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**SUMMARY KEYWORDS**

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**SPEAKERS**

Bret, Heather

**Bret** 00:13

What's that smell? What smell? Smells like, new platform.

**Heather** 00:21

I love the smell of new platform in the early afternoon.

**Bret** 00:24

Smells like blockchain. Alright, enough of that madness. We are. We are here. So Hey folks, welcome to the Dark Horse podcast broadcasting today on the fabulous Odyssey platform, which is in fact powered with blockchain.

**Heather** 00:38

Indeed, it is. We think likely to be a successor to YouTube. That is what replaces YouTube's and sorriest nature.

**Bret** 00:48

Yes, it is looking like YouTube is not going to learn the lessons of history and it will therefore ultimately be defeated by those of us who know that free expression is the of the utmost importance, especially in complex dangerous times like these. So anyway, YouTube, Jada wise up, because obviously you're showing you how it's done.

**Heather** 01:07

Yep. So it's open source decentralized built on the library about blockchain. And anything else we want to say about it?

**Bret** 01:14

Yeah, I will say something that we have been playing around with it a little bit in order to get this stream up and running. And one of the things that we have discovered is that the platform is actually way more advanced than YouTube. In many ways. It is a better interface that is more functional. There's a couple places where YouTube has a feature here, there, but overall, it's looking great. So well done Odyssey.

**Heather** 01:37

So if you're watching this, you're presumably watching it on Odyssey but if you're listening and actually more of our we get more listener downloads on the podcast than we do even views in the past on on YouTube. But if you want to come check out videos at any point, it's Odyssey od YSEODYSE. And

**Bret** 01:58

I will say that Odyssey has a few little requirements of us in order to be compliant with their platform. Some of those requirements are technical, and I won't bother you with them. They also have some metaphorical requirements, hence, our Sword of Damocles that is hanging over the head of the Dark Horse, which is symbolic of YouTube's egregious censorious behavior. Yes, they have the sword of Damocles hanging over Dark Horse, they have hit us with strikes on both of our channels, and they are threatening our livelihood, but we will not be deterred, and why won't we be deterred? Because it is very important that you all have reasonable people who attempt to sort out difficult matters to show their work. And that is why this podcast has the audience it does, I'm quite sure yeah, whatever they do, we will be here one way or the other.

**Heather** 02:45

Speaking of not being deterred, because we're not on YouTube right now. And our Super Chat replacement isn't up yet and we don't have a way to encourage you to help us by providing monetary donations with questions we are going to invite people to ask questions on Twitter this time using anyone who asked question using the hashtag undeterred so that's hashtag u n d e t e r r e d that's going to get compiled by one of our behind the scenes awesome guys and sent as a spreadsheet to us in the 15 minutes between this our main podcast and our q&a afterwards and then we will as usual not get to all of the questions but we will get to as many as we can. So again hashtag undeterred in Twitter for any question and that will that will get collected after after this live stream.

**Bret** 03:37

Excellent. And I will say I have one other announcement This is a weird one, we have an announcement for one person Okay, I have an emergency need for a haircut because big stuff is gonna come at you on Tuesday so if there is anything that the person who is charged with the unfortunate task of dealing with my hair can do to find time such that on Tuesday my hair was a neater phenomenon that it is now that would be so appreciated so anyway I don't know if he's watching you consider reaching out to her directly I have it's not as easy as you might think how she deals with problem hair. So she's kind of

**Heather** 04:13

a she's a she's a problem hair specialist. I didn't I didn't realize this about her. Okay, other just so we're gonna do announcements, we're gonna talk a little bit about where we're going and then we are going to pay the rent. And one of the ways that we were paying the rent, we have two paid ads today before we launch into the rest of the show. But additional announcements are that live on my Patreon right now. So another way that we're paying the rent, we're trying to diversify. We have open for a 48 hour period for people patronizing. That's not sound right. At the $11 up level, the opportunity to ask a question that we will then prioritize answering in our private q&a that we do once a month in the last Sunday of the month, that 11am Pacific and we don't know yet what platform that will be on May That also will be streamed here and Odyssey probably and yeah those those private q&a is are a lot of fun there the the chat is small enough that we can actually look at the chat you know, we never see the chat for these these bigger live streams, but we can see them interact. So well what else announcements wise? You are,

**Bret** 05:22

I am deep and try to find some text that I need for an upcoming phenomenon. But okay,

**Heather** 05:28

well, it's possible that we will reverse the order of the of the ads and you will have time to find out while I do mine. What are we going to talk about today we are going to as promised two weeks ago since it's been two weeks since we came to you last due to us, taking our taking our boys in opposite directions to Saturday's one Saturday ago. We are going to continue with what we began two weeks ago and talk a little bit about the first chapter of our forthcoming book hunter gatherers guide to the 21st century. And read a tiny little expert excerpt from that and share a little bit about what that first chapter is about just just a little bit. Every single chapter is far more than can be really explained in a little segment on the show. We're going to talk a little bit about I don't even know if you said this is live stream episode number 84. This is Darkhorse 84. And in honor of Darkhorse 84 we are going to talk a little bit as we have on two previous episodes about George Orwell's prescient unfortunately, novel by the same name 1984 we are going to talk really a lot about what it is that we are experiencing sort of society wide and and us in particular with regard to censorship, so there are a lot of ways ways into that

**Bret** 06:46

it is June 19, livestream 84, that connection is really likely to be meaningless, but yet it points in the direction of the analysis that we are going to embark on.

**Heather** 06:58

Don't just do 19th mean something besides you know, before,

**Bret** 07:02

it's 19. It's 84, you know, in the same way that you find the prime minister of certain streams to be at least mathematically important, I find this connection to be somewhat important.

**Heather** 07:12

June 1984. I see.

**Bret** 07:16

Okay, yeah. Alright, I think we're done with that. I've gotten it out of my system. So yeah, that's progress. Yeah.

**Heather** 07:23

Did you find what you were looking forward I did I

**Bret** 07:25

just not on the right device, but you know, we're gonna make it work, nobody will even know. Okay,

**Heather** 07:29

so we are now going to pay the rent Zach, if you want to.

**Bret** 07:36

Alright, I guess I'm up first, and I'm going to talk about all form sofas, and we were approached by all forms, so sofas who wanted to sponsor the podcast and they offered since we are not going to endorse anything that we haven't tried ourselves and that we don't find excellent. They sent us a sofa and I must say I was really interested to see what was going to happen here because what all forum is, is an amazing company that allows you to basically configure a sofa, you configure the sofa online, so you figure out how your room works which side you want to Shea's on however you want to do it. You decide what the form is you decide whether you want fabric or leather and all of these things and anyway these are really high quality sofas, but how exactly was this going to work? Lo and behold, I was shocked to discover they fedexed it to us it arrived in boxes and Toby and I spent an evening putting it together and there's basically they've come up with this really cool system right where you know you build the pieces one by one and you attach them together. And you know you would think that that would make for a very compromised sofa. But in this case it does not it actually makes for a marvelous sofa. And I will say that is said as somebody who has built some furniture. I actually I have built a at a coffee table that we have downstairs so I'm a bit picky about these things. I wasn't totally convinced until I saw it. But it's really quite amazing and very very comfortable well

**Heather** 09:02

and the proof the proof is in the sitting as well. It's all very well and good to have an attractive sofa. But is it comfortable. It's fabulous. It comfortable.

**Bret** 09:09

Yeah, it's a lovely sofa. So anyway, you should try this out. It's a great system, they will give you a 20% discount if you use the the code, Darkhorse, you will find them at all forum.com slash Dark Horse 20% off if you use dark horse as the coupon code

**Heather** 09:30

that's all form a Ll fo RM right

**Bret** 09:34

and you can configure yourself there and undoubtedly, you're gonna love it.

**Heather** 09:40

Alright, so I'm going to talk about public goods which we have talked about before, we're going to continue to do so because they're actually really a great company that aim to be your everything store your one stop shop for high quality, everyday essentials. These essentials are made from carefully sourced ingredients and available at an affordable price. public goods has razors and Toilet paper and shampoo towels and glassware and sponges, coffee and mustard and coconut oil, the whole gamut. And they've got quirkier niche items too. Like bone broth concentrate, and gluten free pasta and small batch marshmallows. We haven't tried any of those last things. But if you're into that sort of thing, they look good. public goods cares about health and sustainability for its customers and for the planet. The ingredients are ethically sourced, the products are free of many of the unhealthy ingredients, and harmful additives that are so common in many products these days, and the plant one tree for every order placed. public goods products have great design to the aesthetic is simple and clean, and there are no garish colors. I personally don't like having products that draw attention to themselves in my home or cabinets. And that's one reason that I like these guys products a lot. And you don't have to sign up for regularly scheduled deliveries. But their subscription service is actually efficient and simple and easy to use. And I recommend that as well. public goods members can buy all of their premium Central's in one place making public goods their new everything store. So for Dark Horse listeners, 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 that they are giving you $15 to spend on your first purchase. You have nothing to lose, just go to public goods.com slash dark horse or use code Dark Horse at checkout. That is p UB, li c g o d s.com. forward slash dark horse to receive $15 off your first order.

