Bret and Heather 49th DarkHorse Podcast Livestream\_ Politica...

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**SUMMARY KEYWORDS**

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**SPEAKERS**

Bret, Heather

**Bret** 00:35

Hey folks, welcome to this test of the audio visual system associated with the Dark Horse podcast which will be live in just a few minutes. We are just doing our usual check to see whether the audio and video are in sync whether or not the amplitude is correct for you to hear it on your system, and whether everything is good to go. So please tell us in the chat whether things seem copacetic they seem copacetic if you feel good about what you've seen, they're probably copacetic

**Bret** 01:07

All right, we've got feedback. We'll see in a few minutes. Hey folks, welcome to the Dark Horse podcast live stream number 49. Is that right?

**Heather** 06:25

That's it for today we are perfectly square.

**Bret** 06:27

We are very square, we're always a little square. But so in the audio visual check before the podcast, we always do a little check just to make sure the equipment is working. And somebody in the chat said they could hear me and see me but wanted to know if it was normal. If they could smell me, I wanted to just take a moment to respond and say no, it's very unlikely you could smell me, but probably you're having a stroke. So you might want to look into that. Or

**Heather** 06:55

if you're lucky, or you're having a synesthetic experience, and keep up with it

**Bret** 06:59

always synesthetic it could be the mushrooms kicking in? Or just your brain or just your brain. Right, exactly. Okay, well, cool. So where should we begin today?

**Heather** 07:11

Well, we want to talk about a number of things we want to talk about the political compass test. We want to talk about complex systems and both meson terian. Helium, obviously. And we want to talk a little bit about sulphonates. Yes. And probably other things as well. Should we start with political compass test?

**Bret** 07:27

Let's start with the political compass test. Okay.

**Heather** 07:30

Do you want to begin by just describing what you understand it to be?

**Bret** 07:34

Sure. Political compass test, if you went way back in my Twitter feed a couple years ago, you would find me saying something like, you didn't want to engage the modern era politically without at least running through the political compass test, because it adds a dimensionality to the ability to understand people's political position that isn't there in the classic right, left dimensions. So if you imagine a system of two axes, the left right axis is the same as normal, political left and political, right. But there's a second axis, the vertical axis that goes from libertarian in the bottom up to authoritarian the top. And the idea is that this gives you four quadrants that describe different sorts of political ideologies. Right. So

**Heather** 08:23

that's a small l libertarian, this is not a map for the big l libertarian, political party that we have in the United States, for instance,

**Bret** 08:30

yes. And in fact, if you look on my Wikipedia page, you will see that I am quoted as describing myself as a left libertarian, which is sort of a head scratcher, if you think of it as big a libertarian, but it is, of course, a little libertarian, which means very Liberty focused, as opposed to trying to dictate how things ought to be.

**Heather** 08:54

One one way I've heard it described is libertarian versus authoritarian access, is that those near the authoritarian end prefer to use power to accomplish their goals. And those closer to the libertarian end prefer to use reason or perhaps gentler forms of coercion. So you know, give given that you might imagine that politicians people who have decided that they want to be in a position of power would lean towards the authoritarian end of the axis simply because they have chosen to to be in a position in which they hope to exert some control in many cases to try to do good, but that but that power is inherently part of the job description.

**Bret** 09:40

Well, I want to I want to back us up just slightly because my sense is that it's not that libertarians like me and you small l libertarian libertarians want to use gentler forms of coercion. I believe the bias really if you if you By chase down what we actually believe it's we want to minimize the coercion necessary to accomplish the objective,

**Heather** 10:06

which is why the power versus reason, description seems just too, too much in favor of the libertarian and for me to say it without any qualification qualifying words at all, because it seems like you know, that must be my is showing, but it I think it is pretty accurate, frankly,

**Bret** 10:25

well, let me I think where it goes would be something like this. For me at least I will say the mechanisms I favor most to accomplish an objective like leveling a playing field would be incentives that allow the market to solve problems. Right now, I'm not a market fundamentalist, I don't believe that the market inherently solves all of our problems that we just give it leeway, I actually think we need to very carefully think about what incentives to place. But once we placed those incentives, market mechanisms allow people essentially to discover whether they are on the right track by whether or not it rewards them. Again, this is not the system we have lots of people get paid for doing terrible things to society. And that shouldn't be, but a system of proper incentives would be a very gentle way to get society to function better than it does.

**Heather** 11:18

Yes. So the the people who made the political compass test decades ago at this point, have, have taken a lot of flack for it. And have also responded almost entirely, as far as I can tell with with careful nuanced discussion of what it is that they're doing. So you can go online and take the test yourself. And it will plot you on this on this graph of two axes. And then it will also show you who among historical figures, both past and present, you are like and unlike. And for, for reasons of a little bit more diving deep into the final chapter of our book, I went back and took it again recently this week, and was noodling around on their site and found some of these charts that they have in which they have plotted current his current political figures on so I want before we show that so this is we're going to show a graph, the little compass test graph of their estimations of where the the candidates for president in 2020 in the United States show up on the graph, all of them, not just the two major party candidates, but all the democrats who are running the Republicans, the green, and the libertarian. So how do they, you know, how do they get to these? Do they get these politicians to take these tests? No. And maybe some of them do. But their position is, and I'll just read here from their site, you don't have to show the SEC. On their on their FAQ page? How can you determine where politicians are honestly, at without asking them? And you know, before I even read their answer, I would say, as an animal behaviorist, I used to joke Oh, wouldn't it be easier if we could just interview the bees or the beavers or the parakeets like no, actually, because they'd lie? That'd be where politicians lie. Of course, they would, you know, of course they would. So what they say here is, how can you tell where they are honestly, at by asking them, especially around election time, we rely on reports, parliamentary voting records, manifestos, and actions that speak much louder than words takes us a great deal longer than simply having the politician take the test, but it's also a far more accurate assessment. Okay, so they go on a bit, but given that, let us show Zach, the political compass tests estimation of where in 2020, the US candidates for president fall on their graph, left his left right is right top, his authoritarian bottom is libertarian. Right, almost everyone who was running for president in the United States this year shows up in the authoritarian right. Trump, of course, pence Of course, Biden. Yeah, not really that much farther left than Trump and only a couple squares down in the authoritarian access. Harris. Similar position to Biden as Biden is to Trump. Almost everyone else, the the big exceptions, and I was so pleased to see this gathered, telsey gathered. And then we have Hawkins as the green candidate. Over over on in the left libertarian camp, and Joe Jorgensen, who's the Libertarian candidate for president Far, far right in and libertarian camp, and Sanders and gravel also in left libertarian.

