why is no one talking about it? Is it a population strategy? I don't know what the

**Bret** 05:27

last part Yeah, I definitely think natural immunity is better for a very. So we have to isolate it from the path to natural immunity, which is worse, the path to natural immunity.

**Heather** 05:39

Exactly, exactly. If

**Bret** 05:41

it involves getting COVID right involves a lot of damage, like the ground glass opacities that were noted in the lungs and circulatory damage elsewhere.

**Heather** 05:50

I'm just there's another question here that's related to this. So I'm listening to you. But I'm looking for the other question.

**Bret** 05:54

But if the if the question is about the natural immunity natural, why am I blanking on the term adaptive immunity rather than the innate, the innate immunity, then the path to it is worse, but the immunity you get is almost certainly better. And the reason that it's almost certainly better is that it's not so narrowly focused on the spike protein. So that's pretty clear. On the other hand, the best thing is innate immunity that is sufficient to ward off the virus. And so how you juggle that? I don't know. But yeah, yeah, I think it's fairly clear that the breadth of immunity that comes from an encounter with actual COVID is more likely to cover you from variants, especially variants driven by the vaccine, we have the possibility with a

**Heather** 06:42

giant caveat that getting to that immunity is is riskier, less. Sorry about that. I couldn't find the question that I think is related. So hopefully, we'll get to it in due time. Yep. Finally, a comment from last week, thank you so much for your continued willingness to have these chats, you contribute greatly to society. Thank you. Thanks for tuning in. From the discord this week. Religion motivates positive social and stress management behaviors on a large scale. If we want to replace religion with a less mystical set of principles that would support the same level of commitment to these behaviors at the same scale. Which characteristics of religion wouldn't have to carry over to do this successfully? Ie, how would you go back in and the baby out of the bathwater before pouring in?

**Bret** 07:26

Yeah, there's, there's a problem here, which is, on the one hand, religion does some stuff, and you could try to take it out of the bathwater. On the other hand, religion has access to a mechanism that is in the bathwater, right? The mechanism is the ability to threaten you in the afterlife, or the afterlife, or threaten you with different versions of the afterlife, depending upon how you behave during the life. And so the problem is that you can, you're actually it's like a religion is a corrective lens for a distortion that we have built in. Right, the distortion is we only see our actual lives. And we don't understand that our genes and our lineages have interested continue after we're gone, no matter how that happens. And so if you just say, Hey, I care about that, which happens up till the moment I go, and then I care about nothing, then you will behave in a way that makes your lineage worse off going forward, which is an evolutionary loss. So evolution has corrected this, in my opinion, at least, it has corrected it by creating a metaphorical reality that fixes that, which is Oh, you're not getting away with anything. As a matter of fact, it really starts at the point, you can no longer you know, stay alive, then we find out how you did while you were alive. And it has huge implications going forward, right? That thing causes you while you're alive to do better stuff for your lineage, which is great. And as soon as you say, Well, alright, let's figure out what religion is doing. And let's just do it in a non religious way. The point is, well, then exactly what are you going to use to adjust people's calculation of value so that they don't behave like a jerk relative to everything that happens after they're gone? So it's a tough problem to solve, right? Yeah, it is, in fact, in part what we solve in a less effective way in some regards, and a more effective way in other regards with government, right? We say, Don't act like a total dickwad while you're here, because if you do, you'll end up in prison and that sucks. real bad, right? So that thing stands in for, you know, like a fire.

**Heather** 09:32

Excellent. Another comment that the first one that will read from this week, thank you for keeping the dialogue going about things we are not supposed to discuss.

**Bret** 09:45

We will keep discussing those things we

**Heather** 09:48

next question, can we all at least agree that Dr. Fauci lied to Congress about funding gain of function research with us taxpayer money and that he should be held partially responsible for this manmade disaster that has killed more people than nukes? I would

**Bret** 10:01

say whether or not Dr. Fauci lied to Congress depends on what the definition of gain is, what the definition of of is, what the definition of function is, what the definition of Congress is, what the definition of Fauci is, and there's all sorts of room for those things to be defined in such a way that Dr. Fauci did not lie to Congress, but

**Heather** 10:23

did not have sexual relations with that research.

**Bret** 10:27

All right, well, that's quite an image. But yeah, Dr. Fauci said things that if we were to parse them, like a person, obviously, are tantamount to a lie, whether there is a technical version of some terms somewhere in those statements that allowed him to technically get away with it in a way that his God most certainly will not care about. Then maybe he didn't lie, but I would just say, look, obviously, obviously, it's a lie. I mean, gain of function research. Yeah, Fauci, right. We can define those things. You know, he was he was, he was fibbing, and it's not the first time we've caught him doing Yeah.

**Heather** 11:09

Where are you obtaining ivermectin. I'm in Canada, due to my age 69. I've had the first of two doses of Pfizer, Canada screwed up the vaccines. And we are way behind. I'm curious about ivermectin. So isn't, don't doctors on the flcc site, provide prescriptions?

**Bret** 11:27

There is some mechanism with the FL CCC. That's too many seeds.

**Heather** 11:34

That's how many they put in

**Bret** 11:35

those three. Yeah, there, there is a mechanism provided on the site, the site can help you with that. I can also say, I didn't go that way I was able to, to source it. It wasn't too hard to figure out how to do it. I was a little nervous about doing it, but it worked fine.

**Heather** 11:51

If you can't get a prescription, though, it's going to be a lot cheaper, especially if you're in Canada.

**Bret** 11:54

And I would also say and, you know, none of this is medical advice. We are not doctors, I can say, you know, I can say what I did, and I can explain why I did it. But one possibility is if you have an emergency, I mean, we have an insane policy with respect to treating people with COVID. Right, our official policy is we don't preach it to your second afternoon. Yes, right. Go home and get your family sick, right. This is a maddeningly stupid policy. If I got sick, or if you got sick, right, the obvious right thing to do in light of the substantial evidence that this actually greatly improves outcomes and the earlier you treat it the better. The obvious thing to do is to you know, clock ticking get to COVID get to ivermectin as quickly as possible. And it is available.

**Heather** 12:48

So the treatment dose is higher than the prophylaxis dose.

**Bret** 12:51

Look at the FL CCC site for dosage information. They have a PDF, I believe it is under mask Plus, they also talk about other compounds that appear to enhance the effect, most

**Heather** 13:04

of which are which are over the counter. Yeah, they're over the counter

**Bret** 13:06

things like vitamin D, vitamin C, zinc. But anyway, there is another mechanism, which is that people use the very same molecule for treating animals with infections. And so anyway, I don't never seen it. But there is, for example, a paste that tastes of apples, I hope it's made of apples, that one gives horses. And anyway, people have sourced it that way, too. Anyway, I haven't done it not recommending you do that. But you have to figure out let's put it this way. If you get sick and you decide this is the way to go, then the data obviously say Time is of the essence. And so that ought to have an implication for

**Heather** 13:51

Yeah, it'd be smart to have someone hand in advance. No of x is more traditional vaccine coming out later this year. Should I wait and get no of x? I'm feeling pressure to get the mRNA vaccine and think that vaccine passports are inevitable. If I waited, I would try to get a prescription for ivermectin In short, which is the greater risk? I've looked into it. I don't remember at the moment what exactly Nova back says because more traditional and like attenuated virus traditional don't necessarily mean the same thing. Right? I mean, we've made this distinction between the mRNA and the DNA vaccine, right like that, you know, the j&j vaccine feels less risky because it's got one as opposed to two very novel technologies involved, but it's still got one very novel technology.