**Bret** 11:31

All right, all right, we have arrived. So the main event,

**Heather** 11:35

the main event, we're gonna start by talking about our book a little bit. So, Zack, if you want to just pull up the website, we showed you the book website last time? And is that? Yes, awesome. So you can go there to read a little bit more about his synopsis and the chapter, titles and all. But we're just going to go through week by week and talk a little bit about each of the chapters in turn. So two weeks ago it was the introduction today is chapter one, which is called the human niche. And I'm going to read just two pages from a section called culture versus consciousness. And this is topic two, which you know, which we have discussed here, then which we discussed in a talk that we gave virtually at Princeton, a year ago, 13 months ago or so, and which we expand on quite a lot in the penultimate chapter of the book. So we'll be coming back to this to these topics in I guess, 11 weeks. So culture versus consciousness. Consciousness is valuable for problem solving, but it isn't so good for execution. The gymnast, the virtuoso, and the warrior all succeed by taking what they have discovered consciously and learning to apply it without explicit deliberation. transformative insights and ideas move out of the conscious layer into the parts of us that know how to get things done. When one is in the zone, the conscious mind is present, but it's a spectator who steers clear so as not to disrupt the flow. behaviors become habitual and intuitive, and individual we might call this skill or craft. In a family or tribe such habits become traditions passed efficiently from one generation to the next, scale this up further than we have culture. homosapiens therefore oscillate between two dominant modes. When we face problems for which our prior understanding is inadequate, we become conscious. How do we feed ourselves in this new land? We plug our minds into a shared problem solving space and share it we know then we parallel process proposing hypotheses providing observations offering challenges until we arrive at a new answer one that an individual would rarely reach alone. If the result works well when tested in the world, it gets refined and then driven into a more automatic less deliberative layer. This is culture. The application of culture to the circumstances for which it is adopted is the population level equivalent of an individual being in the zone. This model implies a few important things. When times are good people should be reluctant to challenge ancestral wisdom, their culture. In other words, they should be comparatively conservative. when things aren't going well. People should be prone to endure the risks that come with change. They should be comparatively progressive liberal, if you will. This of course has a lot to say about the modern world because for various reasons, there's little agreement at present on how well things are going. moments before the Titanic hit the iceberg. The ship was a marvelous testament to human achievement, moments after it was a monument to the hazard of hubris. Too often it is only in retrospect that the rearrangement of deck chairs appears absurd. More often than not, there is no iceberg no clear demarcation of before and after of the moment when consciousness should become more salient than culture. The financial collapse of 2008 the Deepwater Horizon oil spill and the Fukushima Daiichi nuclear disaster are all symptoms of a civilization level disorder when that has no name. Let's call it the suckers folly. The tendency of concentrated short term benefit not only to obscure risk of long term cost, but also to drive acceptance even when the analysis is negative. These events are evidence that we are resting on our cultural laurels and speeding toward disaster loss. into a false sense of security and away from collective consciousness by the opulence of our surroundings. The sooner we recognize this, the greater the chance to divert the ship to a safe course, a puzzle we will return to in the last chapter of this book. The answer to our earlier question, then what is the human niche is this, humans don't have a niche, not in the standard sense of the term, we have escaped the paradigm by mastering a different game, we have discovered how to swap out our software and replace it as the need arises by oscillating between culture and consciousness. The human niche is niche switching. Humanity is the master of every trade, if we were machines would be ones that are compatible with many software packages, the new what hunter knows the Arctic, but as few of the skills needed to function in the Kalahari, or the Amazon. Humans can be good at almost anything given the proper tools and software and human populations can be good at many things by virtue of a division of labor, but each individual person will either have to limit themselves or accept the costs that come with being a generalist. As our world becomes increasingly complex, though, the need for generalists grows, we need people who know things across domains, and who can make connections between them. Not just biologists and physicists, but biophysicists. People who have switched gears and found that the tools they brought from their prior vocation serve them well in a new one. We must find ways to encourage the development of generalists in this book, we argue that a key way to do this is to encourage a careful nuanced understanding of what evolution is, what it has made us and how we can resist its goals.

**Bret** 16:26

I'm so excited to have this Finally, in the world, it's going to be very useful and I should just point out that the book itself and this podcast are exercises in campfire hence my reference to it in the tweet that pointed my followers here and it is something that is it is very live for us. We participate in campfire to exchange ideas consciously and figure out what we think about things that none of us have seen before. I would also point out not on that list of disasters in there is COVID-19 and now that Jon Stewart has finally cracked the case, we can recognize that this is yet one more likely testament to that same dynamic so

**Heather** 17:10

well and as as you wrote about in your most recent unheard piece as well right so we will if I remember to will will link that as well in the video description. Yeah, maybe. Maybe that's it except that one of the other things I want to do whenever we talk about the book is just read a little bit from the index because this index tickles me deeply. We when we received it just whenever it was three weeks ago or so. We were We were laughing. pleased at it because it really it really reveals how diverse a list of things we talk about in the book is so starting in the middle of a middle of a this is only a third of what is in a in the index. We have allocation trade offs, ultra sociality, American Dream amniotes amphibians, and I saga me. Safar mining in incarna. Anti anxiety medications, antibiotics, antidepressants, anti fragility, ants, apes, Appendix, Arctic turns, Aristotle, art Solomon Asch, who will come up again, in this episode, a sexual reproduction, astrology at Atlantic spotted dolphins, Rachel Aviv and obviously Iosco.

**Bret** 18:28

So, in my opinion, when you read from the index, it should be a little more crazed a little more wild if you want to do it. No, I don't actually. Yes, this is actually one of my terrorists from childhood was being forced to read out loud Yes, I've never it's never been a strong suit for me

**Heather** 18:44

yet. You're happy to advise me that I need to be a bit more crazy. Oh, agility.

**Bret** 18:49

Exactly. So I have a question for you. I mean, as long as the index of the book has become a subject of the podcast, I have to know Oh, boy, okay. Let's suppose there was more than one book and therefore more than one index indexes or indices. I feel its indices Yeah, I

**Heather** 19:10

do too. And I think maybe we're wrong. And I don't remember why I have so wrong you say

**Bret** 19:16

that somehow doesn't feel right.

**Heather** 19:19

I honestly don't remember I this is something that grammarians of course have an opinion on. And, you know, in so far as there's no pressing need to change how it is that we're supposed to do it. Simply messing with all of the things that we've always done at the same time is obviously another recipe for disaster. So why not leave those things that do function even if it's not what you thought they were alone already, but I honestly actually don't know which it is in this

**Bret** 19:44

case. Yes. So the question is left hanging in there, hanging hung? I don't know. That's another weird one. You know, hang versus hung. Yeah, it is. It is. It is. All right. Well, this has been fun. Yeah. Where are we headed?

**Heather** 20:04

Well, we could go a number of places here. I have a couple of excerpts from 1984. To share at some point, we could go right to the thing that potentially is relevant to Solomon Asch. Yeah, you're gonna go there. Yeah, I

**Bret** 20:20

do. I do. So I was mulling over the situation with censorship. I've actually been mulling it over for a number of weeks, I talked about it with one of my patreon discussions, we had a very interesting discussion about what it is and how it works. And anyway, I arrived at what for me, I think is a new thought maybe it's a revisit to an old thought, but it certainly felt new. And I thought it was important enough that it was worth sharing. And the thought has to do with what is going on relative to the things that everybody seems to know, that are not spoken of. Right. So you know, the lab leak is a great example of this. Because throughout the lab leak, there were large numbers of people who were aware that there was something very far off about the story that this couldn't possibly have come from the lab. And you know, john stewart did a hilarious Java's satirizing that on Stephen Colbert show recently. But the point is, many people said privately what they were not saying publicly, they self censored. And we see the very same thing with respect to question of repurposed drugs at the moment and the question of harms from the current crop of COVID vaccines. There are lots of people discussing these things behind the scenes, and they're not of one mind. But there is a general sense that there is a public conversation, and that the very same people who restrain themselves in public when they are talking privately when there's no microphone or camera, or anybody taking down what they're saying, are a lot more broad minded about these topics. And it raises a question, if so many people are aware of the deep story. What is the point of censoring, right? And what I realized was that the point of censoring it may actually have to do with a particular trick of the mind that is known and has been known for quite some time. That is being used to game us. And so this brings us to the Asch experiment, done by Solomon Asch. In the late 60s, I

**Heather** 22:32

should have looked, I think 50s. Well, we will find

**Bret** 22:34

out in a second here. any case the experiment, Zack, you want to put up the graphic I pointed you to? Well, I'm going to describe it while Zach is looking for it. In the Asch experiment, a group of individuals are seated at a table looking at a chalkboard 51, early 5051. It's earlier than I thought okay, so the group is composed of one test subject and a bunch of Confederates. But of course, the test subject believes he is one of a number of test subjects. And they are faced with simple objective questions. The most famous of these being a series of lines of different length that are on the board and the lengths are sufficiently different, that the answers to the questions that they are asked are unambiguous. So there are lines of different lengths and they are asked in sequence is line a longer or shorter or the same as line B, for example. And when the sequence involves the Confederates of the experiment, saying something that is clearly false, so that one after the other says the incorrect thing, the Confederate of the subject of the experiment is very likely to report that they see the same thing that has been said by the people who preceded them. So this is known as the Asch conformity phenomenon. it's

**Heather** 23:56

it's it's very unlikely I did not. I didn't know you were going to walk through this. I didn't know I have that reminded myself with the precise numbers and it's actually in the book. But very few people conformed all the time to wrong answers, but a majority of people conformed, sometimes two patently wrong answers on simple factual questions.