**Bret** 14:40

So I want to point out a couple of things here. I have to say I both do and don't buy this graph. And the reason is that I'm afraid that what we are seeing is downstream of the effect of a giant magnetic force.

**Heather** 14:56

Yeah, and what up but that wouldn't that wouldn't mean That this was untrue, it would just mean that these characters don't necessarily have the agency that they pretend they do or think they do.

**Bret** 15:06

Well, I think I think it means two things. And one of them is consistent with the interpretation presented and one of them isn't. Okay. So if you imagine a system that will only accept answers that don't up and what it finds sacred, right, then it will essentially filter the world of potential candidates for only those that are consistent, and therefore you will get this amazing bias. It's not like, do you want you want to be showing this? Yeah, exactly, you put it back up. So all of these candidates in the upper right hand quadrant are effectively in the upper hand right hand quadrant, after we know of them and after they have ascended to a point of seriousness in these races. And so in some sense, that is you're seeing the validation of the duopoly there and it is not surprising that the duopoly favors authoritarian measures and is far right leaning, right. That's, that's its its bias. So on the one hand, this is a filter of individuals, that part would correctly reflect their position here. But then the other part, which is going to be very hard to disentangle from this is that their tendency to say things that allow them to move into the next round to live to fight another day politically, means that they may not tell us what they really think, you know, is Bernie Sanders. Really that close to the actual center? You know, by some measures? Yes.

**Heather** 16:33

But this is why I mean, that's why I read part of their answer to the question about how it is that they place the cat the the politicians that they do on these graphs, what they do, which is that they use actions whenever they can voting record some such, right, so not not just words, but if it's words at work, it's words that have something demonstrating skin in the game behind them,

**Bret** 16:55

right? So the real question I think, people should be asking themselves is if you take this test, and you don't come out in that upper right hand quadrant, and then you imagine, well, were I to enter the political landscape? How far in that direction? Would I find myself moved? That's a really important question. And the fact that you would find yourself moved at all is really the hidden message here. Yeah. Right. The fact that our system just simply refuses to accept anything of a different type, the height that it might, it's systematically marginalizes things in the lower left hand quadrant, or the lower right. Yeah, I would say it does, though, there is a well, no, I guess, I guess it does systematically, marginalize both different

**Heather** 17:42

and you know, according to this, we have no one in the upper left. Now, you know, you and I would argue, and I think, I think that most people would argue, given the description of what this is trying to describe, yeah, that we should be minimizing anyone in the upper half of this, of this at all. So when I say there's no one here on the upper left, it's not that I wish that there was that said, I wish that there, you know, all those people in the upper right quadrant, were down in the lower lower half. And frankly, if they were all in the lower right, we would have a much more fair, unjust world, even though you and I are both pretty far over left in that lower left quadrant.

**Bret** 18:17

Yeah, I would agree and I you know, one of the critiques that has been leveled is that nobody will place themselves in the upper part of this, this graph show right now they they will accidentally by answering the questions, honestly, but there's something stigmatizing about the label authoritarian, whereas libertarian, small l at least is not stigmatizing. But I will also say, you know, in some sense, the upper left hand quadrant is in the street, rebelling in a very frightening way. But yet wokeness is unrepresented on this graph with respect to modern politicians, though many have paid lip service to it. And so there's a question about,

**Heather** 19:04

I also wanted Mao and Stalin and Che Guevara and such in the upper left is

**Bret** 19:10

rightly Oh, historically, yes, modern times now. And you know, we're seeing a resurgence of this, which is frightening, right? Because of where all of those examples point. But the other thing I wanted to point out, and I wish I wish we had this paper but a couple years back there was a paper that suggested that authoritarianism was actually personality type and that many of those that we find on the authoritarian left actually would be just as happy on the authoritarian right if the winds were blowing the other way.

**Heather** 19:37

We talked about one piece of research that came out a number of episodes ago, that was not from a couple years ago, but more but more recent. We specifically talked about such a such a piece of research it's

**Bret** 19:48

possible I'm misremembering when it when it came out, but in any case, it is worth considering where you would where you would find yourself in the absence of these other influence. says, What motivates you to be there? You know, in other words, there's a lot of self serving economic conservatism in the upper right hand quadrant, whereas ideological economic conservatives often find themselves in the lower right hand quadrant. In other words, it's it's an actual belief that if we just simply clear the decks of obstacles, people will find their way to success and it fixes problems. Yeah, you know, and it's not that there's no truth in that but it's far from a complete solution as you and I would see it. Now this is

**Heather** 20:37

this is verification list, I think, but I find it interesting that the characters that I have the most strong visceral reaction to are very far over right and the two that strike me particularly even farther, right the Trump on here are Bloomberg and Inslee. And you know, Bloomberg, I think every American watching at least will will recognize who he is. And at the point that he started running late in the game. Before it looked like Biden was the heir apparent I said to you, I cannot believe that there's some chance the democrats are going to elect are going to nominate this guy. He is he is so not on the left. But Inslee, who is who ran briefly is the governor of Washington State and pretends to be pretends to be interested in the climate, you know, that's like that's his issue. And so it would seem like, you know, good environmentally interested people like us would be in support of him, but he is at best a stuffed shirt. and at worst, a completely a completely corrupt, frankly, caricature of a politician is just is he is inept.

