Bret and Heather 63rd DarkHorse Podcast Livestream\_ Beg Your...

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**SPEAKERS**

Bret, Heather

**Bret** 00:38

Hey folks, welcome to the Dark Horse podcast live stream number 63. It is January 16, that I get it right. It's January 16. And we are ready to talk about the amazing events of the present and what might be in store for us in the near future. So how does that sound?

**Heather** 00:57

All right, let's do it. That

**Bret** 00:58

sounds good. All right, good. Let me just see, are there any things that we need to cover up front other than the general cat madness that is surrounding us? And if we are attacked, please call 911 on our behalf?

**Heather** 01:09

Yeah. Just the usual we have apparently, there's already a lot of Super Chat questions coming in. We appreciate those, we try to answer as many as possible in the second hour, which will not be terrible for those of you who will be listening in later as a podcast. But for those of you tuning in, on YouTube, you can see that in the second video, from the same from the same day, and great

**Bret** 01:35

and if you are listening on the podcast version, check out the YouTube version. You might like the q&a. It's pretty exciting. We look forward to it. And anyway, so there's a lot more material there.

**Heather** 01:45

So should we give people a sense of where we're going?

**Bret** 01:47

Yeah, let's do that. So

**Heather** 01:48

you're gonna you're going to start and you're gonna you're gonna start with some political suggestions.

**Bret** 01:54

I would say a political suggestions. But yeah, that's the general area a political suggestions. Yes, a political a not singular, because suggestions, of course is plural. But like, above politics, I say, non ideological a political suggestions for how we might

**Heather** 02:11

apolitical suggests right, got it. Okay. Yes. Okay. Well,

**Bret** 02:14

you thought it was like an a harmonica or something. No, it's it's a political suggestions.

**Heather** 02:19

Fair enough. All right. So you're gonna start there, then we're going to talk a little bit about a paper that just came out, suggesting some kind of dire news about COVID. And we're going to look into that paper and figure out what it means and and what it suggests about what we should be doing. And talk a little bit a little bit maybe about some vaccine deployment in some other parts of the world, and maybe spend some time talking about eagles.

**Bret** 02:49

Yeah, I think we should, we should do that. Actually. I think it actually fits perfectly as a sort of bookend for the other.

**Heather** 02:55

The other part of the April day being a political Yes, yes.

**Bret** 02:59

Eagles being fiercely apolitical, I mean, ferociously, almost aggressively, aggressively and blood thirstily a political I would say,

**Heather** 03:09

certainly the the rodents that they hunt would feel that way. Yes, full

**Bret** 03:13

blood. rodents are all right. Well, I think we can avoid it no longer. Here is what I want to talk about. And I do this with, I think, a certain amount of trepidation. But I don't think there's really anything else to be to be done. So I've been like everyone else wrestling with the question of where we find ourselves in the aftermath of what I think was clearly an insurrection on the part of most of the people that is the self diagnosis, I would say we're consistent with the self diagnosis of many of the people who stormed the Capitol. For those who want to know more about what it looked like on the ground, I would advise people check in with the interview I did with Jeremy Lee Quinn, who was a journalist who was not only on the ground at the Capitol, but went into the Capitol and reported firsthand, he's got fascinating stuff on his website, and you can get a real sense for what it felt like on the ground, which is something that is missing from most of the the mainstream coverage. But what I see in the aftermath of that event, is a lot of people making political moves. That is to say, I see a lot of advocacy for various positions, some of the positions I think, are in the interest of the nation. But I see most of the motivation that appears to be driving people, even to suggest things that I would agree with appears to be about jockeying for position in a very traditional way. And I don't think that's appropriate given where we find ourselves here at the beginning of 2021. So I wanted to take a little bit of time to speak to what I think is the patriotic center. I've said many times I'm not a centrist but the center is where we meet to discover the or to do Just the interest of the nation and to figure out where to go in this, if there was ever a time when we need to meet in the center and discuss what is in our collective interests. It's now. So what I see is that we are faced with various exotic remedies to a situation, I would say the three exotic remedies that seemed to be present are the 25th amendment. impeachment, which has already happened, and pardons. Those are the exotic remedies. And then there's a question about how they might be wielded, and to what end, and of course, each of them carries various implications for the future. And what I would suggest, in fact, what I think we should demand from our leaders is that they step outside of their tribalistic team allegiances, and start thinking about what the implications of their actions are going to be. Now, I would say, I would certainly ask the people in listening to my suggestion, my proposal here that people put judgment aside, because we have each been trained to look for evidence that somebody is on the opposing side. And as soon as we get that evidence, we jump. Now my feeling is what needs to be done here is not going to make anyone perfectly happy. But that the most important thing on the table is protected. If we act courageously and carefully, so my proposal would be starting with the impeachment, which has already happened, the house, impeach the president, I want to see the senate come back into session and convict the President, I believe that is not only justified by the merits of the case, but it is also very definitely in the nation's interest. It is in the nation's interest in the sense that if President Trump is not convicted, he remains eligible to run in 2024. And I believe what we will see is a effectively a four year campaign for Trump to return to office. Now, Matt, no matter what you think, about Donald Trump, I would say it is absolutely clear that he is not the person to unite the nation, he did have special skills that allowed him to beat the republican party and ascend to the highest office in the land, but he did not have the skills to make use of that office to bring us into some new era. And that's tragic, but I think it is very clear, and that the insurrection at the end of his his term is evidence of that. So to the extent that we may need somebody to escape the duopolies grasp, it isn't going to be Donald Trump and it won't be Donald Trump in 2024. And the idea that we are going to live under the shadow of that possibility for the next four years, should frighten all of us. Now I see republicans playing with the idea of convicting Trump, but at some level, it's hard to avoid the impression that the Senate Republicans are simply weighing the hazard to them politically of,

**Bret** 08:16

of convicting Trump against the possibility that many considered desirable of being free of his influence over the next four years, so I would like to see them convict him, but I would also like to see them do it as a matter of partnership. And frankly, this is what I see missing from the larger discussion is a partnership between the various players in in this in other words, I would like to have seen the house collaborate with the Senate. I would like to have seen democrats collaborate with Republicans, I would like to see the senate now, in partnership with Vice President Pence agree that Donald Trump must be convicted in order that he cannot run in 2024. And because what he did do was encourage, although indirectly, the assault on the Capitol, but that pence when he assumes the office of president should pardon, President Trump, right, thereby alleviating the potential for federal prosecution. That, I believe is the the route that is best for the nation. I would also argue that president he would then be President Pence should pardon all of the insurrectionists who did not engage in direct violence against other human beings, as well as the BLM protesters who did not involve themselves in direct violence against other human beings. Now this may all seem very radical and strange, but there is clear precedent for this. Zach, could you put up the the it's the Federalist paper, the Hamilton federalist paper that I sent you I may not be able to read this one of our Yeah, if you can put it up so I can read it. That would be great. I can read it. Yeah, that's some fine print they're larger and last paragraph. Okay, so I should say I was pointed to this by a friend of ours Randy ramseyer Ammerman, who is a lawyer, and quite well schooled in this. He points me to this last paragraph of what is federalist 74. Is that right? Zack? Say that at the top, scroll back up.

**Bret** 10:42

federalist 74, from 1788. And so Hamilton says, on the other hand, when the sedition had proceeded from causes which had inflamed the resentments of the major party, they might often be found obstinate and inexorable. When policy demanded a conduct of forbearance and clemency, but the principal argument for repurposing the power of pardoning in this case to the chief magistrate is this in seasons of insurrection, or rebellion, there are often critical moments when a well timed offer of pardon to the insurgents or rebels may restore the tranquility of the Commonwealth and which if suffered to past if suffered to pass unimproved it may never be possible afterwards to recall what he's saying here. So this is the entirety of this, he writes us pub, Publius here, which is a shared nom de plume of several founders. What he's saying here, the purpose of this federalist paper is an argument for vesting the power of the pardon in the single chief executive. Now, in part, so I'm going back through history, I don't know terribly well. But in part Shay's rebellion, which bears some striking resemblance to certain things that have taken place, place actually on both sides of the political spectrum in the last year. Shay's rebellion was a, an insurrection. That was the result of essentially soldiers, most especially Shay's who found themselves in a debt crisis not being in not having been paid for their military service. And the result of that insurrection, which was put down by a private army, there was no federal army. The result of that insurrection was to reveal to many of the founders the need for a strong central authority. And Hamilton here is arguing, in part in response to Shay's rebellion, that the power of the pardon is best vested in an individual rather than a committee. And his point effectively is, it's actually parallel to one that you and I have made on the podcast in various places about things like parenting, which is that a system in order to work well, in light of a vast array of possibilities that can't be foreseen when you build it has to have discretion, right? parents cannot just simply lay down rules that result in children growing up well, you have to have discretion about when, you know, to inflict harsh punishment, when to to resist that urge. And so Hamilton is making the argument that the interests of the nation involve a single individual who is poised at a particularly critical moment, like the one that we face right now to deploy the pardon to relieve the pressure that might otherwise tear us apart. And his point is, if you let that moment go, you may never get it back. That's what he's saying in that, in that paragraph.