**Bret** 24:15

Right. And so the thought in the context of this modern, very bizarre spasm of censorship were things that are perfectly obvious like there's something conspicuous about a, you know, a respiratory Coronavirus, and novel respiratory Coronavirus breaking out on the doorstep of one of the world's two premier laboratories studying and answering such viruses. You know, it is the the What did he say an explosion of chocolatey goodness there. Hershey? Hershey, Pennsylvania.

**Heather** 24:48

Yeah, no, that was that was the comedy routine to bring parsimony to the fore. Just think it through guys. Right? How simple an explanation.

**Bret** 24:56

But the point is, lots of people have done the calculation ahead of time and what they didn't do was say that they had their doubts. So here's the point. If you inflict stigma and other kinds of pain and cost on those who say certain things, people calculating their own well being, tend to stop saying, even if they privately say, Hey, I'm not buying this story publicly, what they appear to do is to fall in line with a narrative. And so when you have Christian Anderson and a large group of very degreed and otherwise trained virologist, claiming that they have looked at the virus in question, and that it is completely inconsistent with a laboratory origin, and then you have a vast chorus of people who have been trained and other things, saying, Yes, that's obviously you know, a valid scientific consensus. And those who step out of line are portrayed as absolutely crazy and known to be so and all of that what it does, is it creates a, a pronounced bias in that which is discussed. And my point is, this looks very much like, forcibly through incentive, creating Confederates of the experiment who say the wrong thing. And it is said so regularly, that most people will conform to it for the same reason that the subjects of the Asch experiment, conform to it. And so the term for this and I must say there's a part of me that wonders if it's not going to turn out that I have somehow borrowed this term from Eric because very often he coins terms and occasionally, they get borrowed by accident, but the term I believe, should be astroturfing.

**Heather** 26:45

So you're gonna have to define astroturfing. Well, astroturfing

**Bret** 26:49

is a false grassroots campaign. Like imagine you were to hire an army of people to pretend to be irate about something and you know, protest it. So it looked like there was a large number of people demanding something that a large number of people were not in fact demanding astroturf reference to false grass that was invented for stadiums in which there wasn't enough sunlight. Because they were domes or whatever. I think they were invested. Yeah, because astroturf the Astros, that's gonna be yesterday. That's where it's gonna come from.

**Heather** 27:20

But in any case, when it gets maybe the space program,

**Bret** 27:23

the space probes, yes, the space station, not

**Heather** 27:26

to the site. I just I would have guessed it might have come from the space program.

**Bret** 27:30

That's all. Yep. All right. I could see it. It's possible that the Astrodome comes from the kind of thinking that people involved in the space program would have deployed, I don't know, but in this case, I think it's beside the point. Really all I'm all I'm getting

**Heather** 27:42

pretty good generalists. But when it comes to the particulars of the Astrodome, I think we're both way outside of our wheelhouse.

**Bret** 27:49

so far. So yeah, we're so far outside the wheelhouse. We're not even on the boat anymore. We're adrift. But that's the wheelhouse. It's the Yeah. All right. In any case, astroturfing, I believe, is the use of punishment. For those who speak and obvious truth that causes a false consensus to trigger most people to fall in line through the mechanism demonstrated by Solomon Asch. That's the point. And I think if we look at it that way, if you look out at the landscape of people on social media, you know, especially people who have training enough that they could analyze some of these more difficult questions, and you find a bizarre lack of, you know, discussion of something that you would imagine would be widely discussed, you know, if doctors were seeing patients injured by vaccines, you would imagine that there would be a lot of discussion of that. And if you don't see that discussion, it does tend to cause you to imagine that actually, this isn't being widely seen. What you don't Intuit is that it may be that it's not being widely discussed in the place that you can see it.

**Heather** 28:59

Right. Right. And I do think this, this ties in nicely with the excerpt that I read from chapter one of hunter gatherers guide to the 21st century with regard to the need for generalists and the need in an ever more complex world for everyone to have some ability to switch domains to do some domain switching and to perceive not just so that they have facility in multiple kinds of thinking, multiple like kinds of modes of knowledge that humans have, but also so that they can view their own what they may still view as their home domain with something like outsider status and like you can't ever totally get outside of what you fully know and we've, we've all experienced this teachers know this probably best parents know this that you know, something that is fresh to you brand new that you see it with different eyes, and the more you know it, the longer you've done it, the harder it is to get into the headspace of someone who is naive about it. And the more I think the more domains you know, The more you're sort of always a little, a little uncertain, a little bit off balance a little going, okay? Yes, this is my, this is my place, this is my field. But no, I don't have as much total depth in terms of what everyone is saying across every little part of this domain, because I also have expertise over there, and they're in there in there. And so it affords you a kind of useful outsider status, which I think my prediction would be that this would be more likely to render you ash negative.

**Bret** 30:29

I would agree it does render you ash negative, I think actually, there were two connections in what you read, that are important, I'll try to remember the second one, but the first one that you're pointing to, a, you have to realize that when you know, when an expert shows up on television or somewhere that you know, an expert on something related to COVID, they are definitely unlikely to be expert in the many domains that are covered by COVID. Right? If they're an epidemiologist, they're not an evolutionist, they're not a chiropractor. ologists they're, you know, they're not a doctor, isn't that guy? Right? So the point is, everybody is out of their depth in most of the realm. And as long as we understand that, there isn't anybody who steps out of that there's nobody who's had these particular set of disciplines as training, therefore, we all have to realize, you know, when we get people don't see us coming, because our expertise is evolutionary. And the point is, yeah, actually, that does fit here. Because all of these things are evolved phenomena, you know, whether it's, you know, the immune system, whether we're talking about the viruses, whether we're talking about the population versus individual level phenomenon.

**Heather** 31:35

And you listen, you listen to some of the biologists talk sometimes, and it becomes just crystal clear to, to an evolutionary biologist, how little they understand about how evolution functions, and what is actually going on at the evolutionary level. And yet they many of them right now, these deep specialists, hydrologist and backson ologists, in particular, so it's sort of like biologists back sinologist, epidemiologists, public health experts, public health experts being a sort of a looser affiliation, have all claimed to have the and only the relevant expertise in some of these COVID domains. And when you when I have heard, really almost any of them tried to say anything about the evolutionary implications of what's going on, or how we might have gotten here, it is revealed very quickly that they don't know what they're talking about. We have made no claims to being back sinologist or virologists or, you know, or, or pharmaceutical experts or you know, any of this, but what we have is a lifetime of, of evolutionary biology which applies to all of this. And being generalists like having knowledge having dipped into to, you know, varying degrees of depth, so many different domains, both within academia and and outside of it, that it allows us an ability to see patterns where, where others might not, and what neither of us will hold any truck with, is being told, no, you don't you stay in your lane, this is ours to talk about this is ours to talk about and decide we're going to do it behind closed doors. And then after we do it, maybe we'll tell you what we decided. But we're certainly not going to tell you why we decided

**Bret** 33:11

Yeah, this is a virology question. And therefore not an evolutionary question doesn't make any sense, right? That's right. It is inherently both. And there's nothing wrong with you know, virologist not being well schooled in evolution, as long as they know it.