**Bret** 21:41

Yeah, in some ways. He, He is the same level of emptiness of Joe Biden, but he's accomplished it without the senility, which is, you know, quite something. Yeah, no, it's true. So actually, I

**Heather** 21:54

guess that's appointed his favorite that is

**Bret** 21:55

I disappoint his favorites, you know, so hard to do, but Okay, so this actually points to another odd anomaly that happened this week in the Wall Street Journal, actually. Okay. I don't know. You and I have not talked about it. But you may have seen it. Where the wall street journal published an editorial an op ed. decrying the lack of honest liberals fighting back against the woke revolution. You see, did you see this? Yeah, I

**Heather** 22:25

tweeted about it. Jason Stanley. Jason's No, no, no, no, no, no,

**Bret** 22:30

it was

**Heather** 22:31

not Nope. Sorry. That's totally wrong. I'll look into it was you talking Riley

**Bret** 22:35

maybe. In any case, this was an amazing error. Because the Wall Street Journal has been exceptional in publishing a great many Jason Riley, Jason Riley. It publishing a great many honest liberals who have pushed back against Boko Haram. It's almost a singular exception. In this regard. They published you they published me Peter Bogosian. They've discussed Jonathan Hite, they've published john McWhorter. They've interviewed Greg lukianov. So there's this long list of people and somehow, either Wall Street Journal opinion page decided to ignore their own history of publishing these people or they forgot.

**Heather** 23:20

Yeah, so the quote, The quote that I pulled from the piece was, there is no shortage of conservatives willing to push back against this pernicious nonsense, but wherever the honest liberals gone, and to some degree, and this is what this is what I said, online, we're told in part, what you're seeing if you're on the right, and you think that no one on the left is speaking to this, like, partially, it's just it's a it's a disingenuous, and just honest assessment coming out of the Wall Street Journal, for precisely the reasons that you say. But in part, we are told that our very criticism of this ideology proves that we're on the right, right, so it's it, there's no, there's no winning, there's no being able to continue to claim that you're on the left here critiquing the really horrifying ideology that is emerging from the left. And that makes it even easier for everyone from, you know, journalists who are being who are being published The Wall Street Journal, to just use your rank and file people on the street who have either a lifetime of voting on the right and of being conservatives, or have moved from the left to right over time. And anyone who moved after them, I find they want to point a finger and say, Where were you How did you not see this until I saw this? And fact is that we you know, we should all be interested in everyone's eyes being open to whatever is true at the moment. Some of what is true is some very scary stuff going on, on on the far left. And you know, there's a lot of stuff going on across the political spectrum. But the idea that you aren't welcome unless you arrived at the revelation at the same moment that I did. That's that's not going to end well.

**Bret** 24:58

Yeah, it's it's crazy. And it speaks to a you know, you and I talked about the fact that analysis is very important to get right but that what most people is narrative but the problem with that is it also means that narrative control is effectively the ability to overwrite analysis. And so what's happening here is that we, you know, it's like we are vampires who do not reflect in the mirror, right? It the narrative is that there are no liberals pushing back that conservatism is the Bulwark that will stop this thing, right? liberals are completely absent from the fight. And it's total nonsense, right? And, you know, back in the early days of ITW, you know, we we just watched this unfold in every major publication where all sorts of liberals you know, Joe Rogan, Sam Harris, you and me, Eric, all of these people were just simply portrayed as on the right because it was necessary to the narrative that we be on the right even though Christina Hoff Sommers, Christina Hoff Sommers. Sure. And the you know, the answer is actually things like the political compass test are very useful because you can go and check you just deliver. You know, your honest answers and see where you come out. So

**Heather** 26:14

it does require that you're honest. Yeah, just presumably the test is gamble, if you're trying to game it

**Bret** 26:19

for Are you can spot questions that move you one direction or another, but if you answer it, honestly, you can find out.

**Bret** 26:26

But okay, so. Alright, is that as far as you want to go? Political compass wise? Sure. All right, what should we do next?

**Heather** 26:35

As You Like, we can we can go into complex systems. Let's,

**Bret** 26:38

let's do complex systems. And we have two topics in this neighborhood, you want to start fully biological? Sure. All right, let's do it.