**Heather** 13:48

certainly seems like such a moment. And the tensions on both sides are incredibly high. And, and people who have not been engaging in the riots and violence on either side, whatever tribe to which they think they belong, are fairly eager to keep their anger alive and demand vengeance. And this would be a way of preventing such vengeance, and of intentionally and permanently putting it in the rearview mirror putting the possibility of such vengeance in the rearview mirror.

**Bret** 14:23

Yes, taking many things off the table. Now, it is complicated by the fact that a pardon of any of these folks only would immunize them from federal prosecution. But it could be done in such a way that it would invite the states to follow suit. And I would advocate for that. And in effect, this does mean that people who have clearly committed criminal acts would, in effect, get away with it. But what I would suggest is that this be done in tandem with a a agreement, the rule of law must stand it must be enough. Forced, it cannot be enforced differentially, and therefore, it should come with a no tolerance policy for violence, rioting insurrection going forward, right. That is to say we relieve the pressure with amnesty and I should say, Shay's himself was pardoned. There were a, it's not as clear as everyone involved in his rebellion, which was, I think, 4000 people. They were not all pardoned. But in general, all but a few received clemency of one kind or another. So again, this is precedented. And where are we to find ourselves in a situation where President Pence had partnered with the Congress, we had eliminated the threat of living under a four year campaign of Trump potentially returning to office, Trump and his supporters would also effectively be protected from the spectacle of federal prosecutions of Trump going forward, which are likely to occur under democratic rule. So all of these things would serve to relieve the pressure. I had the sense you had something you wanted to add there.

**Heather** 16:09

I mean, there are a number of things to say, I guess one, one concern, obviously, is that this would, I believe, do as you suggest, and would relieve the pressure at the governmental and legal level. But as we talked about last week, a lot of what we're seeing is extra governmental action, by private corporations who are effectively acting as a, you know, in the public good in their own eyes, in censoring, for instance, the Trump, the Trump, the President and and others who, who the tech companies imagine are dangerous to discourse and civilization,

**Bret** 16:47

I agree. And obviously, there's a lot to be discussed there. And we should come back to it, it will probably take weeks of looking at different aspects of the puzzle. But there's an awful lot to be said there. But I would say to the extent that what we have is a ferocious, powerful and new weapon in the hands of a strangely aligned industry that has a very clear political bent, the last thing that we want to see is that apparatus liberated to behave in an authoritarian way, by the fact of Trump attempting to regain the office in 2024. And frankly, I think almost as frightening as the prospect of the four years under that is the prospect of the trials unfolding in public view. So to the extent that we can relieve this pressure, we also relieve the justification that the tech sector will use in order to crack down on voices it doesn't like,

**Heather** 17:43

I guess I'm not sure much about your use of the term liberating I don't think that the tech companies need me liberation to do what they want, clearly, you know, they feel they already feel plenty free to act as as they desire. What I do think this could do, which could very much helped change the conversation and alleviate some of the some of the ramping up that is happening is by taking Trump out of the equation, you immediately remove and put again in the rearview mirror, the single source of anger and ire that, you know, call it half, call it half of America has and I don't think it's actually fully half but, you know, half of America has for, for someone and they have pin, so many people have pinned. And it's the opposite of hopes, like all of their dismay, and they're Imagine you're the source of everything wrong in the world, on this guy. And that's not fair. Right? You know, he's he's definitely culpable for a lot of stuff, but that's not fair. And, and yet, you know, I was I was literally walking around downtown Portland, this this week, and overheard two different conversations between two different sets of turns out to have been young women, I am assuming their gender in, in, in all these cases. But you know, for total for women, who were just gleeful in their, you know, in their rage, and they imagined deserve it rage at the second impeachment which had just happened, I think just just then is at the point that I was walking around. And I thought what happens you know, what happens to their conversations and what happens to their personalities and what happens to their imaginations and plans for the future at the point that the single enemy in their world goes away. We can hope that some number of these people actually return to a semblance of thinking more clearly, more broadly about a range of issues. Now I don't think I like your listening to your conversation with Germany when your your second one, the almost three hour one That was just posted last week. You know, he says, there, there are plenty of people. He doesn't say there plenty people. He says there are those who are arguing really for anarchy and for destruction at any cost doesn't matter from whom or for what, it doesn't matter. So those people will not be appeased. And and those people are very dangerous. And they've been very active on the so called left since the beginning of the summer. And he was suggesting somewhat present also in the insurrection on the Capitol last week, two weeks ago, we're going to have a go. So those people won't be helped by this. But there are a whole lot of people who are just so focused on the one enemy, that if you take away that enemy, maybe they could recover?

**Bret** 20:47

Well, yes, I think this is this is central, which is that these fringes are driving the conversation. And so two things have to be true. You know, I hope it was clear in what I said at the top that amnesty for what has happened in the past, coming with a an insistence on the rule of law going forward is key. And I would point out rule of law is the apolitical way of saying that Trump has politicized the question by saying law and order all the time, which is typically a right wing thing, but rule of law is something we all ought to be able to agree on. It is essential to the functioning of our society.

**Heather** 21:26

Actually, someone I think I saw in our q&a last week, have a question. We hadn't gotten to a suggestion that rule of law and Law and Order were wrestle conjugations of one another. So that's basically what you've what you've just said,

**Bret** 21:37

I believe they are. I don't know if they were I mentioned this on the trigonometry podcast, just right after the the insurrection that happened, but so I want to make a couple last points, one of them quite concordant, with what you just said. So the fringes are indeed driving the conversation for others. And it occurred to me Actually, it occurred to me listening to Eric on the hill program rising a couple days ago, maybe it was yesterday, even he mentions what he calls mega Stan, and woke astan. And these are the two fringes in question. And it occurred to me that something I have been saying, since the beginning since before Trump was elected, that the problem with this slogan magga is that it is intentionally polarizing, and it's the second a in magga. That does it, the idea that America should be made great, again, suggests all sorts of things that suggest that it has been great. Now, I think it is a country with a tremendous amount of greatness to it. But I don't think it has ever been great for everybody. I don't think it's ever been great for blacks, I don't think it's ever been great for Indians. And until it's great for everybody, it isn't great. It's a prototype of great. So by saying again, it sort of suggests that we had it and somebody screwed it up, and now we're looking for villains. But what occurred to me in hearing Eric, invoke mega Stan and welcome, Stan was that it is the exact desire to misunderstand the past all the way to turn your misunderstanding to 11 in one of two directions that creates these yin yang fringes, right. So the magga folks are trying to get us back to somewhere that we never were right. And the woke astan folks are essentially arguing that this country is bad at its core, that that's what it was founded to do, that there is no possibility of making it great. Therefore, tearing it down is the only reasonable action. And the point is both of these things are equally crazy, right? The country was never great in the sense of great for all populations, it certainly has marched a long way in that direction, we have made tremendous progress, but we're not there. And it is reasonable to demand that we get there, it is not reasonable to want to go back and it is not reasonable to tear it down on the basis that it's such an evil place that we will almost inevitably do better. If we try again, that's utter nonsense. So recognizing the insanity of these two positions, and therefore the necessity to alleviate their control over the discussion. How do we alleviate their control by sidelining them at this moment and saying, okay, what's happened has happened, what must happen going forward is the law must be enforced, irrespective of who it is who's breaking it. And you know, that period of relief makes a great deal of sense.

**Heather** 24:37

I guess. I'm just some surprised on this guy at this point. But I'm concerned that alleviating the the pressure taking away some of the remaining power insofar as it exists, excuse me, um, from the mag people leaves Much of the power that is, like I said, extra governmental. And of course, there's plenty of governmental power as well, among the the welcome standards, if you will, that, that not just the tech, the tech companies, but obviously media and and much else and you know, in corporate America at least virtue signaling, you know, putting up there, you know, whether it's don't hurt me walls, or they actually have people in their, in their HR departments who believe this stuff or anything in between, from academia to, to corporations to media, the the majority of what we are expected to believe is very much slanted towards you woke us down rather than magga. Stan, and you know, we're arguing we shouldn't have either. But, you know, how, how is it that we actually disempowered both of those things?