**Heather** 33:24

And as long as they know why it would be relevant to have such expertise,

**Bret** 33:28

right? Yeah. Okay. So the second way in which what you read is relevant to this has to do with the battle over whether or not the the dictates that are handed down from on high are accurate enough, that we should basically default to just applying them right, and maybe looking askance at anybody who's breaking ranks. Or if the people who are in charge, don't know what the hell they're doing or worse, or doing something that isn't motivated by an interest in public well being. And we have to become conscious. And that's the question. And the model that you read about there. Our model is that the mind defaults to this sort of conservative cultural mode, that is to say, the wisdom of the ancestors, as long as what the wisdom as long as the ancestors wisdom is applicable to the current moment, it's able to be much better than trying to fumble your way through consciously in some new fashion. And when there's evidence that the ancestral wisdom is no longer applicable, because you're in circumstances the ancestors didn't know anything about or for other reasons, then you have to go into conscious mode and figure Well, what are we going to do? And so in some sense watching, you know, PR Corey and the frontline COVID-19, Critical Care Alliance shut down as if other people know how to deal with COVID when these are clinicians who have been treating COVID in the hospitals, what the hell just happened, right? You don't know what to how to treat COVID. In fact, your treatment for COVID involves sending people home with Tylenol, to sick and at home, right? So why? How do you shut down the people who have consciously figured out better ways,

**Heather** 35:08

in fact, the act of diagnosis of a medical problem or societal problem, or the act of trying to figure out what, what might explain the observed pattern in science, and trying to get all of the observed hypotheses on the table, this is an explicit act of consciousness, you cannot do this from your set and forget in the zone mode, you could you can do some of the later parts of clinical work presumably, and hypothesis testing, if you're, you know, if you're running gels, if you're doing some, you know, same old, same old sort of technique that you've done hundreds of times, and you get better at the more you do it, that can be cultural, but the part where you figure out what might be true, that's inherently conscious,

**Bret** 35:50

it is inherently conscious. And,

**Heather** 35:54

and so I guess, to finish that, what we're being told what, you know, what Dr. Core is being told over there, and what we're being told, sort of writ large, with regard to our media presence is, you're not allowed to consider some of these hypotheses. And by doing so, you are being anti scientific, which, of course, is exactly the opposite. And you're really again, and I just, I could sort of broken record time here. But the act of talking about all possible hypotheses is the scientific approach. And it is the way that is the way that we will solve problems and make progress. It is the only way we might occasionally happen on to the right answer, haven't dismissed other possible alternatives without fully investigating them. Sometimes we'll get lucky. We cannot build a society based on expecting Good luck. This makes no sense at all.

**Bret** 36:47

Yeah, it makes no sense at all. And, you know, the evidence is available that would tell you that the equivalent of the ancestors here and I think, you know, Tony Fauci stands in and in fact, what he has been caught saying that to disagree with him is to disagree with science. You know, it sounds very much like a, a religious dogma, right? That he is the Oracle who delivers the science. And this is very much not how it works. And all you have to do is go back to the lab link and say, Well, how did the Oracle perform on that one, right. And the point is the Oracle and everything that was connected to, we now know, from his emails was lying, it knew way more than it was willing to share. And so the question

**Heather** 37:31

is not merely wrong, the Oracle was lying, the Oracle was

**Bret** 37:35

lying. And that Oracle is now telling you equally dumb, dogmatic things and you have a number of, you know, Cassandra whistle blower, a canary in the coal mine type saying, Hey, this is not what we are seeing right? There, there is very clear evidence that there's there are other possibilities available to us. Why are we not talking about them? And so here's the question, do you want to default to the Oracle again, and think well, maybe, you know, maybe the Oracle is, you know, slept it off and is now telling the truth? Or is maybe the Oracle not the place to go, and we have to be unconscious mode, which I agree is scary. The fact that nobody knows what to do about COVID is scary. On the other hand, people are figuring it out. Yep.

**Heather** 38:17

And there has been a conflation and this this always happens with you know, with you want to talk about x therefore you think x is the only possible resolution to this problem. And, you know, in to talk about explicitly the three topics in COVID that are the most fraught that we have been talking about for a long time and have gotten the most flack for lab leak, vaccine safety. And whether or not ivermectin is an effective prophylaxis and treatment for COVID or

**Bret** 38:49

repurpose drugs more generally. ivermectin being Yeah.

**Heather** 38:54

The third case being might repurpose drugs. I don't even know how to frame it, though. But so so yes, those three things. Yeah. I'm sorry. No, no, I realize Yeah, yeah.

**Bret** 39:08

Three things we take the most flack for, right. You were? Well, okay, so we've got Oracle's we've got topics on which we are forbidden and punished and stigmatized for speaking out of turn. But you know, my point I will continue to make this point. You'll see it in various places over the next week. But my point is, you've got certain anomalies that indicate that what you're being told by the Oracle again, isn't true. And a lot of people you know, saga and jetty made a tweet today says, I don't know anything about ivermectin. However, I can see the censorship, right? Yeah.

**Heather** 39:45

No, and this, this is the point. Maybe I'll maybe ivermectin, isn't it. Profit seems likely that hydroxychloroquine isn't it? But I'd actually chloroquine actually got an EU a early last year, right. And so like, We were like that that was being dismissed even having passed one of the the hoops that it had to jump through to get into a discussion. And, you know, it seems it seems likely that it's not nearly as promising as some people thought a year and more ago. Whereas there is actually just out now there's a new meta analysis, right?

**Bret** 40:22

meta analysis that we've actually talked about on the podcast, it's been circulating, it's now finally published in a peer reviewed journal. So I think that was it. Right here. Yeah. All right.

**Heather** 40:35

So you can show this if you like. This is published in the American Journal of therapeutics. Andrew Bryan is the lead author test. Laurie is the second author and there are many more it's called ivermectin for prevention and treatment of covid 19. infection, a systematic review meta analysis and trial sequential analysis to inform clinical guidelines. The methods they use meta analysis methods in general, I'm not very familiar with and I specifically am not familiar with the methods they've used. So I cannot sort of from first principles assess, assess the analysis on its merits. But these this is consistent with many of the other conclusions that we've seen that they basically find that yes, this is that in this in this case, the particular repurpose drug we're talking about is ivermectin and, and it looks really, really promising.

**Bret** 41:28

So I want to point out a couple of things. I don't know any of these authors except test Laurie, but she is one of the premier analysts in the world, right? This is squarely in her wheelhouse. This is a meta analysis generated by at least one of the world's leading experts in how to do this kind of analysis. And I would point to one thing, I still think the world even the world of people that is aware of the promise of several repurposed drugs, ivermectin be desonide, fluvoxamine. Even that world, I believe is largely still missing the point on ivermectin because there is a focus on the value in treatment. and the value in treatment is a very noisy phenomenon, because, among other things, how early you get to it matters a lot. So to the extent that a study waits five days, right, the evidence is a lot weaker for the effectiveness than one that treats before a test even comes back on the basis of first symptoms or exposure to somebody who's been sick. So in any case, what one of the things in this meta analysis,

**Heather** 42:29

there's a category error in the data is what you're arguing? Well, what I'm not just it's mostly focused on treatment rather than prophylaxis. But within even the treatment category, it's there is a lot of noise. And in some ways, it's going to be systematic error in the data, because you look because no one actually is claiming, as far as I've seen, that ivermectin is going to be a very effective treatment late in the progression of a bad case of COVID. Yeah, I

**Bret** 42:59

mean, in fact, let's put it this way, logically speaking, it can't be because one of the things that COVID does is damage a lot of tissues. And the point is, even if ivermectin were an instant cure, which it's not, you would still have damaged tissues. And so the course of infection would still, you know, it would still take, the longer you wait, the longer it's going to take to recover.

**Heather** 43:17

Yeah, I might stop further damage from happening, but perhaps the damage that's happened already is your damage that

**Bret** 43:22

takes time to heal. But the point I want to make is within this, there is an analysis of the prophylactic effect, right? There's a meta analysis here, and I'm not looking at it right now. But I believe there is a 95% confidence interval between 79% and 91%, I believe, I don't remember that with a mean of 86%. Effective prophylactically.

**Heather** 43:50

Is this is it the therapeutic advances here that you're talking about in the abstract in the abstract, let's Yeah.

**Bret** 43:55

So low certainty, evidence found that ivermectin that ivermectin prophylaxis, reduced COVID-19. Infection by an average of 86%. With a 95% confidence interval from 79% to 91. That means the range that within from 79 to 91. There's a 95% confidence that the actual protective effect of ivermectin is in that range, it could be outside but there's only a 5% chance that it's either lower or higher than that. So that is amazing. And I would point out I'm going to explore this fully more and if anybody watching believes that they've spotted a logical error here, I am open to hearing it but 86% is the mean of that level of protection. That is to say this meta analysis looking at all the places where it's been used prophylactic prophylactically comes out with an estimate of 86% effective at preventing people from getting COVID if they're on it. prophylactically right. That's a Very high number, that number is higher than the numbers that are typically circulated for herd immunity. That mean, so just fill in the logic here again, if I've got the logic wrong, please alert me. But the herd immunity is the level of immunity of a population, let's say it's from being infected, right? When enough people have had a disease that you can't get twice, such that when a person has a disease, that disease has trouble finding another individual who is still susceptible. As soon as the number of individuals that tend to be created by any sick individual, the number of new people who tend to be infected is less than one, then your disease is on the way towards extinction. Right? If the number is very slightly less than one, then extinction will take a long time. If it's a lot less than one, then it will be very rapid. But as long as you are below the threshold of one, you are headed towards driving your pathogen to extinction. 86 is a very high number. Right? what that means? And I'm not saying that this is possible at the practical level, though, I see no reason it's not as plausible as vaccinating people. It's a lot simpler to get them this drug.