**Heather** 26:46

Let's do it. Okay, so there is a structure. I will say, for the moment. In point I didn't look it up. I want to say certainly all tetrapods and I guess probably all chordates called mesenteric, which is sort of this as someone who used to teach comparative anatomy labs where we dissected sharks and cats or sharks and salamanders, depending on what was available that that quarter. It's the sort of when you when you do visceral anatomy, and you open up the pineal cavity of an animal, you find that basically, all of the organs of the abdominal cavity are suspended in this sort of vague, transparent membrane. Depending on the animal, you can tell that there's actually functional stuff inside that membrane, sometimes it's it's quite fat, especially if you and the animal itself, the cat that you're detecting is actually quite fat, almost always that mesenteric has a lot of fat in it as well. But really, at the point that I was learning my comparative anatomy in order to teach it in the 90s, in grad school, and every time I looked into it, before I would teach it again, every I don't know three years or so cuz it wasn't my main main gig at all. as a as a professor, it was really it was sort of this an aside, like you're gonna have to get through it, or you're gonna you're gonna see it and basically all the stuff in that cavity that you're interested in, you know, the stuff that you're interested in the small intestine, the large intestine, the stomach, etc. is suspended this mesentery. But that's kind of yet like, that's the story. And here's a more formal definition of what it is from paper that just came out is it's the collection of tissues that supports the development of all abdominal digestive organs and the maintains these and systemic continuity in adulthood. So that's written this sort of biologic biology is, but it's consistent with this, like, what what is it? Like, you know, what, when you see it, and you definitely like you did this you did comparative anatomy with with me once or twice, maybe. But we have now in the last couple of years evidence that it has a single origin, developmentally, and retain embryologically embryologically. Exactly, it has a single origin, and that it retains a single form. And that has led to calls for it to be labeled and an organ. And so one of the things that is that one of the sets of things that we are now understanding about mesenteric is that they are and again, I'm just gonna quote from this coffee at all 2020 paper, the functions of mesentery are underpinned by quote, extensive gene and protein expression over 50 cytokines are produced in the mesenteric These include ghrelin at a pinata, I'm not gonna be able to answer most of these adiponectin resistin at fulfilling and many others, cellular activities are supported by molecular activities, a large number of enzymes are produced by the meson Terry and it is not known if these in conjunction with surface receptors subserve specialized or general functions or both. So that both has a lot of information in it, most of which most listeners won't have any particular association with, but it points to, oh my god, the mesenteric, which we thought was not much just something you kind of cut through when you're trying to get to the stuff that you're trying to get to actually Is this font of molecular enzymatic cellular functionality that we didn't know as recently as 10 years ago? So how does this that's this traditional understanding of mesenteric which as long as 100 years ago, there were a couple of doctors saying, you know, the definition of mesenteric is going to prevent us from understanding what it actually is. So that's that's very insightful, right that our debt once we have these definitions in place, we often cannot go beyond them and see what is actually true of them. So one more cat in my way here. One more quote, If I can find it here from this paper,

**Heather** 30:42

is all abdominal digestive organs are directly connected to a single meson Terry. This means that the mesenteric provides a linkage mechanism between abdominal digestive organs. In addition, it collectively links all these organs to the body. A linkage mechanism is an essential component of any functional system, the elements of a system cannot function in concert unless they are connected. The mesenteric is the anatomical platform on which all abdominal digestive organs are integrated in the systems that collectively generate the human body. Integration commences or ends at a histological level in the digestive organ itself. In the meson, dairy integration is concentrated in prominent lymphatic, vascular and neurological elements. The mesenteric can thus be compared with a biological circuit board, by which digestive organs are integrated in the body. Unless we understand the momentary, we cannot hope to have a complete understanding of the mechanism by which the human body works. So that to me is a perfect encapsulation of the failure of reductionism in modern medicine, to and and biology to understand what a system is, it's it reflects the hubris of of humanity in imagining that we can walk in immediately categorize a few aspects of a system and try to control it, we cannot fully control a complex system like this. And by imagine that we can we actually walk ourselves into dead ends and electrical and clinical dead ends that are going to have really dire health effects. And one more thing, before I stop talking here is this reminds me very much of the thinking on fashion, as well. So fascia for for people who are interested in in fitness, or have ever had to go to PT of late or athletes that you'll probably be familiar at this point with the term fascia or myofascial or myofascial release techniques. So fascia is the very effectively the very thin layer of muscle that lies between the skin and the skeletal muscle. And skeletal muscle is when you do dissections really easy to see and he has clear origin insertion points. And you can you can point to what it must do based on where it is or what it's attached to. Whereas fascia is this set of or maybe single origin of sheets that are wrapping the body wrapping all aspects of the body and similarly to momentary. At the point I was learning my dissections in the 90s on vertebrates, we were told, just go right through the fascia, it's not really a thing, you know, it doesn't it doesn't really matter. And of course, it absolutely does.

**Bret** 33:15

So the anti fascist people were just dead wrong is that your point

**Heather** 33:19

is that that was all a setup.

**Bret** 33:22

Alright, so yeah, this is interesting. And you know, how many times are we going to make this mistake in various different places, right? You know, every time that junk DNA, DNA, which is not junk,

**Heather** 33:34

if it doesn't code for genes, it must not do anything, right. So that's 90% of the genome.

**Bret** 33:38

Right? We've got so called vestigial organs like the appendix and like, the tonsils. Yep. We've got, yeah, we've got a whole list of places where we have decided that because we didn't know exactly what something was that it was actually some sort of error of evolution. And of course, that's essentially never going to be the case.

**Heather** 34:02

Let me just say a word about vestigial because I actually evoked VISTA reality. In a tweet this week, I talked about the mystical wings of flightless birds and compared them to the vestigial morals and intellects of modern politicians, because it amused me to do so after the vice presidential debate this week. But obviously, the wings of penguins for instance, while vestigial with reference to their ability to allow the bird to fly, are used to allow the penguins to effectively fly through water. And so this digitality the term vestigial is kind of like the word weed. And we've talked about the word weed before on this podcast, these vestigial and weed are actually are actually human constructs, right, like so. And yeah, you don't you don't totally like this, this construction. So the way that when we call something vestigial, it is very often a description of our failure to understand what it is and when We call something a weed it is a reflection of our desire for whether or not should be in the landscape or not. Right? So

**Bret** 35:05

just a reminder for people I argued that weeds are botanical noise, that the signal is what you're trying to grow in your garden and the weeds are the the things that grow have their own accord. But in this case,

**Heather** 35:23

I don't like that because as you know, I tend to garden by competing on behalf of the native plants that I like.