**Bret** 14:37

Right. And you know, the evidence which we discussed early on, or earlier on about spike protein itself being disruptive. That appears to be a serious issues by protein is the product of the vaccine it does not appear all to remain where you would want it

**Heather** 14:55

to is it have no evacs? I don't know. I don't know. I don't know what the mechanisms

**Bret** 14:59

are saying. I don't think I can't speak to it specifically, what I can say is the things that I would use to just eyeball one versus another and risks is spike protein, is it? Is there a mechanism whereby it's well controlled? So it's very localized, it's circulating around your body. And you know, so far all the ones I've seen have that same hazard. And I don't know that it's not different between different patients. But right, the idea that you've got a molecule that does damage that is the natural product of a vaccine and it does not appear to be kept to the site of injection is all concerning. Yep.

**Heather** 15:41

Hello, Heather, in Britain, there is a professor of immunology in Canada who claims to have research that the spike proteins do circulate in the body. His name is Dr. Byron bridle at University of Guelph thought you might be interested. I feel like we've seen I mean, I think there's a published paper I don't I don't recognize the name. But there is some work now coming out. That says No, it doesn't. It doesn't stick to the point of injection and just enter cells. And

**Bret** 16:05

yes, and really, at some level, why would our expectation be that it does this is part of the point about the novelty of this mechanism is welcome to complex systems, you've come up with a technique that does in fact, get enough of this stuff into cells that it gets transcribed, you know, and informs the immune system that much seems to be clear, but how much of it remains stuck to the cell surface the way one hopes the way the you know, the plan on the whiteboard said it was supposed to? We don't know when we can't know that we're gonna know, but we don't know yet.

**Heather** 16:42

Hi, Breton. Heather, I had a discussion with my pharmacy student brother regarding the long term effects of the vaccine. He claimed that COVID vaccines can't have long term effects. How valid is that assertion of you guys? Well, the vaccines are brand new, we are we cannot possibly have long term data on what the long term effects might be. Therefore, the claim that there can't there can't be any long term effects is absurd. We are in no position to know that,

**Bret** 17:13

right? In fact, I have no idea what logic would even you can't get there, right? I mean, the fact is, different vaccines have different effects. And we the fact the very fact that this one interacts with the immune, so let's put it this way. I mean, broccoli has long term effects. I think we can do even better than that. Yeah. immunity to COVID is a long term effect. Game over, they have long term effects. What is the extent of the long term effects? We don't know what some of them be negative? We don't know. We can't know. Right? They have long term effects, one of the long

**Heather** 17:44

term and that may just be a shortening of it to fit in the character limit, and how long negative long term effects?

**Bret** 17:50

Oh, I have long term side, no doubt that that's what's being said. But my point is, logically speaking,

**Heather** 17:55

we know that the whole point is that there will be long term effects, right? And for the claim to be no, yes, we understand this is brand new, but certainly all of the effects are in the we hope for it category as opposed to the we hope not for it category. Well, that's that's exactly what it sounds like. It's wishful thinking. And, you know, I hope we all get our wish. We all wish we really we only do but but it's it's a it's a logical fallacy. And it's, it's creating exactly the thing we're talking about in the entire first hour.

**Bret** 18:24

Right. I will also say the possibility of reprogramming of innate immunity, a possibility that has been discussed by Garrett van and bush on dark horse has been discussed by others. This is one avenue that needs to be monitored. And it seems to be it's quite plausible that that will be among the long term effects. The question really is what's the full list? And how common are they? cat has just attacked the bug on the screen and knocked herself off the window. So

**Heather** 19:01

window screen, not it would have been more fun for everyone if she'd been doing it on the course screen. Yes, true. I think that part, not me, the questioner. I think that part of the hostility towards alternative solutions stems from sunk costs, the person adopted a bad idea that ultimately hurt them and they can't backtrack. So they double down hoping they're right. One possible solution might be to frame it as I agree, it's a problem. Here's a better solution than that. And here's why it's better, giving them a path of redemption and hopefully, and hope that they're not completely screwed. I agree that this is going to be a big part of the dynamic when you're interacting with individuals. But the hostility towards alternative solutions was created by a bigger system. And we are what part of what we're trying to do is figure out not just how to engage people who come at us with you know, how, how could you be possibly talking about an alternative treatment as opposed to vaccines but, you know, how did we end up here? How do we end up in The situation a year on after a viable treatment was was there was testimony before Congress about ivermectin as a viable treatment, and, and you're still not allowed to talk about it like that they're still not allowed to talk about it as being forced not just by individuals, but by but by the big things by, you know, big attack and big media and presumably by Big Pharma.

**Bret** 20:28

Yeah. I do think that there's something important in this question, which is, okay, we all faced a pandemic, we most of us thought a vaccine was far enough out that we were going to be without a response to it. And I certainly felt that before I understood what the evidence on ivermectin was. And so the point is, I think many people had momentum towards vaccine. And then when they heard the vaccine had such promising numbers in terms of preventing COVID, it was like, Oh, thank goodness, maybe this is gonna be over, maybe I won't have to, you know, live in fear. And then there was this campaign that basically amounted to Oh, the good people will all get their vaccine, because that's their duty to the collective and again, where are we to know a great deal more about the safety of these things, and where they actually say, if which I hope they are, then I do believe that there is an obligation to take your tiny part of the risk in order that we could reach herd immunity and banish this pathogen, but I don't think that's remotely where we are. So nonetheless, people responding to that logic, rushed to get the vaccine, the discussion about what the actual potential for harm, the responsible discussion is late emerging for some of those people who've been vaccinated either under pressure or because it seemed maybe safer than it is. And having done that, knowing people as we do, many a large fraction of people will respond to the cognitive dissonance of the comparison between what they thought the safety profile was, and what it actually is largely being about the unknowns. And like, it may, they may double down.

**Heather** 22:19

This, this is true, this just feels like the easy part of it to me, like I feel like interacting with individuals as much as like, as you know, I came home very thrown by this interaction I had with this doctor I was I didn't talk about half of what was in that conversation and how many just falsehoods are being thrown at me. But it you know, it's it's the it's the systemic stuff, it's the population of stuff. It's the corporation level narrative that is being driven, that is so much more difficult for individuals to fight back against. Yeah,

**Bret** 22:48

but a there's an, there is the emergent explanation for that behavior. Right? So there is something and this is always the weak point, for those of us who are fighting these false dangerous narratives on the outside, is that we have no idea what the conversation sounds like on the inside. And it almost never sounds like, you know, they're not super villains, right? They're not super bad. These are normal, mostly good people who reach conclusions that they actually think our sound that they impart think or sound, because they find ways to edit out the things that would tell them you're actually making an error. And so, you know, that arrogance, then gets compounded by the normal human feeling of wanting to feel good about a decision you've made rather than bad. So if you've, you know, gotten vaccinated or gotten your family vaccinated, and then, you know, you start hearing discussion, that doesn't sound like crazy people, and they're talking about safety concerns that you don't know the answer for, because they really amount to Yeah, we don't know yet. Yeah. It may well cause people to try to shut down discussion, in part because they don't want to keep being reminded that they have now taken something and they're not going to know Yep, for a long time. figure you

**Heather** 24:04

want to know that mask mandates ended yesterday here in New Jersey should have happened a while ago, in my opinion, but I'm pleasantly surprised that Governor Murphy is relying on the honor system for enforcement rather than passports. So that's interesting, although the the beginning and the end of this comment makes it sound like mask mandates. And if you're vaccinated, but not if you're if you're not, this is what that sounds like. Yep. And yeah, I won't generalize. I was gonna speak about a different state that I saw but where it looks rather functional, but I'll hold off on that for now. Today on The Daily Mail, the Daily Mail is reporting that the virus was created by Chinese scientists who then reverse engineered it to make it look like it just came from bats. It appeared it was altered to make it more like HIV via h2 receptor. bp was Up british petroleum. No comment. I, I only saw the headline. And you know, of course, the source is the Daily Mail and I just I don't know anything more about it. I know it sounds implausible. But so much of what has clearly happened has been implausible. Yep. So