**Heather** 46:12

Well, no. So to steal man. The flip side of that ivermectin, is prophylaxis requires regular compliance. I agree, as opposed to showing up once or twice, depending on which vaccine you got. And we see and you know, I don't you I don't know all why, but I have some ideas as to why but we even have pretty low compliance, it seems with regard to people going back for their second shot of the Madonna or Pfizer vaccine. And, you know, if, if, and I don't think it necessarily would, but if that would translate equivalently to Well, people are going to take one dose of ivermectin and then be done, then you're obviously not going to get the same kind of prophylactic effects. Although it does seem like there is very long term sort of lingering prophylactic effects from this that don't like but probably the current prophylactic protocols that are being conveyed by say, the FLC cc are higher than is necessary to get protection.

**Bret** 47:08

That's true. My point is to simply at the first of all, people have been compliant about masks, many of them didn't like it. But we managed to get compliance on

**Heather** 47:17

masks. But there's there's a public, there's a public view on that.

**Bret** 47:21

Right? I understand that. But people also have an interest in not getting COVID. So anyway, I don't think it's so implausible that given all of the things that people have put up with over the last year and a half, that you could get compliance on something this simple, but nevermind, whether you can, the point is at the level of the thought experiment, were you to have a population, any population that didn't have contact with some other population, in which everybody was 86%. protected, that is the equivalent of being above herd immunity levels that were being above the threshold of herd immunity, assuming herd immunity is somewhere at 6% or lower. Right? That means that the virus as it infects, somebody has difficulty finding enough individuals who are still susceptible at that level of protection for it to be above that are not value of one, right, which means this is in and of itself. If that number is accurate, and this is a very good analysis. If that number is accurate, it looks to be high enough in and of itself to drive this pathogen to extinction, which then raises questions about Fauci is his press conference this week, in which he announced a major new three plus billion dollar initiative to find some drugs that work on COVID. Now, of course, all of the drugs in question would be new fancy under patent drugs, that would be extremely profitable. And you know, what role that plays in the story we can't know. But it certainly raises certain questions that I think we have to answer.

**Heather** 48:48

And it does. Maybe then that is a good segue to just sharing a bit of this paper called the parallel politicizing science that was published in the Journal of physical chemistry letters a week or two ago. And then I want to talk a little bit about the role that the NIH is playing and governing how science has done something that you know, what I used to talk to my students, we used to both talk to our students a bit about how the federal granting agencies in the US have driven a market form of scientific inquiry that is, to all of our peril, but in general, I wouldn't have thought that that would have had much play outside of the classroom. But I think I think everyone now knows that. Fauci for instance has been for decades now the head of I always forget exactly what it is the head of the N. Id, the National Institute of Allergy and Infectious Diseases, which is an arm of the NIH, which is the National Institutes of Health and together the NIH and the NSF, which is the National Science Foundation, along with you know, the D o t and a few others but the NIH and the NSF fund the vast majority of biological and medical research in the country, I think chemistry and physics as well. And the the, the inside baseball stuff that goes on there is is important actually. So let's say a little bit about that after. I am going to read just a couple of excerpts from this paper, Zack, you can show it. This, again, the parallel politicizing science written by a woman, cry laugh, who was born and bred came of age in the Soviet Union. She is a chemist. She's a PhD chemist working chemist, and has written this paper. And as she says in this, this is not this is not what I want to be thinking about. I'm a chemist, I want to be thinking about chemistry. But in this I have three short excerpts that I've highlighted here. One is simply put, we should evaluate, reward and acknowledge scientific contributions strictly on the basis of their intellectual merit, and not on the basis of personal traits of the scientist or current political agenda. Boy, that seems obvious, and yet it is not the world we're living in. Furthermore, she writes the issue of science moralization and censorship is older than 20th century totalitarian regimes for example, Giordano Bruno was cancelled burned at the stake in 1600. Because his cosmological views were considered to be a threat to the dominant ideology. The Guardians of The truth is prosecutors, quote, had the desire to serve freedom and promote the common good. Essentially later, leave on hook self self censored his studies and reports for offensive content. In that case, the offensive content was I kid you not observations of spermatozoa and semen in 1911, Marie Curie was ostracized for immoral behavior and affair with a married man following the tragic death of her husband Peter curry Curie, the chair of the Nobel Prize committee, Svante Arrhenius, whose name I'm no doubt butchering, wrote to her advising that she had she not attend the official ceremony for her Nobel Prize in Chemistry and view of her questionable moral standing. Curie replied that she would be present at the ceremony because, quote, the prizes are given to her for her discovery of polonium and radium and that, quote, there is no relation between her scientific work and the fact of her private life. Today, we regard this attempt to cancel Curie on the grounds for moral impurity is utterly absurd. Yet we continue to witness the intrusion of moral arguments into the cibic domain. This again, a point that I made in that area piece that we've talked about what if we're wrong, we have the sensors imagine that they are God, they have a vantage point that no human being before now has had. And so just one last section here, the answer is simple. Our future is at stake. As a community, we face an important choice, we can succumb to extreme left ideology and spend the rest of our lives ghost chasing and witch hunting, rewriting history, politicizing science, redefine elements of language, and turning stem science, technology, engineering and mathematics education into a farce. Or, we're going to pull the key principle of democratic society the free and uncensored exchange of ideas, and continue our core mission, the pursuit of truth, focusing attention on solving real important problems of human kind. So what has happened in COVID, is the explicit politicization of science and the weaponization of the idea of science so that it is wielded people who don't quite get what science is. And that includes a whole lot of scientists, by using their the hashtag follow the science and by Fauci saying, if you disagree with me, you disagree with science, and people buy it, because we are effectively illiterate with regard to science as a society at this point. And

**Heather** 53:40

just let me just say something about the NIH before before we riff on this, most science is now big science, meaning that it costs a lot of money to do and that doesn't mean that big science is better science. best science is not expensive science. It's just the business model of the modern University, the business model of the modern University has meant that the science that is promoted the science that is encouraged from the very moment you went to graduate school until you are you're getting full professor tenure full professorship is encouraging you if you're a scientist to do to do science that is expensive, the kind of science that that you and I did in the field was explicitly low cost science and you know, big science, small science makes it sound like those are indicators, those adjectives are about importance, and they're not basic science similarly, right, like basic science is that science for which you don't yet have an idea of what the implications for human human flourishing might be. What it is, is, I see a pattern, I want to know what explains that I'm going to try to figure it out. And so certainly trying to figure out the underpinnings of tent making in bats in rain forests and Panama, or the sex lives of poison frogs in the rainforests of Madagascar. That was basic science, right? You know, there was nothing there that was about, you know, drug discovery or Or, or anything else. But what it does in part is a it increases human knowledge. But it also increases the facility of the brain that is doing it such that if you as a graduate students start off already on someone else's mega project, because that is the kind of science that is encouraged to be done because that is the business model of the universities. You never get a chance to say, Wait, how about this? What about if, and as a result, those people who are getting PhDs who got shunted into other people's labs, who have big NIH grants and NSF grants, and are just expected to do little tiny pieces of puzzles that the PII is the principal investigators, and their mentors are already doing, never had the chance to actually become scientists. They don't know what they're doing at a really, really necessary level, they may fully understand how to do the methodology that they were trained to do. And presumably they know how to read the literature, I hope and interpret it and make sense of it. But the absolutely necessary kind of unteachable part of the scientific method is, I see something, I'm going to try to explain it what are all the possible explanations for that thing? That is this hard to explain to someone else how you do it, but utterly necessary part of science that is being tamped down by the business model that is now that is now dominant? So university professors, so just a little bit about how it works is university professors or researchers usually get these federal grants again, usually NSF, NIH, the branches of NIH, the branches of NSF do do that sort of thing. But they need to do their work. And they don't receive those grants directly. They are fed directly through the grants offices which take an overhead, right. And I should just, I guess, truth in advertising here, I actually worked at one of these grants offices between earning a bachelor's degree in anthropology and before starting my PhD in biology. And so I worked at the Grant's office at UC Santa Cruz for a year. And what I saw there shocked me shocked me to my core such that before I say some numbers here such that eight or nine years later, whenever after I'd gotten my degree, and I was applying to jobs, and I had made the shortlist at a couple of institutions, including evergreen, and I was now on campus during like this two or three day interview. And the committee that was doing the hire was before me. And one of the questions they asked me was, when do you expect to apply for your first NSF grant? And without thinking carefully enough about it, although I'm now pleased that I did this, I said, Oh, I really don't want to play those games. Now, at most schools, that would have been the death knell for me as as a candidate. And at evergreen, you know, this, this is part of why we have defended whatever green was and could be before it got gamed at evergreen it wasn't because we weren't required to do the game playing with NSF and NIH, that everyone else does. I do have more to say, but I see you want to interject, yeah,