**Bret** 35:29

Sure, right? No, and this is this is the right way to think about gardening but nonetheless, you're competing on behalf of certain plants that are the signal and the weeds are the ones that you spend most of your time fighting. But in any case, the term vestigial has a legitimate use but I would argue in the case of anything truly vestigial It is also in the process of disappearing. Right now it may be a very long period over which it is disappearing but for example the limbs of snakes there are some basil snakes that have some remnant limbs that are presumably I mean, they may have adopted a function maybe they have stuck around and as a pythons

**Heather** 36:08

it's it's the bones. At the at the base of the snake tree no one has they don't have retain any of the pectoral girdle or limbs, but they have early in development, a tiny pelvic girdle and just the tiny rudiments of femurs,

**Bret** 36:22

right, and we have webbing in our fingers that disappears by a pop ptosis. So that is presumably vestigial, or maybe it's just structural. In other words, it may be necessary to have that webbing in order to make fingers and But anyway, there's a distinction between things that are continuing to exist not disappearing, like the appendix and the tonsils that have a function, we just haven't found it. And so it's sort

**Heather** 36:45

of like kind of having both those cases. But just

**Bret** 36:48

for the long history of medical science, we didn't know what it was. And so we assumed it didn't have one, which never made any evolutionary sense. So anyway, we've got to distinguish between those things. All right. Is there more so let's just cap this off. The argument here is that this is an Oregon and it is an Oregon in the sense that it functions like one it is distinct, it's got a single origin, distinct from most organs in this do all organs have a single origin?

**Heather** 37:18

That seems to be the consensus and of course, the the term organ is itself a human construct. Right? So right now does does does the category Oregon have a biologically meaningful reality? I don't know. But part of the reason that the mesentery is now being reclassified as an Oregon is because it has been found to have a single developmental embryo logical origin,

**Bret** 37:39

right? I'm just wondering whether that's really a category that we already adhere to maybe it is,

**Heather** 37:44

I mean, I think I'm gonna get Of course it depends on how it's fractal, right? Depends on how far you go. And so if you're looking you know, single embryo logical origin Are you talking about just like the three very primitive layers of endoderm? museum ectoderm. You know, which case Okay, skin has a single origin, but it's, you know, it's all over the body. So it's, it's tough to do,

**Bret** 38:04

right? Yeah. Well, um, you know, so it's very fascinating subject actually, embryology is one of those places that, in my opinion, was kind of a dormant science. When we were in college, it wasn't, you know, it was very empirical didn't have a theoretical underpinning that was very deep. There had been some very powerful early work where people had grafted parts of chicken embryos onto each other to see what had changed.

**Heather** 38:28

Yeah, and some of the earliest genetic work was done by embryologists right the Let's be mangled and such,

**Bret** 38:33

right. But it went through this period where we I don't think we were learning very much because we didn't have the theoretical grounding, and then the so called Evo Divo developmental evolutionary science, which has a large, yet on Earth a large number of what are called epigenetic factors, which in this case means these molecular factors that adjust what genes are being transcribed. So anyway, that's a large part of the content of the genome that doesn't code for proteins that was long dismissed as junk. But anyway, that field really came alive and it's now one of the most vibrant fields in embryology in biology Well, it's motivo Evo de though I would say, because it now does have a deep theoretical grounding, but one of the interesting things that you don't really anticipate till you see it is that a developing body and developing vertebrate, the cells, you know, you just you know, how you start out with one cell and then each cell you know, as a descendant in some line and at some point, it starts differentiating, and so you're in some line that ultimately leads you know, to an AI and several other things, but, but in any case, there are multiple processes interacting one is the sort of counter where the cell knows how many you know, steps down the line it is and so it becomes more and more specific with respect to what it does is it goes down that line, but it also by touching other tissue is induced to produce new kinds of structures and It is possible.

**Heather** 40:01

So there's clock, and there's induction. And those are two different processes.

**Bret** 40:05

And so you could get, for example, the same kind of

**Heather** 40:09

like, it's a clicker, it's a counter counter, it's a counter,

**Bret** 40:13

you could get the same kind of tissue produced by two different origins. Because basically, the real question is to be a kind of tissue, you will encode a certain subset of genes. And you can be instructed to do that from two different starting points. Yeah. Anyway.

**Heather** 40:27

Well, I wonder, actually, boy, I think I'm going to get it wrong. But is it? Maybe the pancreas maybe, that has both an anterior and a posterior portion that are actually actually have different embryologic origins? And so I think as a result, boy, please correct me if I'm wrong, and I'll try to figure out if I am. But one, one of these organs that shows up generally in our viscera, I believe has at least different origins in time, and I think actually in place with regard to embryology, and then later comes together to fuse and appears to be a single organ, but actually really is not.

**Bret** 41:06

That would be the perfect answer to my question. I would expect Actually, this happens in multiple places, but maybe not. And maybe maybe there's a reason it doesn't, in other words, maybe composite organs are more vulnerable to developmental screw ups, or something like that. Who knows?

**Heather** 41:20

And, you know, and and, you know, how, how do you get cellular policing of the borders as they fuse? And that's there's going to be some challenge there that you wouldn't have an a single origin organ.

**Bret** 41:30

Yeah, you're certainly going to get a, a increase in the potential for mismatches. Yep. All right. So are we there with respect to mesenteric? Yeah,

**Heather** 41:41

I just, once again, regard the reductionism with which we often approach complex systems. And I think this this is a place where conservatives are much more likely to engage in imagining that they can control that you can control a system, and you know, control nature control, the body control, you know, whatever it is, and it's a mistake. And it almost always results in wrong understandings and missed opportunities to actually generate better, you know, health well being whatever it is, depending on the system you're looking at.