**Bret** 25:51

Well, I think this is a great point. And I think it ought to be our focus. But in part, I think we also need to understand that we don't exactly know why we are where we are. In other words, there's a lot going on behind the scenes that has, you know, the tech sector, which is ostensibly a bunch of corporations in competition with each other, behaving as if they are one monster. Yeah. We don't know exactly what the interaction is between that entity and our governmental structures. For one thing, we've in part lost control of our governmental structures, there's the part we can see. And there's the part we can't and actually, this brings me to what I would say is the last piece of the puzzle that I would hope to see, deployed in the next few days before, before the inauguration, which is, I would hope to see the pardon of Snowden and Assange. Now, Snowden, I would say, is a national hero for what he did for bringing transparency where there was authoritarianism and opacity. It's harder to say that about Assange, because he's not an American. But nonetheless, I would hope to see those pardons. And frankly, you know, if if I had all of the cards to play of all the various players, I would probably have Trump pardon them before he is convicted by the Senate as an indication that actually, you know, he, he is willing to do his part for the well being of the nation, even even in his wounded condition. So anyway, I don't know what will come of this, I frankly, expect nothing will come of it. Because these actors are so political. They're dyed in the wool partisans. And so the idea that they would ever do anything that wasn't justified by its immediately elevating them relative to their competitors is almost hard to imagine.

**Heather** 27:47

At some level, partisanship is the opposite of patriotism. It is

**Bret** 27:49

that's very well said it is the opposite of patriotism. And patriotism is about putting your interests aside in the interest of something larger, a nation, for example. And so it's a rare commodity these days, but who knows, maybe they will surprise us in the positive direction. If nothing else, they should look at the prospect of a future lived under the cloud of either a four year campaign by Trump to regain the office or a long series of highly publicized and charged trials of President Trump, neither of those things are going to leave us better off as a nation and anybody who says otherwise. Is is a liar, frankly. Yeah. All right. All right. I think I think we've reached

**Heather** 28:35

it. Okay. Next section, then oh, and my computer choose at this moment to fail. So a new paper came out this week, finding the asymptomatic cases of COVID account for possibly half of all new infections. Let's just

**Bret** 28:54

so if you're a long standing listener of this podcast, you will recognize that is a shocking conclusion for a paper.

**Heather** 29:03

Yeah, Zack, can you put my screen on for a moment? So here it is. It's in JAMA Network open, I found it through. I'm in the I guess it's the weekly Jama Gemma's The Journal of the American Medical Association newsletter. And they had this they they had this in the newsletter, and it's got over 200,000 views at this point, which is a crazy high number for a scientific paper. But we were talking about over dinner last night. We don't know what views means here. So I guarantee you 200,000 people haven't studied this paper and the kind of tip that I have, for instance,

**Bret** 29:35

no, but in light of the fact that it's JAMA, right Journal of the American Medical Association carries a lot of weight. That's that's a high cloud location, and that they are broadcasting on their website, even if that's just people who have clicked through and seeing this conclusion deployed under that banner. That is an amazingly powerful fact.

**Heather** 29:54

Yeah. And so here, let me actually just before I say something about what the paper finds the second Have a scientific paper are generally abstract introduction methods or methods of materials, results discussion, and then references cited. So the abstract is the summary, the author's summary of what it is that the paper finds. The introduction sets up the the extent research, the background research and the theoretical framing for the work that they're doing. The methods or methods or materials, whatever describes exactly what it is that they did, hopefully with enough detail such that someone else could go in with the methods and redo their work, and thus, effectively replicate that work. The results is just supposed to be a description of what they found the analysis, you're having been done, what they described, that they were going to do, and the methods, they did that the off site, and then they describe the results, including the analysis, the statistical analysis of the results, the results is not supposed to include any interpretation. And then the discussion is exactly the interpretation, you sort of come full circle, and you say, you know, given what we thought we knew, given what our hypothesis was, hopefully, we are what is it that we found, and what do we make of it in light of the other things that we know to be true. And then the references cited is just that all the references that were cited to, you know, in a paper like this, to make the sorts of decisions for how it was that they were assessing background numbers. So in this case, the abstract is a fairly detailed so here I can share my screen again, Zack is actually split up into several sections and in the results section, they have no no in conclusions and relevance rather, in this decision, analytical sorry, in this decision, analytical model of multiple scenarios, proportions of asymptomatic individuals with COVID-19 and infectious periods, transmission from asymptomatic individuals was estimated to account for more than half of all transmissions, in addition to identification and isolation of persons with symptomatic COVID-19. effective control of spread will require reducing the risk of transmission from people with infection, who do not have symptoms. These findings suggest that measures such as wearing masks, hand hygiene, social distancing, and strategic testing of people who are not ill will be foundational to slowing the spread of covid 19 until safe and effective vaccines are available and widely used. So let me say just with regard to that last sentence that regardless of what else might be true about this paper, we have been since our very first live stream in late March at the point that the who and the Surgeon General had, you know, we're recently arguing that mask wearing was not useful at all, you know, advocating for mask wearing and hygiene and social distancing and all of these things, right. But this paper, effectively claims to have finally done the work that a lot of people have been looking for, and, and has found this really alarming result that over half of the cases are, are actually spread due to asymptomatic individuals. And they and they they're careful here, they specify that there are three classes that they're symptomatic individuals of people who have tested positive, there are symptomatic individuals, there are pre symptomatic individuals, and there are what they're calling never symptomatic individuals. And they're trying to tease apart the pre symptomatic from the never symptomatic The idea being the pre symptomatic, there's really low reason to expect that they will be much less trends transmitting of disease, although perhaps someone so this is really bad news, right?

**Bret** 33:25

This is it, you said it's alarming. But I also want to separate that from surprise. So again, people who've watched us will know this piece of logic. But what is the idea that it would be surprising to have a very high rate of totally asymptomatic transmission. And the reason is that the very things that allow a virus to be transmitted are the things that cause symptoms. That is to say, if you imagine for example, cells in your lung that have been invaded by a virus that are now spilling forth virus to invade other cells and to escape into the environment, then that's a piece of damage in your lung that will cause irritation will cause mucus, etc. So the idea is in typically speaking, you would expect symptoms to be correlated with the degree of illness and therefore the degree of infectivity. So this is not only a shocking result at the level of oh my goodness, this is a very dangerous phenomenon if that's true, but it's surprising at a scientific level.

**Heather** 34:28

Yeah, it is. Um, luckily for us, the paper is complete garbage. I mean, it's really actually stunning how much complete garbage is in this paper. So I could spend several hours going through the garbage nature of the paper and I'm not going to bore everyone with that. It is going to be a little bit, a little bit number here.

**Bret** 34:52

So you're going to condense down the garbage in this paper making you a trash compactor.

**Heather** 34:57

Yeah, that's right. That's what I am for today. Trash. compactor Oh, my God. And so my intention here was not to dunk on this paper, I clicked on this link in the JAMA newsletter, the title, you know, the title again is SARS covi to transmission from people without COVID-19 symptoms. And and it looks really alarming. And the fact is I read this, I read this actually, as I was making dinner last night, which sounds like a strange thing to do. But it was possible given the dinner I was making. And then I read the references that they had used to support their their assumptions. And I came to dinner, kind of alarmed, and then I read it again. And then I read it again this morning. And it just frankly, it gets it gets more shoddy more clearly shoddy, the more times you look at

**Bret** 35:48

it. So I will hold on, I gotta jump in again. So I also want to point out how unusual that behavior is, which behavior, the behavior you just described for yourself with respect to this paper. And I just want to say that for various reasons, some of them totally mundane, very frequently, people end up repeating, they will read an abstract of a paper, maybe they scan what's in the rest. And they will report based on that as if it's true, rather than saying, Wow, man, in fact, one of my advisors, Charles handling used to joke I think maybe it was widely said in his era, may all your abstracts come true, right? The idea being that, you know, an abstract is not an indication that the work is necessarily

**Heather** 36:30

Well, I mean, we're This is not at all what we're supposed to be talking about here. But I suspect I was not there to hear Charles say that, yeah, I don't think I've ever even met him. But my suspicion is that was about you having to write an abstract before for at tarp preventing your talk at a conference. So you have to write what you think you're going to find before you even done the research for a talk that's going to be given nine months in the future.