**Bret** 58:04

first of all, I want to say, whenever green was founded, it was understood Actually, there was a certain amount of suspicion about grant getting because there was an understanding of the kind of corruption that it brings to a an intellectual environment. And that was largely lost at the point that we were there. But there was, you know, there were still some people around who got it. But I wanted to point out that what Heather is going to describe about the way this works, and what it drives inside of the university has resulted in lots of stuff that you have encountered, but you don't realize that it's playing this role. So for example, if it is true, that professors are, are valued by their schools, in large measure based on how much money that they bring in, because that money, half of it, or more can go to the university, right? It's the thing that builds the buildings and pays for everything. If that's the thing that is prioritized, then what you end up is accumulating, you end up accumulating a whole faculty full of people who see things in terms of big experiments, what you don't get is theory. And I don't mean theory in the way that that term has been abused. But I mean that you don't have theorists. And basically the point is, science involves an oscillation between hypothesis generation, and test. Ultimately, theories are the product of this if a test goes sufficiently well, but the point is, you can't cut the theorists out. You got the theorists out, you're no longer doing science. And when you describe these people who work in these big labs, and they do their very narrow thing, I would say, it is not that they don't know how to do science. They know how to participate in science, but they can't do the whole process because the process is an integral process. And they've done one little aspect of it. They're like an assembly line worker of science. And that's a very dangerous phenomenon, but increasingly what we have our whole faculties that are staffed by people who've come from once And the thing you know, I regard myself as a theorist as much as I sort of want to roll my eyes when somebody says they're a theorist. But nonetheless, it's it's most of what I've done. That's important. And the problem is, the theorist would never say that we could dispense with the experimentalists, they would never think of it right. The the experimentalists are fundamental to figuring out which hypotheses were right. You just can't cut them out. But the the experimentalists very often see their work as primary and the theory as annoying. And so what they do you know, because what does the theorist really need, you know, they needed access to a library, they definitely pencils are good. You need a chalkboard, right? You probably want some PowerPoint software, but it's not expensive stuff. And right. And so you know, the idea of what do the data say, data driven, all of these things are actually critical metrics first, right? They are an attack on science as a large process that works because the method is so robust, they also

**Heather** 1:00:59

insist on controlling absolutely as much as possible, which is part of the scientific method, but they regard any investigation in which you cannot by virtue of the question, kind of squeegee and not quite scientific. And so I would add to your theorists versus experimentalist, or theorists versus empiricist. distinction, because I, you know, I'm much less of a theorist than you are. And I've had my moments but I'm much, much more of actually like a hypothesis generation experimental design. I'm I'm particularly good experimental design, but it's in places where you cannot control all of the noise. So there's an inside outside dichotomy as well. There is an empiricist theorist. dichotomy and there's an do you do you work in the lab? Or do you work in the field? And that's not to say that all lab work is reductionist? It's certainly not. And that's not to say that all field work is inherently holistic or well done. It's certainly not, but doing work outside, asking questions of systems where you have not gotten rid of all the things that you think are extraneous, and guess what maybe some of the things you got rid of that you thought were extraneous, were actually the explanatory factor you were looking for, when you're outside, you have to deal with so much more of the noise of the system, you have to get really good at, at seeing pattern and at understanding when hypotheses are actually alternative to one another, as opposed to subsets of one another. And figuring out how it is that you would design an experiment that would really tease apart two hypotheses as opposed to kind of answer both and leave them both on the table like that, that work as much as the particular You know, my, my particular findings about three different kinds of male territoriality and mental laevigata. For instance, just to name one of the things that I discovered, you know, at one level, who cares, okay. But at another level, it was exactly that work that trained me through just, you know, day after day, week after week, month after month living in the rain forest to figure out how to discern possibilities when and and also to see when all the possibilities aren't on the table.

**Bret** 1:03:11

Yeah, absolutely. Now, there's something else you want to finish that,

**Heather** 1:03:16

yeah, let me back to me just finish this. So one thing I learned at that Grant's office that I worked at for a year between undergrad and grad school back in the early 90s, was that there's an overhead right, and there's a lot of different rates. But broadly speaking, the overhead rate is the rate that the university that the researcher who is applying for the grant works at, will take before the researcher ever gets any of the money. And it makes it makes sense, right? Like if you are hired, even if you are tenured, and you're getting your salary from the university. But the fact is, if you're doing you know, big science, you're going to need you know, big lab, you need a lot of real estate on the campus, all of this. And so the university does have a reason to be to have be able to say, Hey, you know what, some of that grant money that you're getting has to come back to us and we're actually going to not just make sure the library is in excellent shape because you're using our library, aren't you, but also make sure the walkways are excellent shape, and you know, everything else associate with the university, we are going to take our overhead and we are going to apply it to whatever we feel like like we are not responsible for applying it to anything in particular, for the most part for research done on campus by, by at American universities. And the university just takes this overhead before the PI ever has access to it. Again, the pi is just the principal investigator on the grant. And so I just did a brief search for university overhead rates, and then had to add to make sure that I was looking at again, because there's so many types of research done on campus and American universities and the five that popped up first. I was not being Select if I just the five that popped up first there was one that popped up in the middle that had a very confusing table and I couldn't make sense of it. So it's excluded not because it didn't fit, but because it didn't make sense. UT Austin, the overhead rate is 58.5%. That is to say that for every million dollars that a researcher brings in 585,000 of those dollars go to the university and the researcher never gets that. At the University of Utah, it's 52.5% is the overhead right at Harvard at 69%. At the University of Washington, it's 54.5%. And that USC 65%, I saw nothing below 50 or above 70. And that's, it's actually a little bit of a climb, I couldn't find my notes, I did take notes on what I was seeing back when I was working the grants office back in the early 90s. But my memory was that they were between 40 and 65, that there were at least some that were below 50. And I'm seeing none that are below 50 at this point. So what does that mean? It means that the universities have an incentive to encourage the biggest research possible because the more grant money that comes in, the richer the universities get. That is going to mean for instance, that scientists who have the capacity to bring in big research are going to be favored over scientists to art, which is exactly the point that Brett was making. It also means that scientists in general are going to be favored over other kinds of faculty. And one of the ways that favoritism happens is by relieving the scientists, disproportionately of some of the other responsibilities of being faculty. And in general, what faculty required to do is three types of things research, teaching, and governance, governance, meaning, the kinds of stuff that helps the university run, being on committees, helping do hires helping decide, you know, whether or not any department needs to needs to be established at cetera, et cetera. It's largely thankless work, it takes time away from what you really want to be thinking about largely because if you're faculty, you have chosen not to become an administrator probably. So is administrative work the faculty are required to do and one of the things that universities do in order to reward scientists who are bringing in grants is relieved them to some of their governance load. What does this do? This means that faculty and other disciplines, for instance, fill in the blank studies disciplines, the grievant studies, disciplines are more represented in governance roles. And so since big money, since NSF and NIH grants have been driving University protocols for well, nine, half a century at this point, we can expect that what you see is governance, by people in disciplines who don't know science, who don't do science, who don't understand it, and don't respect it being more and more responsible for making the decisions that decide the future of universities. This is at least one big piece of why it is their universities are in as big a mess as they are now.