**Bret** 42:14

So if you're keeping track, Pluto is not a planet meson. Terry is an Oregon, the appendix is not vestigial. And junk DNA does a lot of really cool stuff. Yeah, we're

**Heather** 42:25

shooting but Pluto on that list.

**Bret** 42:27

Alright, I'm taking Pluto off the list, even though it was the taking it off the list that put it on this list. Alright, so we're there. We're there. Alright, so we had another topic in the realm of complex systems, which I want to try to set in motion correctly this time since I screwed it up badly. In the last instance. That's true. We were speaking and don't go fleeing from your seats. As I raised this issue, we were speaking of a certain set of technical failures that happened in our system, while Portland was inundated by smoke from our fires. And I set this in motion as a discussion of tech, which is stupid, you don't care about the tech, I don't care very much about the tech, I care about it in as much as it allows us to do the podcast and not much beyond that. However, the tech allows us to understand how you can dive into a complex system that you will, by definition, not know very much about and make progress with respect to understanding how it works. Now, I want to catch people up to where we were because some really interesting things came to light after our last discussion on the podcast about this topic. So you will recall we had a problem where five cameras of several different kinds began to screw up in almost the identical way where they would fail to send signal to the computer, and there would be a drop. The problem was Zach, and I spent many hours testing every conceivable reason that our system could be failing, and we falsified virtually every hypothesis that was available to us, the only one leftover was interference, but there was no obvious source for the interference. And so we were puzzling over what could possibly be interfering with the cameras. Now we hypothesize that it might be radiation, liberated by the fires, radiation that might have been lodged in those forests through nuclear meltdowns and Fukushima. The fallout did fall in the Pacific Northwest got incorporated into the trees, when the trees burned, it got liberated, and maybe those radioactive decay events in the smoke around us were interfering with the cameras. So that was the hypothesis on the table. And it was the only thing that seemed to explain it. Many of you did some calculations on the actual errors. And you told us that you believed that it was a mismatch that something had adjusted, the frame rate of the Cameras relative to computers. So they were slightly off because the drops were regular, right? And we falsified that hypothesis because, first of all, nothing in the settings have changed. Second of all, when the smoke went away, the problem cured itself without us resetting anything, and we could swap in a totally different computer. And the problem still happens. So there was no place for a mismatch to have gotten in the system, and it wouldn't have cured itself if it had been one. However, there was something important in that observation. What emerged as a result of this discussion was something we did not anticipate, which does actually involve radiation, but not in the way that we had proposed it. So the observation is that there are many devices as a result of the pressure to miniaturize components. The quartz crystals that used to be regularly used to create a time signal in things like watches and computers have been replaced by a different kind of component that I'd never heard of called memes, MEMS. And these components, keep time in a different way. It's not a quartz crystal, it's actually something like a tuning fork him a nano scale tuning fork embedded in a little chip. And you realize that sounds

**Heather** 46:18

completely implausible.

**Bret** 46:19

Hey, Zack, you want to put that electron micrograph up? Okay, so here is an electron micrograph of the inside of a memes chip, which is now the timekeeper on many electronics that have add pressure to be shrunk down to a smaller size. Now

**Heather** 46:38

it is there, can you point to a tuning fork is that the sort of the ends,

**Bret** 46:43

I believe, yeah, I believe it is the ends, and you kind of have two railway lines. But you know, I'm no expert on this thing. And in fact, this micrograph comes from the guy whose video alerted me to this, who actually took a chip, and basically sanded it down one layer at a time to reveal how it worked. And so he happened to have an electron microscope, and he sanded it down one more layer at a time. And anyway, to make a long story short, these chips have to be made in such a way that leaves the tuning fork able to vibrate, right. But in order to build them up, they have to have you may have encountered in 3d printing, sometimes a part has extra stuff that needs to be printed in order to support some piece and then that stuff gets cut out. So it has some of that they dissolve away something that would interfere with the functioning of these tuning forks. But to make a long story short, that means that these chips are permeable to very tiny molecules. And what appears to have happened is, helium is small enough to invade these chips, which was discovered when a set of I believe it was iPhones that were in proximity to an MRI machine suddenly all died. Right? The MRI machine involves a certain amount of helium. And so the long and short of this story

**Heather** 48:15

so I, I know where this is going, but I have not yet heard in your story, how helium gets into our story.

**Bret** 48:22

Okay, so first of all, we don't know the answer. There are two possible ways. But helium is very light, it tends to rise in the atmosphere. So there's not a lot of a down here on that which is down here on earth is all the result of radioactive decay. That is to say heavier elements decay into lighter elements and one of them is very frequently helium. So uranium decay creates helium. Okay. So the, among other things, yes, among other things, right. Helium is one of the things that creates. So the emerging hypothesis here is that radioactive decay of one kind or another. And there are two possible sources in this case, liberated helium, which was trapped in our sealed up house, and that helium invaded these chips, causing them to vibrate at a different rate in the same way that helium causes your vocal cords to vibrate at a different rate if you inhale it.