**Bret** 25:19

I definitely not gonna venture an opinion till I've read it. But I'm skeptical that we, we know anything of the kind of

**Heather** 25:27

Yeah, yeah. Love you guys. Listen to every show, Brett made a comment about the cost of finishing a book about the cost of finishing a book is absorbing too much of one person's thoughts. How can I balance out your content with careful nuanced ideas from the other side? I wonder what the other side is. So just, you know, to some degree, what we're saying is the mainstream sort of everything always needs to be queried. And, you know, on any particular topic, you might be, you know, you might well be able to find, you know, you could listen to this week in virology, I suppose, for instance, and I don't know who you'd listen to on like, critical race theory and such, and we're going to listen to on coyotes and squirrels, the other side of that, but the other side seems like, boy, you know, all the standard media outlets, really, you know, whenever they whenever anything from New York Times to huffpo, to NPR, to, you know, even even the Wall Street Journal, have something to say, that sounds like each other. We are not going you know, it's not contrarian ism, for the sake of contrarian ism. It's all possible explanations seem to be on the table. It's scientific method for the sake of understanding the truth. Well, that's that's what it is.

**Bret** 26:56

It's slightly more than that. I think. There is something to be said for not absorbing a consistent worldview. in its entirety.

**Heather** 27:08

So that gets that gets this question. So how, how would Well,

**Bret** 27:12

first of all, I would say, I think I think the danger in this podcast is pretty reduced for two reasons. One, there are two of us, and we don't disagree. I mean, we don't agree on everything. And so we also

**Heather** 27:23

don't disagree on everything, we think makes things easier, and all matches I live

**Bret** 27:27

disagreed on everything. It would be like the Trump people and the the people with the derangement syndrome, where each assumes that the other never speaks of True Word. But, so this

**Heather** 27:42

would look a little different. It might be just as entertaining, it might be a lot more entertaining. I guess it's not for us, though, kinda.

**Bret** 27:47

It's kind of hard to imagine how that would work in a marriage. But But anyway, the point is Look, a, the same polished, right? So yeah, basically, this podcast is a lot about

**Heather** 27:59

is is carefully constructed. A book is almost often deliver a thesis,

**Bret** 28:04

right? It's almost anamorphic by its nature, right? I'm going to run you through this argument in the way that I see it is making sense. And so the point is, you get led through that and you get led past the stuff that would go in the other direction, unless the thing is so beset by caveats that

**Heather** 28:19

so you're saying in part, this isn't polished, and we try to come at it from different angles. And there's two of us who are inherently coming at it from different angles are already providing sort of the curative for an anamorphic worldview. not perfect, but there will be times when there will be times when we have shared blunders,

**Bret** 28:38

sure. Of course, that that will definitely happen. But the point is, it's it's a lot easier to detect than when somebody has polished something, so that it appears to be exactly x, right? And I'm not faulting authors, I think this is, you know, this is one Oh, yeah, it's about a book. But no,

**Heather** 28:55

I mean, you and I feel rather differently about books. We do,

**Bret** 28:59

I'm just, I'm just arguing that there's a caution, and it's not absorbing too much of their thinking it's the concentration of it, right? It's the fact of being immersed in somebodies thought process, polished to a mirror shine, you know, for an extended period of time. So you're basically taking a vacation inside their mind. And then it is hard to go back to your pre vacation understanding of the world because you have spent so much time looking at things through

**Heather** 29:28

their eyes. And so that's also description of learning, of course, also a description of you know, coming to understand things that you didn't know before, right?

**Bret** 29:36

And I'm not even arguing that this is the, you know, a general hazard I'm arguing. I'm just saying for me, given that what I think I'm actually good at that's useful, that's different. Right? It is very important that I not get too absorbed in any perspective because the ability to step out of it is is vital.

**Heather** 29:55

And I think you you find it particularly likely that you That that will happen to you with reading. And you know, I think it's much more likely for me that will happen to me on the audio, you know, on the auditory channel. And, you know, there will there will be some particular channel with which you take in information that you are probably most easily lied to. And you know whether or not there's any desire for the person who's communicating with you to be lying to you. But there, you know, there there are things that each of us individually do better and worse. And so, you know, figuring out what channels you are best able to take in information critically and making sure to spend some time on those channels. And, and, yeah, we just that.

**Bret** 30:42

I agree, I will just finish this off by saying, I think there's some analogy to the way that a book can over persuade by virtue of bringing you into somebody else's mindset is the same thing. As a, a college class, for example, in which a professor has some perspective, often with payload, that you're just saturated in and expected to respond as if you believe it. And it makes it hard. It makes it hard to retain what you wants now. That's

**Heather** 31:25

$20 from the Willis family every time Brett uses the F word,

**Bret** 31:29

fuckin a Yeah, thank you. Notes. Totally gamble.

**Heather** 31:32

We promise not to do it. Yeah. What time are we outside? Okay, we'll read a few more here. I like all sorts of puzzles like jigsaw puzzles and crosswords, but dots, but dot two dots are where I draw the line. I love you guys.

**Bret** 31:57

drawing the line. Oh, right. Huh? Got it. Yes. All right. Good. Good wordplay.

**Heather** 32:03

Yep. What's your favorite dinosaur from the Mesozoic era? Yeah, so I saw this. I was like, okay, we keep on getting the favorite dinosaur question that we thought we did it with birds, right? And so I was like, Okay, let me just see. Like, it just went to Wikipedia. I'm not gonna repeat it here. It was like, okay, so Eric, okay, within the Mesozoic, like sub category, subcategories subgroup like eight sub categories, and I finally get to a list and it's still like hundreds of dinosaurs long. And like I don't I don't know I like a What is your favorite? Or what is the like our questions that I never really deal with? It's not how I frame my world. And I mean, dinosaurs are awesome, but I never want three times her face. I was always into, you know what they call us actually, what the paleontologists called people like us neonatologists Believe it or not, we they they call us neonatologist because we're interested in the stuff that's alive now, as opposed to the stuff that's alive then. So us neonatologists at least at least I yeah, I clicked on a fun like, I don't know, I started I sort

**Bret** 33:06

of take their point because it was

**Heather** 33:07

the paleontologist telling us new intelligence. Yeah, yeah.

**Bret** 33:11

Because it's sort of like when we run up against cellular biologists who do not appear to spend any time at all thinking about the fact that they're working on a system that evolved Yeah.

**Heather** 33:22

Or for religious too. Right exactly.

**Bret** 33:25

And so there's kind of a you know, you know, come on guys this story is deeper than you think and the answer to in what direction is deeper is not subtle, right? Right. And I feel I can imagine,

**Heather** 33:36

especially when when us neonatologist try to reconstruct deep history like if we're doing systematics we're doing phylogenetic systematics and trying to build the trees. Like you know, Darwin famously first dead Yeah, they're most most of us who do that and I only dabbled in it a bit. And you know, in taught generations of students to do so, don't even use paleontological evidence that's just like a line of evidence one of agassi's famous like three possible parallelisms that most of us just don't go there you know, increasingly it's all molecular but even if you're just taking the morphological and maybe developmental like paleontological nevermind, and that's, that's probably

**Bret** 34:18

a failing. Yeah, definitely. Yeah. Mine.