**Bret** 1:07:53

Yeah, it I mean, it's a huge piece of it. And I would also just point out that this feeds into the pressure that causes scientists, you know, in that unheard piece that you referenced, I make the point that effectively the economic pressures surrounding the cutthroat competition to get to a job that has any sort of security inside of the university, that that drives the the development of these narratives that are just wrong, right. So the point is, if you want a really big grant, making the argument that we have to study these coronaviruses right away, because we are in a race against the clock, one of them is going to leap out of a cave, it's going to create a giant pandemic, it's going to be a disaster if we don't figure out how these things function, etc, etc, etc. And the point is, I don't think that's true. I don't think they're very likely to leap out of the cave, I think the most likely thing to happen is that you're going to enhance them to see what would happen if one did leap out of the cave, and you're going to create it and basically your lab is the cave now, right? Yeah. so

**Heather** 1:08:59

and so. Also, if you know that, effectively, the grievant studies, scholars are increasingly driving the future of universities. What we have as well are the directors of the NSF directorates and the head of the various directorates the institute's the National Institutes of Health, like the one that Fauci has been had up for many decades now are effectively steering science. And so we have universities being steered by something that is anti scientific, and we have science being steered by something that is pro profit. And it is not inherently anti scientific, but it will have perverse incentives that will cause it to make very, very bad decisions and either be blind to them, or perhaps lie about them if they're not blind to

**Bret** 1:09:47

them. And actually, one of the things that it does is it rewards inefficient thinking. Right. So one of the things that drove me crazy as a theorist was that there is a large fraction On the landscape of possible things, that could be true that you don't need to bother studying, because they can't be true in light of the fact that you're talking about evolved creatures. In other words, you don't expect to have a, you know, an animal with some large fin on its head, if the fin on its head doesn't do anything, you don't need to worry about the fact that you know that if there's a fin, it's there for a reason, right? And so the point is, the theorist can save a ton of money by just saying, actually, that part of the map is unlikely to be filled in your answers over here, right? A good theorist can do that. And the point is, nobody wants that person around. If the idea is, can we think of some really expensive experiments we could do? And your point is, oh, you could do that one. It's like, we don't need to do that, when we already know the answer to what you're going to find you're going to spend $20 million running some giant research program to find out something that you could figure out, you know, on first principles. So anyway, there's kind of this antipathy for theorists, because they are able to, you know, to make the work of the university more efficient, which we should all want. This is this is tax money that's being spent,

**Heather** 1:11:07

the artists are like, repurpose drugs. In this regard. theorists are

**Bret** 1:11:10

like repurpose drugs, that's going to be a very confusing sentence, if anybody abstracts No,

**Heather** 1:11:14

but you know exactly what I'm saying exactly what you're serious or not desired by those who would increase the efficiency of the system in order to get more grant money, and repurpose drugs are not desired by those who would increase the profits of the pharmaceutical companies.

**Bret** 1:11:28

Exactly, exactly. Now, here's the question. If you incentivize people to make, you know, scientists are more or less like, employees who have to keep arguing to keep their job, right. So you mean, faculty, university scientists, university science? Yeah, I don't mean scientists in the, in the positive sense of that term, I mean, scientists as we are now creating them. And so you've got this incentive system, to figure out reasons that lots of money should flow your way and your university is barking down your neck, you know, trying to get you to do it better. And the point is, well, what effect does it have on our collective scientific thinking that we are rewarding scientists for thinking and efficiently, which is exactly what we're doing? Right? We are rewarding, inefficient thinking, and we are rewarding wasteful behavior. And the point is, that does not scientists, even good ones are going to have a hard time, you know, completely compartmentalizing their wildly inefficient side that makes them profitable to their universities, from their efficient, you know, analytical thinking side that actually figures out what's going on in nature. Right. So anyway, we are we've got a system that's really badly designed from the point of view of figuring out what's true, and I think we're just suffering the consequences of it. Oh, yes, we are. I wanted to point out one other thing, I don't know where you're done with your. So the last thing I wanted to point out was, we are in a weird battle over randomized controlled trials versus alternative kinds of evidence, like meta analyses, observational trials, etc. Now I don't a friend took me to task recently, saying that they had understood me to say things that sounded like there were no randomized controlled trials for things like ivermectin, which is absolutely not true, there are randomized controlled trials, they might be smaller than you would want. And that's where the meta analysis comes in, that you can compile these things to get the equivalent of a big data set. But I do want to point out on your thread there about the difference between indoor scientists and outdoor scientists, and this is what we were This is why we were wearing field hats and wielding machetes a couple weeks ago, machetes, still, they're still there. But the reason we were doing that was that we're having this kind of whiplash, where people are pretending that the only kind of evidence that you could possibly deduce anything from our giant, expensive trials, when in fact, those of us who have worked outside know that you can deduce a hell of a lot under very suboptimal conditions. And so anyway, I wanted to give just one little piece of context for people is a meta analysis is good. Are we really just waiting for the giant randomized control trial? Well, here's the thing. You got to understand something about the kinds of error that exists, a giant randomized control trial can suffer from a systematic error that makes it not do what you want it to do not reveal the pattern. So imagine, for example, that you had a really so the value of a really large randomized control trial is that it can show you very weak effects, right. But a randomized controlled trial could also have a bias. Let's say for example, you want to test the question of whether ivermectin or substance x had a positive effect on malady. Why, right? But let's suppose that the trial had the dosage too low. Right? Well, now you have a very large data set that says this drug doesn't work. But if it had been two times higher, three times higher, it would have shown that it worked. But anyway, the point is, well, the randomized controlled trial didn't show the effect gets it doesn't work. And the point is, well, actually, you just threw out a drug that might have worked, right. You need a different randomized control trial. It group of trials is much less likely to suffer from that. Because the point is, some of them will have the dosage too low, some of them will have the dosage too high, they will tend to average out and what you you know, the difficulty the thing that these these folks who specialize in this kind of analysis, they're difficult job is figuring out how you get data sets from experiments that were done in different ways to, to give out data that can be compiled, but they know how to do this, the good ones do. And what you get in the end is something that is very much more capable of bypassing the individual the effects of all of the studies, which will be there, because they will tend to compensate for each other. And so a meta analysis is much more like, you know, the naturalist doing science under non optimal conditions. But we're if you know how to wield the tools, you figure out how to extract the the evidence of the effect,

**Heather** 1:15:51

it is likely to get a false signal out in nature than in a lab where you have gotten rid of all of most of all the rest of the variables, which includes perhaps one of the variables that might actually be explanatory,

**Bret** 1:16:04

right? Right. And you are very likely to convince yourself, you can just simply imagine the trial in which the dosage was too low for drug X to cure malady. Why now you have a really compelling dataset, because it's huge, right? Lots of people were given this drug, it didn't have a measurable effect, right? Well, why? Because you're below some threshold. And the point is, you need multiple of those studies to actually establish this. So anyway, there's something weird about this obsession with what are admittedly good, it is nice to have a really big randomized control trial, especially if you're looking for a very weak effect. Right? That's how you find the very weak effect is you swamp it with the amount of data, but in the case that you're looking for a large effect, but that effect varies based on when you administer it, or dosage or something like that, you're actually pretty well off to have a bunch of different kinds of studies that will actually even begin to tell you that now we can look within this data set that says yes, substance x works on malady y, we can also see that those things that had you know a dosage below this didn't show the effect and those that had the dosage above this did right. So anyway, I just there's something so bizarre about having people wield what sounds like scientific authority in favor of the idea that really, there's only one kind of evidence and everything else doesn't exist, because most of us don't have the luxury of being able to do those kinds of trials. And we know that we do science, and we know that it works. Yeah.

**Heather** 1:17:29

Yep. Okay, we got two more things that we wanted to cover today. All it's all it's all of a type. I've got a couple of excerpts from 1984. And then we'll follow with something that you found online, and then you want to talk about the failure to learn. You want to start there. Yes.

**Bret** 1:17:50

Well, I mean, we've partially covered done this. Yeah, the basic idea is, it is bizarre that in like, you know, the echo of the battle over the lab leak hypothesis has not even yet died down, right? We are still finding stuff in these emails that reveals, you know, just how, how far off the public narrative was from what people understood behind the scenes. You mean

**Heather** 1:18:13

the Fauci emails? Yeah.

**Bret** 1:18:16

So the question is, why are people not now awake to all of the broken processes that allowed that to go on for so long with such a preposterous public story? Why have we not said, well, geez,

**Heather** 1:18:30

well, you could, I guess it was fine that you were talking about that, but you certainly can't talk about it, the stuff you're talking about now.

**Bret** 1:18:36

Right? And so yeah, so I don't know. Let's just do this here as long as we're on the topic. So one interesting case, one of the podcasts that was taken down by YouTube involved, Robert Malone, who is the inventor of mRNA mRNA vaccine technology,

**Heather** 1:18:55

incidentally, still available on the audio podcasts and also available on Odyssey now also available

**Bret** 1:19:01

on Odysseys Yep, check it out. So Robert Malone in this podcast talks about the toxicity of spike protein, which is something that actually there's a fair amount of evidence of different kinds for and this was a very frightening piece of the puzzle because the spike protein it appears, does not stay resident some of it probably does, but not all of the spike protein stays resident in the cells that take up the the vaccine mRNA and so it goes floating around the body and it seems to do damage right. In any case,

**Heather** 1:19:34

so it's two different issues though it does it is it stick does it stay localized and is it cytotoxic

**Bret** 1:19:39

right? Well, here's, these are two things that do not match the design, the intended design short the vaccine but

**Heather** 1:19:46

with a particular thing that you lead with and I think you're going to is about just about cytotoxics personalization

**Bret** 1:19:52

right? In any case, PolitiFact which is a Facebook property, I believe

**Heather** 1:19:58

it is either a Facebook property or It is actively hired by Facebook and it is at least one of the outfits that does the fact checking for Facebook.