**Bret** 36:49

That's true in fairness, he was he was referring to that in that particular case. I will say though, that the number of times that what is in the abstract is not justified by what is in the paper is alarmingly high. And therefore, one has to you know, it's one thing if you're looking at somebody whose work you know very well, and you know that it's careful, and then their latest paper comes out and you look at the abstract, and you say, this person found that out, right. But it's another thing to just take some piece of work you know nothing about and assume that what's in the abstract is justified by what's in the paper, it's very commonly not. And yet, as soon as something especially something sensational emerges in the form of a title and an abstract, it will be cited and repeated, and there's no way of knowing

**Heather** 37:33

almost no one is going to actually have read the paper much less a few times, much, much less have gone through and figured out the end read the sources that they are citing which is which is the part where I said okay, I you know, they're just, they're just not doing good work here. So let's go through it as briefly as possible. So this paper is a model that's then based on some combination of empirical research and review papers and models themselves. So what are these terms? Again, since we've already defined sort of what the parts of a research paper are, a model is trying to generate a predictive basically equation or set of equations that will reveal something that is true about the universe having fed in some actual data, and then hopefully, the model has enough general predictive value, that you could take it to a different system, either, you know, a different place or a different time, or maybe even a slightly different, you know, in this case, disease, possibly, and say, Okay, what, you know, what would you have to tweak to have this model continue to be true. So this, this paper is just describing a model the results from a model, there's nothing empirical here, empirical meaning, they went out, and they actually took data, they actually measured data themselves, but measured, made measurements themselves and brought that data back into the analysis. And then there are also review papers, which go into the literature and say, Okay, I've got, you know, I found eight papers that are relevant to the thing that I'm trying to figure out, let me do a meta analysis on those and see what if I take them in the aggregate they might find. So this is a model that's based on some combination of empirical research and review papers and aggregates.

**Bret** 39:16

So it is a model they have developed from empirical work,

**Heather** 39:20

somewhat from empirical work, not entirely from empirical work, but so that's, you know, fair enough, let's that's done broadly, we have critiqued models and modeling systems in the past, and we will continue to do so but models aren't inherently flawed, right? You just have to understand that it's not the same as empirical research in the results of the abstract, so again, the results section and this is not the results section of the paper but the results of the abstract. The results section is supposed to supposed to include only what it is that they found. They say quote, the baseline assumptions for the model where that peak infectiousness occurred at the medium. We start again, the baseline assumptions for the model Where that peak infectiousness occurred at the median of symptom onset, and that 30% of individuals with infection never develop symptoms at or 75% as infectious as those who do develop symptoms. So, they have just told us in the results section, no less of the abstract that they used assumptions of 75% infectiousness of asymptomatic individuals in building this model, which then popped out the result that asymptomatic individuals are responsible for up to 50% of cases. This is a problem. This is a big problem. So on what basis did they put that assumption of 75% infectiousness of asymptomatic individuals into this model which pretends which proclaims to actually find a symptomatic transmission, when what what we've just been told in the actual results of the abstract is that that was an assumption of the model. So in the Methods section, the actual method section of the paper they clarify this way, quote, we also made a baseline assumption that individuals with asymptomatic infections are an average 75% as infectious as those with symptomatic infections. Oh, wait, that's not clarifying. That's just a repeat of what they already said, except at least it's in the proper part of the paper. Now they're acknowledging that this is the methods This is something that they actually fed into their model. They then cite for this claim, how is it that they generated this number 75% of asymptomatic individuals or 75%, as infectious as symptomatic individuals, this is again, not a finding of this paper. This is an assumption they use to build the model. They cite references nine, five and 15 and 16 to support this. So I went and read References 915 and 16. We'll return there. But in the meantime, before we get there, recognize that everything downstream of this assumption, absolutely everything downstream of this assumption they use to build their model, this assumption that asymptomatic individuals are 75%, as infectious as not as symptomatic individuals cannot reveal anything about whether or not individuals are actually infectious because they've built that into the model everything downstream is suspect. They've built the assumption into their model.

**Bret** 42:18

In fact, they can't find anything else because they built it in it's circular. There is no

**Heather** 42:22

way for them to come to a different conclusion. Absolutely no way. Okay, so their results are holding the day of actually here, I'm going to show this figure in a minute when I find it, Zack, Okay, here we go. So I can you can show my screen. So this is figure one. This is, you know, it seems super mathy. And very confusing that I have this Oh, that's very sciency Yes. So figure one, the contribution of asymptomatic transmission under different infection profiles. We are going to for the moment, actually, for the entire duration of this, this podcast, skip down to the second row D, E, and F about which they say panels D and F show different proportions of transmissions from individuals who are never symptomatic. In in, let's see, in D, we have baseline 75%, relative infectivity. And e 75%. Relative infectivity, and in this one, they did change the relative infectivity so they have changed the baseline assumption here to 100% relative infectivity. They went right up to like asymptomatic individuals, we're just going to assume that asymptomatic individuals are exactly as infectious as symptomatic individuals. And we are going to be shocked, totally shocked when our model produces a result that says that asymptomatic individuals are close to as infectious and as symptomatic individuals. How does this pass for science? I just don't I cannot I cannot believe that this got through anything like these scientists brains or peer review or anything. So okay, Zack, and I have Thank you. How did they arrive at this number, the 75% baseline assumption? And then on what basis are they claiming to have messed with their assumptions, but actually only ever changed it in the upward direction they only ever decided to look at 75% as infectious as symptomatic cases for asymptomatic or 100%. Those are the only two numbers that they actually looked at. Well, the authors themselves say show in Okay, once more, Zach if you would in the method section, this table key assumptions and evidence and forming those assumptions. And here we're going to look at the section right here. Relative infectiousness of individuals who never have symptoms. And here we have these three references again, Li at all, which is referenced nine. They say they looked at 303 patients and found approximately 100% as infectious. Wow, okay. Okay, that melt them. So Only 5% seems like a decent estimate, okay, shot at all 2020 which was their reference 15. They this paper says they looked at 17 101 secondary contacts and found an infection rate of asymptomatic compared to symptomatic individuals of 40 to 140%. Wow. Okay, that's asymptomatic individuals are more infectious than some tabacon. visuals according to this paper. Better go look at the paper curiouser and curiouser and curiouser. Yes. And then the third reference that this johannsson at all paper looks at is McEvoy at all, which is actually a modeling paper itself, I should review paper that tries to do some modeling, and they found a mere 40 to 70%. And from those three numbers, these authors concluded 75 percents about right. So Well, let's see if any of those numbers hold. Right let's let's see what we have in Oh, there we go. Nope, hold on a sec. Thank you.