**Heather** 34:20

Yeah. Okay. Will you consider finding a virus? So wait, do you have an answer? We definitely didn't answer that. And I explained that I'm not going to but are you? You have an answer. You were hoping I wouldn't forget that the question I was hoping that we had Okay, we're done. Okay, done. Okay, fair enough. I will tell you why. I'm looking at scrawled on the on the floor here. Really nice. Nicely done. Will you consider finding a virologist to challenge your vac stance on the show? I'm sure I'm far from alone, waiting largely because of you and feel the weight of the decision, thanks. We do not want people waiting because of us. And I don't know if you have tried reaching out to anyone we do know without giving away any identities of some attempts by other people sort of in the space, whatever that means to reach out to, to people who who feel very differently about the vaccine and talk to them. And those attempts at communication have not gone well. So I you know, I think redissolved the one on one stuff, you know, we do the live streams, and you have all the one on one conversations. So I, you know, it's not just because I'm saying you would, but like, I feel confident that you would talk to anyone who it was a virologist, you said, you know, I'm, I feel that there's no possible, there's nothing else you should be doing besides getting a vaccine with regard to response to COVID that you would have that conversation, but I don't know of anyone who Well,

**Bret** 36:03

yeah. And even if even if they would, I feel that there's something you know, we all want to see a vibrant discussion between sides with no crazy rules that prevent proper arguments from being deployed. That's the right thing to want. It is not obvious that in a world in which you are being propagandized by the pro vaccine, side, pro COVID vaccine side, yeah, that the right thing to do is for those of us who have laid out the reason that we are concerned in great detail, it's not highly complex, some of it might be this particular thing isn't, some of it isn't. And the point is, okay, you're in a position to compare those things. What happens if we bring somebody to say the party line on dark horse in order to just simply balance out the heterodox version and the point is, okay, that's one more channel for the party line, which isn't interesting. it dilutes the message that you need to hear which is reasonable people actually find grounds to disagree with that party line which pretends that reasonable people couldn't disagree right? And so you have what you need to do the comparison and there's nothing that stops anybody from looking at our logic and talking about what we've missed of anything and it happens all the time and we upgrade so I don't think that the added value for us you know, everything we say let's find somebody who disagrees and put them on to so nothing has been said that hasn't been challenged. It's like look, the these vaccines might cause long term harm and we don't know yet that is challenged every day of the week on almost every channel at all times. And

**Heather** 37:45

and it's also a statement I can't even grasp I mean, someone reports that their pharmacy enrolled pharmacy school enrolled brother said they can't possibly like I don't even know how you get there. How can you make a claim that a new thing that hasn't existed before can't possibly have long term side effects? And the fact that that statement is just logically impossible and yet it is exactly the thing that people are saying all the time you know, I guess I'd be curious what such a person's said to either of us in real time like where's your time machine like what's your magic that you can see into the future but but they won't have anything there is nothing to be said it will be a year your spinach you owe it to the to the herd and you know to which the response will be how about if the herd immunity is actually enhanced by any one of these three categories? And and then there will be the fear mongering about ivermectin that comes back

**Bret** 38:52

Yep. Right.

**Heather** 38:57

I have a full ride to a great college I love history psychology and poly sigh but plan on studying bio because I don't think the other fields will make money is my thinking correct? Do I follow passion or dollars? Love you all. I think I don't know the future is not going to look like the past even at like the the 10 year scale. So you know history psych and poly sigh all our, you know, great leaping off points for careers that use logic and care and you know, classically any of those degrees would have been great to go into law school, for instance, which obviously has been remunerative career in the past. Excuse me. I would say you know, biology is a lot of different things biology, the sort of the skin in stuff the biology at the level of less than an organism molecular biology, cellular biology, genetics, developmental biology is is quite To set you up for one set of things and skin out biology, Biology at the level of an individual or Biggers revolutionary biology, ecology is going to set you up for a different kind of things. And there really, there's not a ton of overlap in terms of what you'll be thinking about as an undergrad. And if neither of those appeals to you setting yourself up for a degree in biology, and you're not, you're not finding appealing. I would say why. And it's not clear to me what the what the possible remuneration would be. That said, if you're here, and you're asking us and you're listening to us, you do like biology, because we talk about biology all the time, because it's all evolutionary. On the other hand, how do evolutionary biologists make a living?

**Bret** 40:44

Well, I sort of think we've gotten off on the wrong track, okay, answering this question.

**Heather** 40:51

No, you mean, I've gotten off on the wrong track, because you didn't contribute until now, it's not

**Bret** 40:55

as nice to say that you've gotten off on the wrong track, though an argument could be made, could be I mean, no. reasonable people can disagree over whether or not you were on our track. Here's what I think college is and what isn't about what you think it's about, right college is about upgrading your mind, it is not about training for a job. Now you do have to figure out what you're going to do after college. And other points out, nobody knows what the world is going to look like. And therefore trying to plot a course that, you know, sets you up doesn't make sense, unless plotting that course means upgrading your mind in such a way that almost no matter what happens, you're in a good position to figure out what to do. And I think biology is a far better bet, even if you don't intend to use it, right. And this is the key thing. In biology. If you find a subfield that makes sense, in which we actually know a lot, and you study it, not half heartedly, but you know, if you if you really make the attempt, then what you will learn is something that is true, right, true and deep, and the analogy to everything else, will be useful. Whereas poly sigh, I think is much more likely to suffer from schools of thought that go out of favor and other kinds of fashion. So the point of college is to upgrade your mind so that it is useful for whatever you encounter in the future. It's not to produce a product, it's not to train you for a job, and the subject matter that is most likely to be relevant and remain relevant for whatever you do. Even if you decide to go into engineering. You can learn things from biology, about engineering, you can't learn things from Polly Sai about engineering are probably very few at most. So I would advise you a good bio a chance be find people who know how to teach it who aren't dimwits, because, you know, really when people say they don't like biology, in large measure, it's because they learned it from people who gave them busy work like memorizing the Krebs cycle, rather than informed them about interesting puzzles in biology that are worth solving. So

**Heather** 43:17

it turns out to be the very rare biologist who needs to memorize the Krebs cycle,

**Bret** 43:22

right? You need to know what it is but you don't need to memorize it. And you know, I would say that there are things I will give you one analogy before we move on. We both took calculus one has to in order to get a degree, an advanced degree in biology. There was a lot to love and calculus, I never use the techniques that we learned but I am grateful all the time for the exposure for having at one time been able to sit down and take a derivative, right the knowledge of what that is applies to so many things that I do yep that you know it's a cherished tool even though literally I've never broken out that exact toolkit for a problem right? It's always used my

**Heather** 44:08

lives at the level of abstraction for us now in terms as opposed to being able to sit down and write or

**Bret** 44:13

the ability to to read somebody else's claim that involves calculus right? But anyway, so the point is even if you're not gonna be a biologist, it might well be the thing you can study

**Heather** 44:26

three more quick questions here and then we'll move to the next hour. I think this is a joke went for the second Pfizer shot and took a magnet it stuck only in the jab spot the doctor there said there is no connection and you can receive radio now. The fuck the mag effect faded after 30 minutes so there is there there are these reports and I don't know I don't know if they're true but the you can receive radio now makes me think that this is

**Bret** 44:54

well the doctor was clearly joking with the you can receive radio now. I think the person is not joking that they saw the effect. I would like to. To see the effect myself. Yeah, I'd like to place the magnet and get a sense that I'm not dealing with the stickiness of the skin switchboard.

**Heather** 45:12

Yeah,

**Bret** 45:13

right. But I, you know, I have seen at least one video that really did raise the question and did not. Yeah, that was not inherently easy to dismiss. Yeah, though. mechanistically speaking. I think the blood iron explanation is not robust. And I don't buy at all the idea that there's stuff in these vaccines that is magnetic and something.

**Heather** 45:39

Yeah. So what is it?