**Bret** 1:20:06

So it evaluated this claim and declared it false, which is bizarre because there's plenty of evidence for it. And at the very least, if it wasn't, if whatever experts it's using, assuming it uses experts, we're uncompelled by the evidence than what they should have said was that this is undetermined, because here's the evidence, and here's why we're not convinced. But that's not what they said. Right? They said it was false. PolitiFact, of course, though, also wants checked the lab leak hypothesis, and they declared it I quote, a Pants on Fire lie. Right now, that's an amazing level of what's the term ridicule, it's ridicule, they ridicule the hypothesis, right? And so here's the question, you were

**Heather** 1:20:51

able to find this either you or Zach

**Bret** 1:20:52

can't find a screenshot, we try to load it in various places, but

**Heather** 1:20:57

we'll try to find it and link it in the program description.

**Bret** 1:21:00

But in any case, the point is, look, you've got Robert Malone, the inventor of mRNA, vaccine technology, making a point about spike protein, which is squarely in his area of expertise, and PolitiFact, which is I don't even know what has decided that he is saying something false. How it would know that I can't imagine

**Heather** 1:21:25

if I remember correctly, and I think I did. I did write this down the PolitiFact fact checking piece refers to experts. That's it. That's it. Just experts vague, anonymous, not to be found experts. They know a guy. Yeah, they know a guy. But guess what I know, you know, Dr. Malone. And frankly, I trust you to love a lot more than vague, nameless, faceless experts, who are just once again doing a political bidding rather than scientific bidding,

**Bret** 1:21:56

right? Well, I mean, that's the irony of Robert Milan being fact checked by experts on the Dark Horse podcast, which was way ahead on the lab hypothesis is like, didn't anybody in the organization even notice what podcast they were going after? And who it was that they were claiming was saying false things? It's like, it doesn't add up. There's no, there's no calculus, right? At best if they had, you know, somebody who was highly expert who disagreed with Milan, right. And the point is, there is disagreement. That's as far as they could go. Right. But the idea that this is a place in which you know, this is

**Heather** 1:22:37

not settled science. Good. Let's Let's do that. Yeah. How about putting that at the top of any of this where we are discussing hypotheses? This is not settled science? Well, yes, duh. Like, that's, we know that that's the point of discussing hypotheses.

**Bret** 1:22:51

Right? And the fact is, of course, that undermines the whole purpose of such a thing, which is if unsettled sign

**Heather** 1:22:58

is the purpose of the fact checking. Yeah, the

**Bret** 1:23:00

fact checking is supposedly about improving the conversation by limiting what can be said. And of course, if you've got a whole landscape of unsettled science, then pretty much everything in that landscape ought to be discussable. Well, I for one, feel improved, right? So anyway, in some sense, they are, at the very least working to justify their own existence by claiming that you can limit the conversation in productive ways but the irony of you know who they're fact checking, and you know, it just it's jaw dropping.

**Heather** 1:23:29

Yeah. Yeah, it is. It really is. Let's end with a little bit from 1984, shall we? Yeah, we have read little tiny excerpts from 1984 before I see in episodes 22 and 43 it's unfortunately I mean, I do as we've talked about before, I do think Brave New World is a bit of a better descriptor of the kind of landscape we're in but Orwell's no dummy and here I wanted to vet with you before I did this, but we didn't have time so I'm just going to go ahead and share these two. This is from this is a copy of 1984 that was my mother's and she got a new copy and gave us this one so this is this is a lovely old copy. This the search for new weapons continues on sees Oh wait, no, sorry, hold

**Heather** 1:24:17

on. Here we go. Science in the old sense is almost cease to exist. In Newspeak, there is no word for science, the empirical method of thought on which all the scientific achievements of the past were founded, is opposed to the most fundamental principles of insock. That's the English Socialist Party. And it's the dominant party and identity for and even technological progress only happens when its products can in some way be used for the de munition of human liberty. And all the useful arts The world is either standing still or going backwards, the fields are cultivated with horseplayers while books are written by machinery, but in matters of vital importance, meaning and effect war and police espionage. The empirical approach is still encouraged or at least tolerated. The two aims the Party are to conquer the whole surface of the earth and to extinguish once and for all the possibility of independent thought. There are therefore two great problems which the party is concerned to solve. One is how to discover against his will, what another human being is thinking. And the other is how to kill several 100 million people in a few seconds without giving warning beforehand. Insofar as scientific research still continues, this is its subject matter. The scientist today is either a mixture of psychologist and Inquisitor studying with extraordinary minutus, the meaning of facial expressions, gestures, and tones of voice, and testing the truth producing effects of drugs, shock therapy, hypnosis and physical torture. Or he is a chemist, physicist, a biologist, concerned only with such branches of a special subject as are relevant to the taking of life. That's obviously hyperbole if you try to map that perfectly on to what is happening today, but it is the purview It is precisely the purview of these granting agencies, NSF, NIH, God etc. to decide what kinds of projects they are going to fund. It is not just that they are saying, bring everything to us. And then we're going to choose depending on what directory it is, you know, 20% 8%, whatever. They actually decide what types of questions you can even write a grant for. There are certain types of research that you just can't read a grant for. And it's not at this level. But we are certainly seeing basic research being edited, being curated, being changed by the fact of who is in charge of the agencies, and we know for sure that one of the people who's been in charge of one of the agencies for many decades, has not been telling us the truth. So final quote from 1984. It was only after a decade of national wars, civil wars, revolutions and counter revolutions in all parts of the world that insock and its rivals emerged as fully worked out political theories, but they had been foreshadowed by the various systems generally called totalitarian, which appeared earlier in the century. And the main outlines of the world, which would emerge from the prevailing chaos had long been obvious. What kind of people would control this world had been equally obvious. The new aristocracy was made up for the most part of bureaucrats, scientists, technicians, trade union organizers, publicity experts, sociologists, teachers, journalists, and professional politicians. These people whose origins land, the salaried middle class, and the upper grades of the working class have been shaped and brought together by the barren world of Monopoly industry and centralized government. As compared with their opposite numbers and past ages, they were less avaricious, less tempted by luxury, hungrier for pork, for pure power, and above all, more conscious of what they were doing and more intent on crushing opposition. This last difference was Cardinal by comparison with what with that exists today, all the tyrannies of the past were half hearted and inefficient. The ruling groups were always infected to some extent by liberal ideas, and were content to leave loose ends everywhere to regard only the overt act, and to be uninterested in what their subjects were thinking. Even the Catholic Church of the Middle Ages, ages was tolerant by modern standards. Part of the reason for this was that in the past, no government had the power to keep its citizens under constant surveillance. The invention of print, however, made it easier to manipulate public opinion and the film and the radio carried the process further. With the development of television and the technical advance, which made it possible to receive and transmit simultaneously on the same instrument, private life came to an end, every citizen or at least every citizen, important enough to be worth watching could be kept for 24 hours a day under the eyes of the police. And then the sound of official propaganda, with all other channels of communication closed, the possibility of enforcing not only complete obedience to the will of the state, but complete uniformity of opinion on all subjects now existed for the first time. He's writing in 1949, he foresees a lot, and he doesn't see exactly what we've landed out in 2021, of course, but Have we lost all privacy? Many of us? Yes, we have. Some of us have made choices that allow us to keep small shreds of it. But this this is unfortunately pressure.

**Bret** 1:28:53

So he's reading two years before Solomon Asch did his experiment. That's amazing, because in part he's describing both of these things, the loss of privacy and the role of thought through enforced conformity. That's right. Wow, that's a scary thought.

**Heather** 1:29:13

Yes, welcome to Episode 84 of the Dark Horse podcast. Indeed. All right. Are we are we at the end I think we were there okay. So we are going to take a 15 minute break as we always do, and then we'll be back with a live q&a not on YouTube but right here on Odyssey answering questions that you have posed using the hashtag on Twitter undeterred as questions on Twitter using hashtag undeterred un d t, e R, R, E, D, and that's going to be compiled over the break and sent to us and we will pick and choose from among those questions that came in. Please consider joining us at either or both of our Patreon right now the as I said at the beginning of the hour, the question asking period is open for questions on my Patreon for the private q&a that has At the end of the month, you can send logistical questions not questions for the q&a but logistical questions to Darkhorse dot moderator@gmail.com. And lots of other stuff basically, you know, here we are, this channel is live Odyssey the clips channel is live on Odyssey as well. And we really are grateful to to all of you who are listening and supporting and followed us here and in just in general who are interested in this kind of discussion. So, as I always end with and as you are now insisting on finishing with different words. Be good to the ones you love and eat good food and get out side

**Bret** 1:30:42

and YouTube. divide by zero