**Heather** 46:05

In Lee at all, what they did was they looked at 303 actual patients in a health center in South Korea. Cool, it's it's empirical. This paper finds compellingly that viral load and asymptomatic patients is similar to that in symptomatic patients. Okay, and they're not the this is not the only paper actually to have found that that viral load is similar in asymptomatic patients and symptomatic patients. But guess what? viral load is not the same thing as infectiousness or transmissibility. It's just not it's not the same thing. And the authors of this paper Li at all, which are cited by Johansen at all to support their ridiculous claim that 100% they so this Lee it all paper, Johansen is claiming claims 100% as infectious for asymptomatic versus symptomatic patients. Say quote, although the high viral load we observed in asymptomatic patients raises a distinct possibility of a risk for transmission. Our study was not designed to determine this. And under the limitations of their own work, they say quote, we did not determine the role that molecular viral shedding played in transmission from asymptomatic patients. So take away one of those three references that Johansen at all find, doesn't provide any evidence of transmissibility, much less 100% Okay, that's one we are going to get to these other two pretty quickly reference 15 Cha at all. It's an empirical paper tracking cases in Brunei following a super spreader event in Malaysia. So Brunei is a small country, there was a big event like 16,000 people religious event in Malaysia, some number of people came home to Brunei and and small country with a lot of track and trace possible and so they were actually able to look at what happened. So another empirical paper, that's pretty well done. Actually, I was I was pretty impressed with this. It's complicated analysis with a lot of variables. And just a reminder that Johanson at all find that this paper found 40 to 140% of cases, the 40 240% of asymptomatic case now, asymptomatic cases are 40 to 140%, as infectious as symptomatic cases. That's what Johansen reports about this paper. Well, what does this paper actually find? It finds that in the household setting, which is the only settings where they could find anything statistically significant. symptomatic case, patients had 2.7 times the risk of transmitting SARS COBie two as combined, asymptomatic and pre symptomatic patients. So that's a conservative number. So again, sorry for all the numbers but almost three times as much infectiousness in symptomatic patients versus the combined asymptomatic and pre symptomatic and never symptomatic patients. And when you look further into their paper, you find that of course, the pre symptomatic patients are more infectious than the never symptomatic patients. And what you don't find is any evidence for 40 to 140%. There's nothing in this paper at all that suggests that asymptomatic patients are more infectious than symptomatic patients. So where are they getting these numbers? Quickly, just the last paper is a review paper. And they they're, they're doing it carefully. It's review through only through April 8 2020. So it's, you know, early in the pandemic, which separates out never symptomatic from pre symptomatic cases. And it's a careful review. And what they do is they say we can't tell there's not enough out there yet. The literature is not rich enough wiki there's not enough empirical work, we simply can't tell and they specifically point to variable definitions of what infectiousness means. And they say okay, so very tentatively, given that we think that maybe asymptomatic seven About a point four 2.7 rate of infectiousness to that of systematics, which is exactly the number that the Joe Hudson cite here. And if you could just show my screen one more time, Zack. Once again, we have these three papers that the new Johansen is basing their nutrients and papers based on their numbers on Li at all, which was from South Korea, which actually has in my finding no evidence at all for transport transmissibility. And Johansen says approximately 100%. Sha at all, which was the case from Brunei, which as far as I can tell shows, a third or less asymptomatic patients are a third or less infectious as symptomatic patients and they say 40 to 140%. On the basis of which I cannot even begin to figure out and McEvoy at all, which is highly tentative numbers says 40 to 70%. Well, that number they actually got right, you can see that here, they actually got that number, they pulled it directly from the paper and it's you know, it's right there. So my conclusion from all of this is that Johansen had all this new paper, which I expect to start seeing reflected in, you know, in the CDC guidelines and various health officials recommended behavioural changes is that their their baseline assumption of 75% infectiousness, of asymptomatic relative to symptomatic cases is completely unfounded. completely unfounded, and it's possible. But we literally have no evidence for that in the papers that they cite, given that nothing in the conclusions of this paper should be taken seriously, no policy should be based on it. And we should seriously question any of the work that these guys are doing going forward, because what the hell were they thinking?

**Bret** 51:49

So can you go back to the title of the, the piece?

**Heather** 51:51

The the main one? Yeah, yeah. SARS Coby, to transmission from people without COVID-19 symptoms.

**Bret** 52:00

So I think a I'm wondering whether our longtime viewers are having a bit of deja vu because if you allow yourself to squint at this, just write it is very much like the situation. And unfortunately, I didn't realize until we were on the air, what the parallel was, so I don't have the name of the paper. But the paper that declared it w part of a mechanism of online echo chamber ring has the very same nature in which they build a model, that creates a shocking impression of a particular hazard. And when you go back and you scrutinize what it is that allowed them to build the model, it is in fact, perfectly circular. They built into the model, something that allowed them to pull that conclusion out. And in fact, in that case, we had the author of the article on which their assumptions were based saying, hey, you've misused my work. So it is exactly the same form, which then raises I think, a very interesting question, which is, why is why are we facing an epidemic of this style of science? Who is well,

**Heather** 53:11

who is served by those who like, I think, who are they working for? Or why are they this confused? Why are they this bad at actually understanding how it is that you build a model that can produce a result, that isn't exactly what you fed into that model?

**Bret** 53:26

I believe the problem is that we are up against evolution. What's happening here is very helpful is it? It's in order to properly frighten us and get us to wake up because the, you know, first of all, it's mundane, but realize that positions in academia, for example, are scarce. And therefore competition to get them is ferocious. And the way one gets competition wins that competition, is to publish a lot of stuff, published stuff that gets cited by others, etc. So in some sense, there's a niche. If you can say things that people will pair it, you're going to do well, and in fact, we see this if you look at, you know, citation rates and how they affect getting hired. It's spectacular, even when you're being cited because you're being mocked, right. In other words, the fact that your paper is cited a lot by people saying this isn't true, doesn't necessarily count against you. So what I'm getting at here is, I don't know why this is showing up in JAMA. Right. That's shocking and dangerous as you point out because policy is almost certain to be founded on this but what I suspect is privately as we've seen in many different places in the SARS Coby to COVID story, there is a behind the scenes consensus about what why is public policy is and then the facts are rearranged around it to make it look like it is also in your interest as an individual. And so the idea that we have a large amount of transmission from people who never show symptoms of courses, Justice Have a lot of the most draconian measures to prevent the spread of covid 19. And so, in any case, what that means is that people are looking for evidence that we need to do that those who have concluded for whatever reason, responsible or not public spirited or not, those who want to impose those restrictions are looking for things that justified and this paper is labeled to be confirming of their worldview, correct or incorrect. And so in any case, I guess what I'm saying is you've got authors searching for that which the audience demands. And this is, you know, as politics is the opposite of patriotism. Giving the audience what it wants is the opposite of science. Science is supposed to tell you what's true, irrespective of what you want to hear. This isn't science. It's circular, right? The point is, it looks like scientists dressed up as science, and it is presented in a sciency place. And that is going to be enough to drive policy.

**Heather** 55:56

Yeah, it sure is. And, you know, I, I desperately want the CDC to be awesome. And I used to rely a lot on CDC recommendations. When, you know, when we were doing a lot of tropical fieldwork and trying to figure out what vaccinations I need for where and, you know, the fact is mosquitoes, mosquitoes don't care about national borders. And so if you have yellow fever, or you know, or Zika, or malaria at one place, it doesn't, you know, and you know, right next door to one another, it is one place, it's not another place, it's really hard to know why that is, and the CDC was the CDC site. And in fact, you used to be able to call and actually talk with, with, with people who knew about tropical diseases was really excellent. I don't know to what degree it was always also political. I assume that you know, every organization that that size has a political arm. But one thing I did not do when I was poring through this paper and the other papers, until just now as you were talking is look and see what the author affiliations are of this Johansen paper that just came out. And I am disappointed to find that every single one of them are at the CDC, none of these are actually University scientists. And you know, of course the CDC is not just you know, it has a science arm and it has a policy arm and, and you know, those those things, there should be a firewall between those things, that policy should be informed by science, but science should not be informed by policy. And it seems like you may have a two way street going on here.

**Bret** 57:35

Well, so I would also point out, there's a difference between what the CDC recommends if you're traveling to X, Y, or Z place, which you know, was always good information, but it was often always too coarse and going to a region of a country where you know, there isn't malaria and there would be a recommendation if you're going to the country very

**Heather** 57:51

much. So treat yourself for it. But yeah, like, I'm gonna be at 1000 feet like I read, it's not right to be a thing. But in this case,

**Bret** 57:57

there's a perverse incentive, and we don't understand it. We don't know who's bidding the CDC is doing now I would also point out a third connection here. So we've got this style of work, which is on the one hand, totally different than the social science that goes into, you know, scaring people about, you know, right wing echo chambers and ITW. But the point is, okay, those two things look alike, because what's going on is the same, there's a hunt for an audience that is hungry to hear something and wants to see it, you know, science defied or what I've called ideal laundering. This is the science version of idea laundering, rather than the critical theory version. But the third thing I would say needs to be introduced in this discussion, is in fact, one of our we have like a full time detractor whose name I won't mention, but we have a full time to tractor who was mocking us recently weird work if you can get it. Yeah, it's weird work if you can get it indeed. But anyway, he was mocking us for being skeptical of models when it comes to climate change. But being convinced by things like Yamal, Peninsula, craters, retreat of glaciers, other things that don't depend on models in order to be able to interpret where we are. And the point is, this is actually the reason Yeah, of course, models are complex, you can make a model say almost anything and not for the right reasons. In other words, you can get a model to spit out a behavior that looks very much like something empirical. But to do so for other reasons. If you add enough parameters into a model, you can get it to look like what you want.

**Heather** 59:27

As long as you have the right expression on your face of like enthusiasm and mild surprise at the end, you can become convinced even yourself that you didn't just feed your result in to the foundational assumptions of the model, right?