**Bret** 45:41

What if anything, what is it? Is

**Heather** 45:43

it anything and if it is something, what is it? Yeah. Have you have you heard anything about women experiencing irregular menstrual cycles just by being in close contact with someone who got the COVID-19 vaccine? No. Next question. Thank you, Brett and Heather Zach for providing out this is just a comment. Thank you, Brett, Heather and Zach for providing a moment of clear headed sanity in an ever increasing Lee chaotic and maddening world. Thank you. Thank you. Thank you. Mike, we defeat the buzzsaw with a please don't throw me into the Briar Patch approach. I'll brer rabbit taking the skin sting out of their labels by owning and reframing them or else by saying no one believes you anymore.

**Bret** 46:26

Well, there's several ideas in there.

**Heather** 46:28

Yeah, there are there I don't think you please too.

**Bret** 46:30

I don't think you're going to own the label in the same way you can adopt somebody, you know, racist epithet and make it your own or you know, or the way well adopted queer or whatever.

**Heather** 46:40

But hold on, actually, in one place you can begin to which is that if the label is new, then it's easier to own. So this is exactly what's happening with turf. Yeah, in fact, you did it here. I'm like, you know, I'm gonna go full turf this ridiculous, right? Okay, these people are weaponizing a thing. And and no, whereas one of these terms has been around for longer, you know, racist, anti vaxxer. Conspiracy theorists, it's much harder to say Yeah, actually, yeah. Like, no, let's try. You know, you're the racist. You're obscuring things, like, none of what you're doing is legit. legit conversational tactics. Yeah,

**Bret** 47:16

yeah, I agree. So there's a variation. I mean, the one, you know, I don't think you can adopt a racist. Right? You like the point that you do. But you're right. There's room in the others? I don't think you should adopt.

**Heather** 47:29

I said, I think you can't do it with the older terms like racist conspiracy theorist and anti vaxxer. I think you can precisely what the one that you identified last hour as Brian brand new,

**Bret** 47:39

I agree. But I don't think that the parameter is inherently about new, I think New has the effect that you're talking about. But I think, you know, they vary based on what the nature of the accusation is. And so anyway, I would say case by case basis, you might look at these, and then some of them, some of these cases, there's a there's a move to be made. I just put out a tweet in which I have borrowed follow the science and attempted to use it for honorable purposes. You know, that was

**Heather** 48:10

in announcing this, he would ask me to engage with the tweet because we're doing this and I was like, I know that he's being I don't know what the word is. It wasn't sarcastic, but you're like, basically trying to reframe, yeah. But you know, in general, just follow the science is itself an anti scientific piece of advice.

**Bret** 48:30

Well, but that's the point. So that I think you haven't seen the tweet in question. It's newer than that it was during the break?

**Heather** 48:37

Well, you did do one earlier that did that. use that as well.

**Bret** 48:39

So in any case, the point here is follow the science to ivermectin. And I think the point is, the science points in the direction of this being a very useful therapy. And so anyway, interesting to see if we can turn that back on the people who I think the problem is follow. The science is broken, right? love science isn't a thing. Follow science is a very rational piece of advice. How do you figure out what's true scientific method?

**Heather** 49:06

Follow the scientific method? Yeah, yeah, exactly. All right. In my experience, the wisest people are people who learned little from education and lots from dealing with many other people. And to me, number one is isolation, not untruths.

**Bret** 49:23

Well, my guess is that there are different kinds of wisdom and there's a certain kind of wisdom that you only get from interacting with people. Yeah. And so yes, I would Yes. If that's if that's what you're reading, then yes.

**Heather** 49:40

There's a link here that since I'm just saying for the first time I have not gone to, and the question is, do you have thoughts about this article claiming that anyone who had COVID might make antibodies for a lifetime? Why would if that's true, why would anyone who had COVID get the shot. Also 82 equals 10, plus nine times eight. So it is a cool number.

**Bret** 50:01

Every unschool number is really a cool number. I've learned that that's why there are no non special numbers. It's actually a mathematical conclusion.

**Heather** 50:08

There are no non special numbers. Yeah, the

**Bret** 50:10

proof goes something like if there is, if there are non special numbers, then there must be a smallest non special number which makes it small, which makes it special. So you have to knock it off the list, which then makes the next one the smallest non special number which makes it special, etc. It's a really good proof if you think about it.

**Heather** 50:29

It's a really pedantic proof if you think

**Bret** 50:31

i don't think so i think it actually makes a kind of a good point. But we can fight about that.

**Heather** 50:35

It may it may be that actually the most elegant proofs are de facto pedantic.

**Bret** 50:39

Yeah, in some, in some cases in some way, they reduce something to something crystal clear. Yeah, right. And in this case, it's crystal clear. What are we trying to answer before?

**Heather** 50:51

Do you have thoughts about this article that claims that anyone who had COVID might, might make antibodies for a lifetime? If that's the case? Why would anyone who had COVID get the shot? So if that's the case, why wouldn't you want to add COVID? Get the shot. Alright, this is exactly, exactly. But our point doesn't

**Bret** 51:04

even require that it lasts a lifetime. Because we don't know that the vaccine creates immunity that lasts a lifetime either. And we don't know that we will need immunity that lasts a lifetime. And we don't know that the rate of change of the virus means that immunity that lasts a lifetime is relevant. So right,

**Heather** 51:19

last a lifetime against a variant that went extinct six years ago. We know right? Now, it's eight years later, and there's a new variant and Yep, so I

**Bret** 51:29

have a note to myself open in a Word document that says the biggest anomaly in their behavior is the requirement that people who have had COVID get the vaccine? And because the answer is, it's not just why would you get it? It's given that we don't know anything about the long term impact impact, why are we advising these people to face that risk? If it doesn't provide some extra value? And especially in light of the evidence that there may actually be increased risk of adverse events? Well, and

**Heather** 52:00

unfortunately, for some, for some of the people who are trying to enforce these new rules, it's a measure of acquiescence. Yeah. It's simply a measure of acquiescence. Will you do what we tell you to do? Well,

**Bret** 52:14

there's another way of looking at it, which amounts to the same thing, which is that something about this policy is causing the requirement that nobody evaded. And the idea is, if we're going to create a large category, hey, if had COVID you don't need the vaccine, because that would be illogical for you to face the risk. That that's a large population of people who can answer the question now haven't been vaccinated, and I'm not a bad person. In fact, that's the medical advice, right? Then what do you do when some large fraction of civilization has pioneer especially

**Heather** 52:46

if they didn't earn their good person status? Right. All they did was get sick. All they did was it's not fair.

**Bret** 52:51

So. So I think in some sense, whatever that is, well, we don't very well want a large population of people who have a perfectly good explanation for why they didn't get the vaccine that doesn't allow us to push them in the anti Vax buzzsaw. We can't have that. So let's just force them to get the vaccine and cross our fingers that they don't suffer ill effects. But that's immoral, obviously. Yep.

**Heather** 53:15

I heard today from a virologist this hypothesis, the spike protein is a toxic protein by itself, the vaccine cannot reproduce. So it's less harmful, but it is the same kind of damage as the virus. Could this be possible?

**Bret** 53:28

Yeah, I think this is likely based on you know, incomplete information. But it appears that the spike protein is dangerous. It is a component of the virus, it is a key to why this virus is so destructive. And yes, the the only advantage here is that the nanoparticle pseudo virus doesn't replicate. And so the damage is presumably, finite. It's only the product of the translation of the mRNA is encased in the nanoparticles that results in the production of spike protein. So it's like a finite tissue damage, initiator, but yeah, that's hardly a ringing endorsement.

**Heather** 54:11

Yeah. If like Soylent Green viruses are made out of people. Should we expect any of our genetic polymorphisms to affect their structural composition? I can't quite well, I can't quite make sense of it.