**Heather** 49:18

Now, if our house was really so well sealed, that it trapped helium that it can't have been we had we had air exchange

**Bret** 49:27

we did. So a it takes very little helium to do this, you would think it takes a lot, it takes very little. So okay, let's talk a little bit about the two possible sources of the helium. One is radioactivity in the smoke and there is radioactivity in the smoke irrespective of whether if there there have been meltdowns, meltdowns could exacerbate it. But it could be that a certain amount of helium was getting into the house, or a certain amount of uranium was getting into the house, decaying liberating helium which invaded the chips which caused them to vibrate very slightly wrong, which is the Isn't that people calculated that there was a framerate problem that didn't involve us Miss setting something or resetting it? It involved the chips vibrating at just the wrong frequency so that they regularly hiccuped, right? So smoke is one way and the other way is that and this is plausible here in Portland, there is enough uranium in our rocks, that it could have been, it could be decaying all the time underneath the building, and something about our behavior in the circumstance resulted in it being trapped. Now I think that's unlikely, I would lean strongly against that hypothesis. Because in the winter, we don't have this phenomenon. It was smoke related. And so here's what I think happened. This studio is over the garage. Right the garage was regularly opened and invaded by smoke during the event. So we open the garage smoke floods in close the garage, whatever decay happens happens. Helium migrates up through the floor of the studio messes up the cameras. Lo and behold, when the smoke goes away, problem clears up. Hmm. So the long and short of this and you know, Heather and I were both a little bit thrown by people not being some people not being so interested in this discussion, because to us, this is just a complex system and it gives you know, it's a great place to train your brain.

**Heather** 51:27

Well, so what I will say is, you're now talking about our conversation about this, whatever it was two three episodes ago, right? Yeah. I am less driven to be thinking about and interested in hypotheses about complex systems that are entirely a biotic You know, that's that's a fairly gender typical interest actually, right? Yeah, I'm more interested in the not so much the people but the but the but the nonhuman animal stuff. And, and, you know, those of you with Y chromosomes are more likely to be more interested in the stuff that are there more things, even, you know, even a biologist. So the particulars don't really intrigued me, I don't spend time at night thinking about them. But I do spend time at night thinking about things like mesenteric. So that's my, that's my weird, you know, interests. But the conversation that we had, whatever it was 234 episodes ago, struck me as exactly the kind of conversation regardless of the particular topic that we would be able to have in long form discussion with students in our classrooms, because we are exploring ideas, hypotheses, predictions. And you know, that's, that's the thing that I hope for us to be able to do more of here as when, if the world in any way normalizes and we can look forward to, to actually trying to build something new and good, as opposed to constantly feeling like what's going to happen next?

**Bret** 52:55

Well, I agree with this, of course, I would just add one thing on top of it, which is, you know, there's a question of where you are going to train your mind to do certain things. And the problem with biology is the, there's almost nothing in biology so simple that you can really understand it fully. And that means that we're all dropped in at some level, and we have a very scattershot understanding of some things and black boxes elsewhere. And then there are things that are black boxes for everyone. And that's not a great place to train yourself to do the work that makes you a really good biologist. So one of the things I discovered in my dissertation work, which was on biological trade off so that was what I ended up doing my dissertation on, was that the things that I had gotten involved in that were complex, but not very complex that I was involved in for reasons that had nothing to do with biology or theory or anything turned out to be very useful model. So

**Heather** 53:58

it's like the evolution of the bicycle of flight of human flight,

**Bret** 54:02

right? Yeah, so aviation turns out airplanes are simpler than you think. And there's certain aspects in which they mirror biological processes. I mean, not accidentally In fact, the Wright brothers were inspired by the flight of birds and the flight of toys that mimic birds and things like this. But you know, cameras also which have now gotten so freakin complicated that you can't necessarily understand them in detail, but there was something about learning to shoot a, you know, a manual camera that has trade offs, written into them in a way that they become second nature to you. So you know, one of the things that I ended up realizing in my dissertation work was that when we say trade off, we mean one of two different things and one and this is very well. This is very well mirrored in, in cameras. So for example, a bigger lens collects more light All right, that's an inescapable relationship, right? On the other hand, if you have an amount of light coming into the camera in, that's proper to make a good exposure, you can play games with, you know, increasing the shutter speed, and increasing the size of the aperture in order to, you know, either freeze motion or get greater depth of field. But you're stuck in this trade off world until you can supplement the light at which point the trade off seems to vanish, right, you can get shorter shutter speeds and smaller aperture at the same time. So anyway, I just thought it was a good discussion. And that what i what i think we both hope people will get from this is that any system that is that you can sort out through hypothetical deductive method is a good place to train your mind to think about these things.

**Heather** 55:52

Absolutely. And I'm reminded in your discussion of cameras, you know, what you say about cameras now being so complicated that it's really hard to do it. But when you have a somewhat simpler, you know, somewhat less electronically based camera. Another thing that you would do, especially when you're in the field, for instance of Panama is if something stopped working, including you became the guy that other people when their stuff stopped working, they would bring it to you, and you would take it apart, and you would put it back together. And very often it would work and sometimes it wouldn't, but you would have learned something, and you might have saved the day for them and their research. Cars the same way you weren't, you know, particularly you know, car interested guy, nor was nor was I at all. But cars also have become so complicated that people can't really learn to work on their own modern cars. But any car from I don't know, any car from probably the 90s or mid 90s or earlier, almost Well, you should be able to work on to some degree and learn and learn something real about the universe that way. And so I just want to pitch as I have before this book, shop class as soulcraft by Matthew Crawford, who is a PhD in economics from the Chicago School from University of Chicago, who left his life as a, I don't know, some kind of talking head consultant inside the beltway, I think, to open up a vintage motorcycle repair shop in Virginia where he finds that his life has much more meaning because he is actually solving. He's actually solving real problems, you know, problems come to him that are maybe a morphus, maybe not clear. But there it's clearly there's a problem at the point that the motorcycle doesn't run, for instance, to use just the easiest example. And if he makes it run, he has solved it. So there are real problems affecting real people. That's one aspect of it. But maybe more interesting, from my perspective, is it true that you know that you are training your mind and honing your not just your intuition, but your insight and your analysis? When you work on such a system? And make it better as a result?