**Bret** 59:38

And in fact, this is one of the things I always ask myself when I see a very good fit between a model and an empirical result is one of two things asked to be true, either it was built into the model, so that's all they could find, or it's accurate. So it's not that models

**Heather** 59:55

or the model is so narrow in its parameters that it has very little predictive Outside of those very narrow parameters, right? Like, the, the more, the more general a model, the less accurate it's going to be. And you have to accept that trade off when you're assessing whether, you know, just you know, if you had an actually good model that was actually legitimate and inflated assumptions and that were relevant, and you actually, you know, slid those that number along the entire range of zero to 100%, for instance, and you know, and saw what it what it spit out, then you still need to understand that the model is going to as it gets to be more and more generally applicable, it's going to have lower and lower accuracy, that is just an inherent unbeatable trade off of a lot of models. Right? Right. The

**Bret** 1:00:37

fact that the model is a match doesn't tell you anything and of itself until you do the kind of work you've done here. So anyway, in a general sense, models are a place that you can bury any number of bodies if you want to get x, right as a conclusion, a model is a great way to do it, because models are complex. And in fact, they did a very poor job of hiding their bodies here, right? They were fined double Yeah, but were this more complex, more technical, it might have been harder to see the connection. And so in any case, what I would say is, we have misunderstood the pee hacking problem, pee hacking being a description of a phenomenon that was discovered far too late, it was obvious that this was going on, especially in psychology, where effectively the p value, which is a statistical measure, that tells you how likely a conclusion is to be meaningful, rather than the result of an accidental sampling error, that this was a place that by obscuring negative results, and only publishing positive results, you can convince yourself of almost anything, right? If you have two things that don't correlate and you test enough times, eventually you'll get a random result that says they do correlate and you can publish just that one. And nobody else is in a position to even know that the other tests were done. So my point is, why did that happen? Because people want to jobs in psychology. And this was a place where the science was very hard to track models are the very same thing. So it's not p hacking, there's no p value there. But what there is, is the ability to build in a conclusion in the assumption layer, so we should call it assumption hacking. Right? Will there be a problem of assumption hacking? In? In models? Yes. Where will it be worst, where the things that are being modeled are most complex? That's one place and where there is a political prize to be one, if you reach certain kinds of conclusions, right?

**Heather** 1:02:27

assumption hacking? I like this very, very much. Yeah. I mean, I'm not a fan. But Right, right. I like the term very, very much. This is exactly right.

**Bret** 1:02:34

Yeah, I think I think it is, right. And so anyway, beware the models, right? It's not to say, you know, models, a correct model is excellent, but a correct model. For

**Heather** 1:02:45

many complex systems, it's what you're going to have? Well,

**Bret** 1:02:48

what I would say is a model is not a hypothesis test, a model is a hypothesis. And when you have a model that says X, Y, or Z is true, that tells you the prediction is we will also see that in nature, and then you go out and you find it empirically. But the number of people who think that you can take a model and test it in the computer, and that this actually saves you the messy work of going out and sampling. Sorry, it doesn't,

**Heather** 1:03:12

right, it doesn't I mean, in this case, you know, to steal man, what they were trying to do here, I will not attempt to steal man what they actually did. But what they were trying to do was, you know, having, you know, we've been in this for a year at this point, you know, and you're not all of us have been conscious of being in this damn pandemic for a year, but it's been a year at this point. And from the beginning, there's been an active question of, is it just when you're symptomatic? Or is it just when you're symptomatic? And if you're going to become symptomatic, and therefore, if you testing positive? Or is it, you know, everyone who has is testing positive, regardless of whether or not they become symptomatic, who is spreading this thing that's really going to change how it is that we need to, you know, enforce things like lock downs and such. And it's been, it's been a thorny problem to figure out because, because it's a pandemic, and these are people and it's giant numbers of them. And there are all sorts of parameters and that that paper, looking at 1700 people in, in Brunei was actually remarkable. I didn't you know, I didn't even show you guys the paper, but, you know, they looked at, you know, household transmission versus workplace of religious transmission, they, you know, they divided it up by age and by sex, and you know, all of these things. And, and still, it's really, really tough because if someone who has been exposed to like, you know, three people who tested positive then becomes positive, you don't know which of those three people whom they were exposed to, they got it from, right. So you just it is, this is actually a very tough thing to know, empirically, right? So it's a very tough thing. Now empirically, therefore, this is a place where a good model could really serve to actually produce some knowledge that you could then hopefully Tried to go out and test in small numbers before using it to make policy

**Bret** 1:05:04

right. And I would point out, go back to our very early live streams, we advocated both at the point that the aircraft carrier docked and it's, it was having a mini epidemic and the patients were removed. Rather than studying them in situ or isolating them from other patients. We talked about the necessity that some small population be tested, where these things could be tracked. And I would point out, I suggested and I think, several people pointed out that it was unlikely to be true, that was unlikely to be possible for security reasons. But that an Air Force Base or a military base, an isolated community, could be used to study intensively the transmission of these things. And in that context, you could actually figure out who got it from home, because you could use sequencing to figure out which mutations you could do phylogeny on the various particles floating around in the population, and you could actually figure out who got it from home and what that therefore means about what kinds of activities are dangerous, and which ones aren't. And I think the final piece to this puzzle is, I don't know how this got politicized, right, this COVID is it should be galvanizing not just for the entire nation, it should be galvanizing for the world. And yet it has been because it has been dumped into a political landscape, it has been wielded as a weapon. And what we've gotten out of it is piss poor policy. And if you had at the beginning said, Hey, this is this cannot be politicized. This is off limits. And you put smart people together to figure out how to understand the way this thing works, what policies work best, what you could have done is an analysis where you basically had, you know, you want to minimize the authoritarian moves under the curve. Right. So the idea wasn't, that's, that's that move is, is destructive of rights. The idea is you want to do minimal destruction. So short term intensive lockdown, for example, outside is safe, go outside, open the beaches, encourage people to go outside so they don't go crazy outdoor dining, right? Whatever it is, you could have gotten very intelligent, highly effective policy. And instead, what we got was a compromise between science and everybody's agenda and the degree to which they could wield power to make it happen. And it's killing people.

**Heather** 1:07:31

And well, I mean, it did in its in its defense, it did manage to destroy almost everything except the virus.

**Bret** 1:07:36

Yes, it's a it's got civilization back on its heels,

**Heather** 1:07:40

and all of that mental health of the entire world, the economic health of all economies, I think. Yeah,

**Bret** 1:07:46

absolutely. All right. Well, that was interesting. Yeah,

**Heather** 1:07:52

I wish so I guess retrospectively, I want to apologize for the confusing nature of this. I would, you know, I would, if I were in a classroom, I would have, you know, I had do PowerPoint slides to show you guys and been walking it through somewhat more slowly. But the point is, they fed a number that was entirely justified unjustified into the assumptions of their model, and had no business trotting out the results of that model, which said exactly what it had to give them what they fed into it.

**Bret** 1:08:25

Yeah, yeah, it's Yes. And in some sense, you could you could see this, it's almost like saying that many on the far right show no symptoms of being on the far right. And yet we know yes, no symptoms. Yes, indeed.

**Heather** 1:08:43

Indeed. Okay. Um, couple more things before we finish up with what you want to finish up with. So Washington Post had a little blurb this week, I found out this morning and then when I went back later this morning, it had been taken down so I now only find this in like the Telegraph, which is paywall in New York Post. And you know, I don't really want to be putting up the New York Post on here. So I'm just going to tell you, you already know that basically, that the take home here is that you should walk your husband if you can't walk your dog. Yeah, yeah. So there is I mean, I guess here's the New York Post. You can go ahead and show it sex. So again, wapo had it and they've taken it down. Now wait

**Bret** 1:09:25

a minute, you buried the lede here that looks like a leaf.

**Heather** 1:09:30

You think she was just walking the leash?

**Bret** 1:09:32

No, no, I think she had her husband least or at least that's the implication.

**Heather** 1:09:36

Yeah. No, I mean, that that is but apparently it was they, you know, they were both into it. Apparently. The idea that the idea was as a story from Quebec, in Canada, where the only way that you were allowed to go outside for some period of time was if to walk your dog. And of course, this left you out of luck if you had no dog and so this woman Her husband decided that she would walk him. And when approached, she claimed that she was just walking her dog. And they got fined and apparently they do yelled at the people finding them that they would happily accept the fine and continue to walk. I don't know if they were going to walk each other if they were going to swap or if she was always going to be walking him, but

**Bret** 1:10:19

goes on between consenting schnauzers.

**Heather** 1:10:22

It's not our business. They should keep it indoors, probably. Oh, yeah. Well, but the consenting schnauzers part, but I mean, I think this is a brilliant response to an idiotic policy decision. Yeah, I agree. Right? Like you. You're allowed to go outside to walk your dogs. We understand you don't want dog poop in your house. But and you're still apparently had to keep keep within a half mile of your home? Like you couldn't just go on long walks. What the hell?