**Bret** 54:27

I think it's sort of another neighborhood of questions about so there is a question about what viruses are. Right? Where did they come from? Are they critters that lost their physiology that surrendered it?

**Heather** 54:40

Where did viruses come from? Yeah,

**Bret** 54:42

right. And the answer may not be one thing. It's there's no reason to think that viruses are more closely related to each other than they are to whatever else they're related to that is

**Heather** 54:49

so what you're positing is that there might be multiple independent origins of viruses in fact

**Bret** 54:53

are almost certainly are almost certainly But that said, What are they? Right? Are they bacteria that said, screw it, I'm gonna borrow some stuff when I get there rather than pack it and take it with me. Right? I'm gonna travel light, right? I'm gonna travel light. Yep, I don't think so my sense has long been that viruses are basically renegades from bigger genomes that struck off on their own right? In other words, if you think about the sorry, situation that your own genes find themselves in evolutionarily, where the only time that they ever get to pass themselves on, is when you managed to produce an offspring. And how many times does that happen in a lifetime? All right, exactly. It's not a it's a boring, very strange, I sided but if you're a gene that says Screw it, I'm moving horizontally, right? That's what I'm gonna do, I'm gonna you know, I don't need anybody to reproduce, and then grow up and reproduce again, what I'm going to do is I'm just gonna wait for somebody to sit down next to somebody else, and then I'm going to jump, right? So okay, they invent the idea of viruses. And, you know, it takes a certain amount of genes to agree to go in on the project together, and they have to figure out some sort of mechanism to move into the world without getting destroyed. But somehow evolution finds ways and it did. And so

**Heather** 56:14

evolution always finds away. Really,

**Bret** 56:19

the darn thing is, is trouble for exactly that reason. So I'm trying to remember what question we were answered the second time and 15 minutes that's happened to me

**Heather** 56:31

if like Soylent Green viruses are made. All right. Should we expect any of our genetic polymorphisms to affect their structural composition?

**Bret** 56:38

Well, So the upshot of that little story I just told you, is that it was great

**Heather** 56:42

fun. It was fun. Yeah, it does feel like science fiction. It's plausible. But the best science fiction is Yeah, I mean, it couldn't be true.

**Bret** 56:51

There's lots of these questions in biology. Where did life come from? At first? I don't know, right? We can tell several stories that prove that it's not inherently some magical thing. Right? Right. We just don't know which of the stories are true. And we may never know. But the point here is, if teens are, I mean, if viruses are genes that have teamed up and basically said a few to the rest of the genome and struck off on their own to move horizontally, and they carry some of the creatures, characteristics with them that aren't really about viruses at all. What's more, lots of viruses do integrate into your genome in order to do their work. And now it happens that coronaviruses are exceptional in this regard. They don't integrate with the genome, and so they're much less likely to take some of your genetic makeup with them. But viruses that do integrate do this regularly. Yep. And so anyway, there's an interesting story to be told. But yeah, most viruses, or at least many viruses will take a certain amount of your character with them when they start moving horizontally. coronaviruses are the exception to this? And I, you know, I don't know if it's 100% exception, though. It may well be, but it's certainly an overwhelming exception.

**Heather** 58:06

What is the prophylaxis dose of ivermectin? Does it require a prescription? Is dose dependence on weight of the patient? Are there conditions that prevent safe use, I will still fight you naked. So go to the FL CCC cite don't add too few or too many C's? And I think all of the answers to those questions are there.

**Bret** 58:23

Yeah. Again, if you look for the mask plus protocol, there's a PDF that covers it. It's very, very clear. And yeah, yeah, easier than you think.

**Heather** 58:34

I got my second mRNA jab in the thigh to get furthest away from the first injection site and as far as possible from brain, heart and lungs, was this the right move? That's fascinating. I haven't I have not considered this. But on first pass, I'm first running into this sounds. Yeah,

**Bret** 58:53

yeah, I would say, you know, it's like the question, which vaccine do you think is least likely to be harmful? Right, it could well be that the one you name is most harmful for reasons. You know, it's a complex system. And there are lots of differences, right?

**Heather** 59:05

And sometimes, you know, sometimes being seatbelt in is the thing that kills you, right? Like, you know, sometimes the thing that always keeps you safer is actually the thing that hurts you. Right,

**Bret** 59:13

right. And in this case, you know, what is the effect of the injection site being two different faraway injection sites? And I do wonder if anybody studied the question of what happens if you get one jab in the right arm and one are jab in the left arm, if there's any distinction that would tell you something about whether you there's any benefit that comes from them being in the same place? Yeah, certainly what if you're going to go through the risk? You certainly want the benefits benefit? Yeah. So I don't know I would say the protocol does not the logic you have laid out does not sound crazy. I don't spot a flaw in it. But as for what actually happens when you do that? Don't know

**Heather** 59:48

right? concern about the mRNA getting loose in the body because of the mRNA lipid envelope delivery system. What about the role of RNA as I always forget how to pronounce RNA as Yeah, I just I was stumble over that. What about the role of RNAs in the bloodstream?

**Bret** 1:00:08

taking apart? floating around? Yes. So I don't

**Heather** 1:00:13

I mean, I think I think that's what the question is. There's a lot of stuff in caps. I'm not totally sure. But I think there's

**Bret** 1:00:19

a conflation here, though, because I don't think the danger is the mRNA is floating around, I think it's the spike proteins that are produced by mRNA. Is that actually did get taken up into cells and then break and break free and don't end up lodged in the cell membrane.

**Heather** 1:00:39

Yeah, I mean, there has been early on I think we may even have talked about like, wait a minute. You know, there's there is risk of mRNA, floating loose in the bloodstream. And that's why there are so many mRNA or other RNA is in the bloodstream, precisely to pick up the slack and make sure that there are no free floating. Now I don't I don't remember what the particular risk there is. So

**Bret** 1:01:05

first of all, there's several ways this can unfold. You could have mrnas, floating in the bloodstream, then taken up by wherever, you know, the walls of the circulatory system.

**Heather** 1:01:18

Right. Okay. So that's a free floating itself wouldn't be the rescue, it would be the where's it going to get to? Right?

**Bret** 1:01:24

Yeah. Now this does raise an interesting question, which there may be people out there who know the answer to I'm sure I don't. But what are the RNA aces in the blood? doing there? And one possibility seems to me is that an obvious strategy for a virus is to get into the bloodstream and not bother so much with no cellular uptake? And the question is, I guess there are no ribosomes floating around in the blood shouldn't be free. So maybe that's not an issue. But anyway, there's a question about whether or not in the full complexity of this system, there's any danger of a virus innovating mechanism where it doesn't have to do the difficult thing of getting into cells in order to do its job. But I do think in this case, it would require rhizome, so probably that's not a thing.

**Heather** 1:02:18

Regarding not wearing masks outside, is that dependent on population density and or average footfall in public places with social distancing? And the idea of it also stands with regard to new variants of the virus, asking from India, we've been seeing advice to double mask. It's, you know, it's it's about airflow. So yes. Hold on, it's it is it is going to be dependent on not so much population density writ large, like what state you're in, in India, but the particular density of where you are in the moment. And I would say that, I don't know if you guys have there, but probably most people in the US, at least in blue states have run into some places where, okay, we're open now. But you all have to walk in this direction. And so suddenly, now we're directly following other people. And we're at much great, I think, I think this is insane. I think this is exactly backwards policy, like we've seen so many places, like, you're actually restricting people from just moving around chaotically and having whatever they're breathing out sort of spread. And now you're all tracking this into a line such that whatever I breathe is have a much higher chance of being breathed in by the person behind me and etc, etc. So, you know, increasing the, the, really the chaos in terms of how you're breathing out, and what you're breathing in, would seem to help. But the farther you are from people the better.

**Bret** 1:03:45

Yeah, well, I agree with you that there's a sort of a self correcting problem of people tend to, you know, go to the empty spaces rather than lineup where right where all the people are, right. So you know, we are doing something foolish. But

**Heather** 1:03:59

I mean, the schools, the schools are doing this, like, oh, the children only walk in a line behind one another. Are you trying to get them sick, right?

**Bret** 1:04:07

It's a totally social view of the universe, as if, as long as the kids are following rules designed to prevent that the virus won't hurt them, right. But what I would say is, I've been playing around with the model that I think we built up as we learned more about COVID. In the early days, we learned that it didn't transmit by fomite, we learned that it did transmit by both aerosol and airborne pathways. Anyway, and it became clear that it didn't transmit outside all these things. We've sort of built up a model. And my sense is, we need a concept. It may well exist in epidemiology, or it may not, but the concept is effective volume. Right? And so the point is the thing that the lesson of this dosage dependence and the outside immunity and all of that is that every space you're in has an effective Volume, right? The effective volume of a room that is sealed is the volume of the room, the effective volume of that same room with the windows open is much larger than it is with the windows closed, effective volume of that room with the windows open and a ceiling fan on is even larger than that. And so I've started using this, you know, if I walk into a building, and it's got low ceilings, and the windows are closed, and there's no airflow, my sense is I want to spend less time in this environment as little as possible. You know, if it's a very big space with not very many people in it, if you know one wall is open or three windows are open, then the point is I can be more relaxed about it.

**Heather** 1:05:43

That's exactly that's exactly right. And I think for exactly this reason, places like public bathrooms are always going to be a higher risk than not, it's not even talking about public bathrooms. But like a bathroom in a restaurant. Yeah. Especially a restaurant with high ceilings and airflow. You know, given that we're letting people eat inside and restaurants, and when they're eating when they're seated at their tables, they don't have their masks on, therefore, when they get up to walk and they have to put their masks on. That's theater. Yeah. But I was in I was, I had this experience yesterday. Just not gonna say where I was yet. But in a different state, you know, sitting and then walking, not wearing a mask, but I had it on me and I got to the bathroom. What? Oh, yeah, actually to go to the bathroom, even though no one around me is wearing a mask. I'm going to put this on. I wonder if I'm going to feel socially awkward doing that, given that I see no one else wearing masks here. And actually by chance two people came out of the bathrooms, both of them wearing masks exactly that moment, I thought we've got people with a really good model here of what is going on. Like this just makes a lot of sense. The bathrooms were small, totally enclosed, no windows. Yes, some circulation, you could tell. But that's where the risk is going to

**Bret** 1:06:57

be small effect about Well, yeah, there's that and then you know, the one that is just like alarm bells all over the place for me is something like an Uber ride with the windows closed, I think this is the most dangerous thing that we

**Heather** 1:07:10

we well. So Uber does require masks, right. But

**Bret** 1:07:14

my feeling is that has almost no value in an enclosed a small enclosed space with no circulators. Because higher the longer one of you is sick, the likelihood that you're going to get the other sick is really high. Now, if you roll down your window, the likelihood goes way down. If you convince your driver, then it's actually in both of your interests. Right? Since either one could get the other sick, if you have the disease and don't know it. Let's roll down all the windows, especially, you know if the sun is shining, and you know, that's not typically how people drive around, but maybe they should. And the point is you can change the effective volume of that vehicle radically.

**Heather** 1:07:51

You can you can practically infinite eyes,

**Bret** 1:07:53

right you can practically and fast. You know if you're stuck in traffic, then it's different. But if you're moving, you can increase the effective volume dramatically. You know, those are the inputs to the model. The model I'm sure isn't perfect, but I bet you it's real close. Yep,

**Heather** 1:08:08

yep. Where are we outside? Aaron? 10 minutes. Okay, let's get through just a couple more. We're making. We're getting through a lot today, which feels good. And we'll get to two hours worth tomorrow. It appears as if most people who get the mRNA vaccines have no lasting side effects. In light of this, are there types of long term downstream damage, they're likelier than others, or likely or for some people than others.

**Bret** 1:08:37

I mean, we've talked a little bit about this. I would say one thing if if you I'm hearing a lot and I asked people, I asked people if they've been vaccinated, there's formal anecdotal collection, but it's, it's at least there's at least not an obvious systematic bias, right? I'm sure there's bias in the sample of people I run into. But by and large, it's lots of different kinds of people I always ask. And so anyway, it constitute some sort of a sample. And with the exception of my parents and your mom, I get a story from just about everybody who's had the vaccine. Now, that could be sampling error, but not systematic bias, as far as I know. And there's lots of effects that I that I find alarming that I've heard people describe. You're right. Most of those stories do not end with long term effects the questioners right so the person whatever they're experienced, terrible headache, fire feeling on, you know, the last four week rash that last four weeks fever, these things do seem to go away for most people. Yeah, there are. Lots of are, of course lots of stories. And this is not part of a sample. This is stories that we hear because something terrible happened in which that isn't the case. But I would say if you've had the vaccine, and you either had no reaction or Your reaction went away and you feel normal. The things I would worry about would be something like immunological alteration, you know, something like the alteration of your innate immunity that may have been protective of you up to this point, but could potentially be altered by an encounter with the vaccines. I will also say COVID carries the possibility that it will reprogram innate immunity. And apparently, I think I was reading last week that measles was apparently known to do this. Yeah, so anyway, there. Welcome to complex systems. Yeah, thanks.

**Heather** 1:10:42

Thanks for your brilliance and courage. have you encountered Rupert Sheldrake 's work? what he calls the 10 dogmas that restrict scientific inquiry seem relevant in light of Heather's piece in Aereo. I have another 10 dogmas that restrict scientific inquiry. I wouldn't. If you'd asked me just about Sheldrake, I would have said, I don't need to go there.

**Bret** 1:11:02

Well, you know, it's funny. filtrate comes up a lot. Yeah. And my certainly 20 years ago, I was like, you have a morphic field thing through me. Yeah, right. Yeah, it definitely seemed Hocus Pocus and implausible enough that I didn't feel like, you know, you can't chase down everything that stands on one in a million chance of being true. And it didn't seem to me that it stood a chance of being true, exactly, or not a substantial one. That said, he comes up a lot circles that I think are discerning enough. And it sounds to me, like what he is, is somebody who's willing to entertain remarkable hypotheses. And it's not dissuaded by the fact that they sound kooky. And therefore, I wouldn't be shocked to discover. I agree. He's an interesting person. And I will say some of the people I am not going to attempt to pronounce the name of the French Nobel laureate, for his discovery of the AIDS particle, a co discovery of the AIDS particle, who has said a number of remarkable and oh,

**Heather** 1:12:10

I don't even know his name. I've seen him. I've seen him talking. But

**Bret** 1:12:14

But any case, you know, he's a guy who's obviously highly capable and highly intelligent. And I would be interested in what he had to say even though there are aspects of what he said that throw up flags for me. And if somebody else said them, I would discount them pretty easily. Likewise,

**Heather** 1:12:32

is it this guy? Luqman? Tanya? Tanya? Yeah, so apologies. Echo. French is terrible.

**Bret** 1:12:40

Yep. So him and then there's also Kary mullis?