**Bret** 1:10:52

Well, yeah, this is this is not an you know, you and I are getting hoarse. shouting about how it doesn't there's no evidence that it gets transmitted outside. And I will keep saying caveat, let us make sure that these new strains that appear to be much more infectious are not simply ones that have just learned a trick like that which, frankly, could be it's quite

**Heather** 1:11:18

possible see no evidence of it yet. But but

**Bret** 1:11:20

no evidence, but won't be terribly shocked if that's what's going on. So,

**Heather** 1:11:24

which, which changes the landscape entirely? makes this all much more horrifying, frankly. Yep. Okay, one more thing before, before we go where you want to go, which is the another up so don't show us yet sec. I can't remember where I got this from now. I think this is the this is the Johns Hopkins newsletter. So I also go to Johns Hopkins newsletter that is mostly doing COVID updates every week. And it does sort of counts both cases and deaths across the world and then talks about some of what's going on regionally. And in Oceania. Here you can show no, Zack, just the top paragraph Australia and New Zealand have both demonstrate this is from this week, the fifth to the 15th. But it's not the Yeah, I think it was from yesterday, the 15th. Australia and New Zealand have both demonstrated the ability to effectively contain their respective COVID-19 epidemics. considering their success and limiting transmission. Both countries are reportedly delaying their vaccination campaigns until mid to late February. This extra time will allow health and regulatory officials to gather more information on the efficacy and safety of the various SARS covi. To vaccines and vaccine candidates. Additionally, the delay will provide both countries an opportunity to better prepare the distribution plans. I think this makes the governments of Australia and New Zealand fascists, our at least anti vaxxers does it not?

**Bret** 1:12:53

Interesting question. And to me, it makes them sound quite reasonable, quite reasonable.

**Heather** 1:12:58

Like they have actually done a good job on the front end, unlike, for instance, the United States of controlling transmission. And as a result, they have a little bit more leeway to say, you know what, let us hold off because these vaccines are brand new, and no matter how safe you say they are, we simply cannot know. That is something that apparently, is what Australia and New Zealand have said and they're allowed to do that. So so should the rest of us be allowed to have those conversations and have those questions, we

**Bret** 1:13:32

should be allowed to have those conversations. Of course we're in a different Yeah, as you point out, we're in a different circumstance, because the control has been poor to say the least earliest time. So which actually brings us to the second to last thing, which is equity, put up the New York Times article I sent you on the COVID vaccine death. So I wanted to point something out here and I want to be very careful that people don't over interpret it. But this is a news report of a death that looks very much like it was caused by the Pfizer vaccine. And I don't say that casually. In this article, an expert who was not involved in the case as basically it's hard to avoid the impression that this was a direct causal link between this doctor's death and the vaccine that he had gotten 16 days earlier. Now, okay, so this is a doctor who has died, apparently from the vaccine. Now in and of itself, I don't think that necessarily means anything. Many people are dying from COVID we should expect there to be a certain number of strong reactions, people's physiology varies quite a bit. And so in

**Heather** 1:14:54

every medicine should be expected to have some extreme adverse effects on hopefully In a tiny, tiny, tiny minority of people who are receiving that medication, that, you know, a number an anecdote doesn't say anything about frequency, or, you know, risk risk riders.

**Bret** 1:15:11

And in fact, Zack, would you put up the COVID vaccine tracker site that I said, Yeah. Nope. There it is. So we have, you know, numbers that this death should be put in the context of so we have almost 38 million doses have been distributed in 49 countries. 2.4 1 million doses per day in the United States, we've got 13 million shots, almost a million doses are administered per day. So these are very large numbers and one person's death, you know, is certainly shocking and should give us pause. But it's not in comparison to those numbers. It is not a reason to panic.

**Heather** 1:16:00

However, you're not bringing it up for for that

**Bret** 1:16:02

reason, right? I'm not bringing it up for that reason. But if you go back to the news report, and if you could enlarge it a little bit, and scroll down. Okay, so here it is. Shortly after receiving the vaccine, Dr. Michael developed an extremely serious form of a condition known as acute immune thrombocytopenia, which prevented his blood from clotting, effectively, Maya, this is a new disease to me, but my understanding is that it is effectively the immune system attacking a component of the blood clotting. blood clotting is a very complex phenomenon that involves a cascade of things, platelets being the beginning of the cascade where platelets are broken, open, spilling out chemicals that trigger this cascade that results in clotting. So effectively, some catastrophic failure of his clotting ability ensued in the aftermath of his getting the vaccine and ultimately he died of it. But the reason I raise it is because when we were talking about these new mRNA vaccines, and the Pfizer vaccine is one of the newfangled mRNA vaccines, two or three episodes ago, two or three episodes ago, we were talking about what we don't know. Now, what we don't know is anything at all about the long term effects of these vaccines, because there hasn't been a long period of time since anybody has had them. And so whether or not they turn out to do any harm of a long term nature, we have no idea. But is the possibility there, yes, it's there, not only because these vaccines haven't been tested in anyone over a long period of time, but because they are on a new platform, and therefore possibilities that we could rule out on the basis that we've never seen X, Y, or Z platform do that before, we can't rule out here, because these things are truly novel,

**Heather** 1:17:47

or at least have a much higher certainty that it wouldn't be happening. Right.

**Bret** 1:17:50

So what I do want to point out is that in talking about what could be downstream, and in my opinion, virtually anything could be downstream long term. We don't know what it means. And the fact is, there's enough novel about these vaccines that the you know, and we're talking about a complex system, the human body, we really don't know what's going on. But one possibility is that a vaccine like this could interact with the immune system and cause an autoimmune disorder, right? That would be a big frightening problem. Now, this is one death. But that is an autoimmune disorder. And so my point is just simply proof of concept. Can these vaccines cause an autoimmune reaction up through the level of being fatal? Apparently,

**Heather** 1:18:34

I mean, of course, Pfizer is saying it's not connected.

**Bret** 1:18:38

Well, Pfizer is doing what it has done from the beginning, which is effectively using careful scientific language to suggest safety. In other words, yes, we cannot establish anything on the basis of one death, even if it's conspicuous, the connection. And so what I would say is, we don't know. It is also the case that this very same disorder can be caused by COVID itself. Now the case is, I believe all of the cases that have been witnessed and it's not a huge number. But all of the cases of this disorder that have been seen following people contract and COVID have not been fatal. Some of them have been serious. But in any case, we are dealing with a complex system. The immune system is a is built to deal with anything novel that it runs into. And so this is an obvious possibility, and it's something that we need to track we need to be thinking about what the long term dangers are here and the example of Oceania deciding to wait a little while and see what turns up is wise especially if you've done the front end part right. Not allowed this to get politicized and you've deployed good policy. You can afford to wait

**Heather** 1:19:52

yeah, good good for them. They had an easier time than a lot of countries because they're the opposite of landlocked right because they haven't Airlie water borders. Of course, the US is, you know, does not have entirely water borders. But it is an easy should have had an easier time than, say some of the countries in Europe, although the sheer size and scope of the United States makes things more difficult.

**Bret** 1:20:16

Yeah. Well, if you'll think back to the early part of the, the epidemic there was talk about effectively preventing people from crossing our borders and it was treated as sino phobic.

**Heather** 1:20:32

Yeah, well, and at this point, American passport is never been worth so little as it is right now.