**Heather** 1:12:47

Right. That's where I thought you were going to be in right? You can pronounce his name. Yeah. Carry mouse. I can pronounce

**Bret** 1:12:51

his name. So carry the late Kary mullis. Discover of where the inventor of PCR

**Heather** 1:12:56

Yep. brilliant guy. So interesting, right, this distinction between discovery and invention? Yeah, in science. And you know, generally, if it's invention, it's on towards tech. It's engineering right now. But anyway,

**Bret** 1:13:08

but anyway, brilliant guy, who was unconvinced that HIV caused AIDS. And the reason for that I'm going to forget the name, there is an overly simplistic bulleted list of things that you need to show in order to establish that a particular pathogen causes a particular disease. And the fact is welcome to complex systems, it's pretty easy to falsify, even when that is what's going on. Because, you know, let's put it this way. AIDS is a syndrome. A syndrome is a series of things that go go wrong together, right? Well, if aids causes a malfunction, right, and that causes a cascade of things to go wrong, and anything else that causes that cascade to go wrong, will share a whole lot of symptoms so that you'll have individuals who appear to have AIDS and don't have HIV. Yeah, you know, and likewise, you know, people with HIV often spend a very long period of time in an asymptomatic state, and so appear not to have the disease and it is certainly likely and I think we know that there are individuals who never come down with the disease. So the point is, you can falsify that if you say, well, in order to establish that this virus causes this syndrome, then it certainly ought to be true that everybody's got the syndrome has the virus, right? And it certainly ought to be true that everybody who has the virus comes down with the syndrome, well, then you're probably gonna be wrong. Yeah. But anyway, Kary mullis, correctly pointed out that the evidence that we all thought was clear cut was less clear cut than it might have been. So anyway, I leave open the possibility that Rupert Sheldrake is a great deal more interesting than our initial counter encounter with his work would

**Heather** 1:14:47

suggest Yeah, I mean, I guess I'm reminded, I mean, maybe I should save this for an actual of our actual podcast, but I'm just reminded of the certainty that scientists have felt even in the I'm thinking of the central dogma, right? The central dogma of molecular biology. They actually named it that. Yeah. After the discovery of DNA, like the central dogma of molecular biology is that DNA into RNA into protein, always, inevitably, never backwards, never skipping. And, of course, it's not true. Like, of course, that's usually the way it goes, right. But there are exceptions. And sometimes exceptions are the most interesting part of the process. And therefore, the central dogma proves to be not so dogma. As it turns out, yeah. Has viral gain of function research contributed to the vaccines or any other therapy. So far, it seems all risk no reward. Thanks for the continued inspiration. I don't know the answer that

**Bret** 1:15:46

Yeah, I don't I think the answer is gonna be no, but I'd be interested to be educated on it. And that's, you know, to be honest, to be fair, it is certainly likely that if you engaged in gainer function research long enough, and you got lucky and you didn't cause pandemics through lab leaks, that it would generate insights, yeah, might not be the only way to get to them. In fact, it's almost certainly not the only way to get to them yet. But nonetheless, yes, it's not that it's impossible that it will have value. It's just the risk is way too great to contemplate it.

**Heather** 1:16:23

Yep. We're just gonna, there's three more at the moment. So we're going to get through these three, and then next week, I'll pick up some that we missed from the first hour. This is just an observation, it's sadly true, says, a guy named David, I took a mag to the vaccine facility, I could feel the pull on the skin, and it stuck only in the job location, the two doctors drove me. Next question, my City University is opening up for in person classes this fall, but requiring students to be vaccinated to attend. Do you foresee a shift on this mandate, or any advice for those of us questioning yet? I hope there will be a shift. I hope that those of us who are talking about these three categories, and maybe we're the only two people talking about the three categories, but there's a lot of people talking about ivermectin. And I think there are a number of people talking about the immunity that having had COVID provides such that these three categories of ways that you can be an honorable person in your group and also give yourself some protection that is to say, get the vaccine or have had COVID. Don't try going that road or put yourself on prophylactic ivermectin, any of those three should satisfy this this sort of rubric I, I hope that we will be getting somewhere on that hard to predict with regard to questioning it. As far as I've seen, all the ones that I've seen so far, always have exemptions. They never have what I want to see a scientific exemption, they always have religious exemptions and medical exemptions. And if if you need to claim a scientific exemption is a religious exemption? Well, that's a very upside down world that we live in that is claiming to be following the science. But, but that seems like the best route potentially. How did we end up here? Yep. Last question. Do you think it's right that Lewington gold and other SJW scientists have their reputations intact, despite their dishonesty and hostility, trying to attack research and evolution, genes and human behavior?

**Bret** 1:18:30

No, I mean, it's it's a thorn in the side to now to have these folks who, you know, attacked our discipline and, frankly, hobbled it for well, more than a decade more like two decades, by basically just applying, you know, arbitrarily high standards and reversing the burden of proof on adaptation and things like this. So yeah, it's very frustrating. You know, I don't there's no personal animus, but the fact is they were wrong, and the wrong argument they deployed was destructive. And frankly, I think they knew it was wrong and felt a moral obligation to try to stop the investigation of humans as an evolutionary phenomenon, at least as far as, you know, human behavior.

**Heather** 1:19:20

It seemed explicitly political.

**Bret** 1:19:23

Yeah. So for those of us those of you who don't know what the hell we're talking about, you should check out the very influential paper the spandrels of sammarco by golden Lewington, and then you should check out the hilarious dismantling of the spaniels of St. Mark's. Anyway, maybe we can post the link to that I've

**Heather** 1:19:52

we don't usually put links while this chaos going on. We don't usually put links in the q&a. I mean, we can't it's just we just are adding something Anything work? Yeah, so the spandrels of San Marco in the Panglossian paradigm a critique of the adaptationist program by golden Lewington was 79. That's what I was thinking. And then I'm trying to figure out Where's that? When's the spaniels? Yeah, it's quiller it's my ad it's Yeah, it was much later right? I can't. I'm not finding it But

**Bret** 1:20:26

anyway, it's uh, you know, if you want to see a hilarious scientific takedown by a very classy and intelligent guy, check out the spaniels of St. Mark's, which is in and of itself a vicious attack on golden Lewington Marxism, which Queller argues motivated their attack on sociobiology. Yep. But anyway.

**Heather** 1:20:54

Yeah. All right. I think that takes us takes us to the end he does it takes us to the end. So please consider joining us at at my patreon tomorrow at 11am for our private q&a, and Brett next week before our weekly livestream at his Patreon and once on the Patreon You can also join the discord server which apparently has lively conversation very very often. What else you can email Darkhorse dot moderator@gmail.com for answers to many of your logistical questions that you might have about what we're doing

**Bret** 1:21:30

and not so much why but and cosmological right

**Heather** 1:21:34

yeah no i think that the mod has asked us to encourage sorry sorry

**Heather** 1:21:43

oh please terrible it's very mean our moderator is so good to us. Yeah, and we're just not now

**Bret** 1:21:51

I take it back down ask her the

**Heather** 1:21:53

fashion questions though. No, yeah, I really really don't um

**Bret** 1:22:04

I don't know we've

**Heather** 1:22:05

gotten very silly consider subscribing liking sharing this video and and this channel and also the clips channel Darkhorse clips channel and and sharing us you know I would say shit you know share these longer videos please do but those clips that are Great Clips guy you sent him cosmological questions. I'm not going to give you the address but you should be able to just send it Yeah, exactly. Those those clips are more easily shareable and more easily received I think for people because they are because they are shorter so

**Bret** 1:22:40

and the postage is less because they're shorter.

**Heather** 1:22:43

True. Here is a quote here is something that you can send to the Darkhorse moderator@gmail.com without antagonizing anyone I think is if there's anything that happened on today's show or any other one that you really think would benefit from being clipped you can go ahead and send it to the to the our mod and

**Bret** 1:23:00

and if you think I should be replaced on the podcast, please keep that to yourself.

**Heather** 1:23:06

also send that up into the ether, where it will be collected by nobody. until we see you next week. Be good to the people you love and eat good food and get outside and

**Bret** 1:23:17

achieve greatness. fly low and avoid the buzzsaw. Be well, everyone