**Bret** 1:20:39

Yeah, yeah. Yeah. All right. I think we've got one final thing. Yeah, we do. So I wanted to relay a little story that I'm aware of has no actual meaning, it has symbolism to it that has no meaning. The story itself has some meaning to me, but I just wanted to mention it. So my kids and I have been riding in fact, all of us have during the summer ride through a cemetery nearby beautiful cemetery, actually, it's shocking how nice the cemetery is. So my feeling about it is, you know, if you have to be dead, and I'm not saying you do, but if you have to be dead, this wouldn't be a bad place to do it. Yeah, just it's very beautiful. That's it's

**Heather** 1:21:24

giant to I mean, it's, you know, it's not like we seek out the cemetery and hang out there. It's really, really large, and it gives us access to the river on the other side of Portland,

**Bret** 1:21:33

right? And in fact, you know, people mock Portland a lot these days, but because it's Portland, there is a desire to facilitate things like bicycling and as improbable as it sounds in a litigious society the cemetery allows people to bike through it to get from the highlands in the southwest down to the lowlands down to the river and in fact it's the only good way to do it right everything else is dangerous and traffic even through the cemetery is quite beautiful so anyway it's it's whenever we make that transition we go through it so you

**Heather** 1:22:06

and often one of our boys I've been doing that consistently even as the weather has gotten terrible I it's probably been since October that I've gotten on my bike and done it Yeah,

**Bret** 1:22:16

I forced myself to do it even in the winter. But anyway, so there has been for I don't know I don't know how long they've been there but I've been aware of for seven or eight months I'm sure they'd been there a lot longer than that. There's been a pair of bald eagles that is frequently visible in a tree on this route, and I always check in with them. And anyway, I

**Heather** 1:22:38

named them Yes, well, I

**Bret** 1:22:40

didn't then I just I'm following suit they I believe they are Mitch and Fiona. Pair of bald eagles, and they raised a chick this summer. But in any case, whenever I go through I check to see if I can find them and I took Toby some time back and he actually found the nest that they're in totally different tree a beautiful DJI hi hi oh quite high up beautiful. Eagle airy you know if you've seen an eagle mass, it's must be eight feet across very large limbs and all anyway beautiful Eagle's Nest and so I just check in with it every time I go through and I was on the day of the impeachment. I was riding through the cemetery and I was looking and I couldn't find it and you know there are a lot of trees so I figured that I'm just forget exactly where it is. And as I got closer and closer, I realized it wasn't there. And the tree had actually collapsed this Eagle tree

**Heather** 1:23:43

we had we had had a massive storm with you know, flooding and you know, with the 84 and the 101 we're underwater like there was a massive storm that we had experienced. So it's not it didn't just collapse all of a sudden, Bluebird sky day.

**Bret** 1:23:59

No, no I did. It was there was a tremendous amount of water flowing off off the hill. I was actually I was on the phone. I have a helmet that allows me to talk and I was talking to our moderator, the Dark Horse moderator as I was writing in so she actually heard as I'm discovering that this Eagle tree is no more yeah Zack would you put up the image so here is an image of the tree having collapsed and destroyed a monument there. Anyway I was very alarmed when I saw this and you know I didn't know if the birds had gotten out. I found the place where the nest would have landed and it was just absolutely obliterated. And anyway it was getting dark The first time I saw it and I so they

**Heather** 1:24:46

wouldn't have had eggs or checks at this tower here. So this is at least the right moment for this to fall if it were to not kill any baby eagles.

**Bret** 1:24:55

Yeah, as I was looking around, I spotted one of the And then I watched it for a few minutes and the other Eagle showed up so they survived. There. Okay. And any In any case, I went back the next day with Zack. Zack, you want to show the picture? So I wasn't able to get Fiona? This is Mitch. I can tell because he's smaller. And that's the way it goes in, in bald eagles in Raptors in general. Raptors in general. Yes, actually. Dick Alexander, my PhD advisor was very fond of this result that sexual competition tends to make males larger, and females smaller acceptance species that compete in three dimensions where it goes the other way. So anyway, so

**Heather** 1:25:47

is it. Is it true that?

**Bret** 1:25:49

Yes, it is.

**Heather** 1:25:50

It is true that Yeah, no, that's cool. All of them.

**Bret** 1:25:54

I'm not gonna say that

**Heather** 1:25:55

every 1100 species? I'm not

**Bret** 1:25:59

gonna say that. But yes, the ones I'm familiar with, it is true. So anyway, here is this bald eagle. And obviously, the symbolism that one could read into this is tremendous. On the other hand, you know, it's a it's a beautiful bird sitting in a tree at sunset. And, you know, it is our national bird and, and anyway, quite deserving of that title. So I thought I would point this out. And maybe that's it. That's,

**Heather** 1:26:27

that's gorgeous. He's gorgeous. He has

**Bret** 1:26:30

gotten Yeah,

**Heather** 1:26:31

I hope I hope he and Fiona find another appropriate site and begin building straightaway.

**Bret** 1:26:37

Yes. And if they do find one that I'm able to figure out where it is, I'm going to try to document their constructing of their their new nests,

**Heather** 1:26:45

of which you and we have, you know, some experience not just when we've actually been in the field, but in our old house, actually, in Olympia. We had Steller's Jays build a nest and a giant Rhododendron right outside her bathroom window. And we watched them, raise three chicks and fledge them and they all survived. And the next year, Robins took over that same nest and kind of fix it up, but not really they were much they cared much less about the quality of their housing. Now the original Jays did. And they raised, I don't remember how many successful chicks. I think it was three three as well. Yeah. So it's, it's fantastically fun to actually go out into the world and observe things. In order to know what's unusual, you have to have were talking about this earlier, you have to have a sense of what the baseline is. And so when you first start spending time in nature, you don't, it doesn't necessarily seem as interesting to you necessarily. Because the the university charismatic events are rare. You know, it's rare that you see a fight or sex or something. But there's a ton going on all the time. In order to interpret it, you need to know what is normally going on, and whether what you're seeing is unusual. And so you have to have you have the more time you spend outside with your eyes open, the more likely you are to start seeing things that are unusual and fascinating every time you go out.

**Bret** 1:28:08

Yes, and in fact, in this case, Surely this is a phenomenon, you know, trees fall down at some rate. Eagles put their nests in trees that are large enough to give them a good vantage point, which means they tend to be old trees. So this has to be some sort of a hazard that the Eagles are are having to navigate. But I would point out actually, now that you mentioned it, that we have a second experience at a very different scale. As a family of something very similar, which is several years ago, three or four years ago. We were love Zack and I were a day earlier, we were in Dunn's Mir in California, near Shasta, and you joined us a day later. But we had gone down we took a little walk and we went down by a river and we discovered a swallows nest in a snag. So there was a hole in the snag, and the swallows were flying out of it, presumably collecting insects and coming back and feeding their chicks. And anyway, it was pretty nifty to watch and you know, it was right up your alley. So the next day we brought you back to see it and we at first couldn't find the tree. And then it became clear that the reason we couldn't find the tree was that it had broken off at exactly the place where the animals had built their home inside this hole and they were still there. Right But now they're in the top of it as opposed to the middle in the open top of this tree. So anyway, there's only

**Heather** 1:29:38

their building of you know, that whole nesting does reduce the, the structural integrity of the material.

**Bret** 1:29:45

Yeah, I mean, you know, even so some birds might excavate a little bit I don't know whether swallows do. But even if they don't just the simple fact of the humidity changes and things if you bring nesting material in There it's gonna capture you know some humidity it's going to cause the wood to rot faster. So anyway, there's some question hinted at here which is you know, what is the influence of nest destruction? You know, on nest building behavior How good are birds at figuring out what trees are the best bet

**Heather** 1:30:20

I've got maybe another another segment another time I've got this beautiful book on effectively the anatomy of bird nests of all these different kinds of nests that that birds build under different situations. Really, you know, different different phylogenies of birds and different different types of nests. And I don't know, though, how much has been done on the effective nests on the underlying substrate.

**Bret** 1:30:43

Yeah, it's a good question. And of course, this reflects back to, to my work my dissertation work on tent making bats, which is very destructive of the leaves that they make, you know, tenser, these large understory leaves that the bats cut very precisely so they collapse in a very tent like fashion. Now, if in some plants, the leaf, you know, it, the plant doesn't have a lot of structure beyond the leaf, and then some other plants, you know, it's one leaf, or sometimes bats, a group of them will build in one plant, and they will damage a whole bunch of leaves on the same plant. So anyway, there's some some interaction there to be studied as well, in terms of what the effect of the bats is on the plants.

**Heather** 1:31:28

Yeah, for sure. All right. All right. Well, so I guess our usual end of show announcements, we have some stuff available shirts, mugs, the likes at store dot Darkhorse podcast.org, you can join either of our Patreon for access to the discord server, which among other things, we take one question a week from people voting on them on the discord server. And you can also get access to them once monthly, private q&a at my Patreon and access to some more intimate yet conversations that Brett has on his What else? Email Darkhorse moderator@gmail.com for any logistical questions like how do you ask questions for us to answer in the second hour, although we'll say it right now it's through for now. It's through Super Chat on on YouTube. We were supposed to have our next meeting to move forward our other plan but our power was out for almost a day in the middle this week due to that storm. So we had to delay that and what else we'll be back for those of you listening in a week. And for those of you watching if you have the interest and wherewithal and about 15 minutes. All right, be well everyone will see shortly. All right.