**Bret** 57:54

Yeah, absolutely. I want to adjust one thing, you can work on a modern car, and you can, you know, play these games with the modern camera. The problem is that the fraction that is in the black box has gotten so great that you are, you know, you are just a consumer of the information of the black box. That doesn't mean that there aren't other things, if you want

**Heather** 58:18

the same thing has happened to just to statistics. Right? This is actually I you know, the way that I taught statistics, which I did, every time I taught my behavior was from the ground up. And I didn't let students use the tests that they did not have a real solid understanding of the assumptions that went into them. And you know, if there was a chance at all that they could use a chi square which there's, you know, fairly limited number of questions that you can use a chi square on, but a Goodness of Fit Test like that you can literally do by hand, all you need is the one chart of critical values to compare your answer to and then you know whether or not you've got a result that is unlikely to have happened by chance. And it's just so empowering not to offend your hard earned data that you collected after you imagine what the hypothesis was the predictions were in the experimental design where and everything to not feed that into the black box that is si s or you know, or SPSS or whatever your Cisco program is our and have it spit something out, go like, Well, my guess so I guess the people who wrote the software know what they're doing.

**Bret** 59:20

So it speaks to two different kinds of empowerment, right? One is how well does your brain work? How well programmed and primed? Is it based on your ability to actually run a test that you understand, but from the point of view of the careerist, the ability to throw stuff into a program and try different tests until something's statistically significant pops out and have no you know, it's your case? If you broke the assumptions of the test? Well, you it's not Who cares? It's I didn't know right? And so the point is, where did the replication crisis came from? It came from a lot of people using very powerful software. That was All blackbox to them in order to get results that were flashy, most of which were wrong,

**Heather** 1:00:05

almost no biologist I've talked to understands the statistics that they use in their published work,

**Bret** 1:00:09

right. And so that has been a disaster. And it is the result of a complex, a semi complex system that the people navigating it done or anything about. So I wanted to point out a couple of things about what happened as these cameras. So my first camera was a manual canon, I was lucky enough, my dad gave me an f1, which was this very high quality, but ancient manual camera. And you could understand fully how it worked right? At the point that digital cameras took over, it changed things. So we used to have two parameters that we would play off against each other, right? You had shutter speed, and you had aperture or the lens opening. At the point that digital cameras became the norm, suddenly, you had a third but it took me a long time to even realize that I had a third, the third being sensitivity of the sensor, right? Because it used to be that you would load your camera with a kind of film, you'd load it with ISO 100 or 400 or 800 or something. And then you were just stuck with it. And so you were playing this trade off game in a world where

**Heather** 1:01:14

the system was Absa right? What films as a film was as

**Bret** 1:01:17

a then it became ISO and then that transported on to these sensors. But the whole point is my mind was built around a world of shutter speed and aperture in which I had before I ever, you know, walked out the door, I had set in motion, the sensitivity, and that was a fixed parameter. So sometimes I would carry two cameras to have two different speed films because it was just so fixed.

**Heather** 1:01:41

So I mean, I think I think you're not quite doing yourself a service here. But I know from us having packed carefully, you know, many know dozens of rolls of film, pack them in these lead bags so that they could go through airport security if they refuse to let us have them hand checked and all of this, that we would always travel with everything ranging from 64 to 1600. Yeah, when we were when we were shooting film in the 90s when we were in grad school. And it's not that you weren't constantly thinking about sensitivity, it's that once you had a roll of 36 loaded, you couldn't do anything about it right? The moment was,

**Bret** 1:02:15

once you were faced with the question of the the the module that operates in the mind has this thing as a fixed parameter, and it knows very well how sensitive the film and that camera body is. But it's just not, it's not an option to play with it, right. And so the thing is at the point that you can play with that parameter, very often, what you want to do is pick your ideal shutter speed, pick your ideal aperture, and then borrow from ISO. So it's a whole different mindset that takes you a while to get used to. And now we're getting into this new round. So this keeps happening, right? So digital did this, then mirrorless changes a bunch of bunch of things where suddenly, you know, it used to be that you would hit a button in order to see what your depth of field look like. And the lens would stop down and you could see what was going to be in focus. Where's that gone? Well, you don't need it. Because now the viewfinder has that built in. You're just seeing it all the time. Yeah, right. So you've got it now erase that thing to wonder about because you're it's you know, it's going to be automatic photographers who learn on something like that. And now we have algorithms, that D noise things. So now you can start borrowing in a way that doesn't have a cost. So anyway, it's it's a whole series, it's becoming more biological and therefore maybe less useful as a model.

**Heather** 1:03:36

But more biological, I don't know, I don't think so. I'd say if anything, it's

**Bret** 1:03:44

less what I Here's what I mean by more biological biology is so complex, right? The number of ways in which parameters can be made to interact, the way that you know, the trade offs are inherent on the inside, but they can be obscured by the complexity of the situation. The more complex an object is, the more like biology it is. And therefore, my whole point about you know, a simple camera is a good way to train your brain to think about trade offs becomes less and less true, I

**Heather** 1:04:15

would I would then not say more biological, it's, you know, the complexity has increased, and the places where the black boxes exist, and you have no way to get in as a end user of the product have increased, but that doesn't mean that it's like biology. I

**Bret** 1:04:29

don't mean it's like biology. I mean, it is analogous to biology in the sense that there's too much black box for you to be sure what you're seeing. Yep.

**Heather** 1:04:41

All right. Well, I would like to share to sort of go back to not exactly what we're talking about with the political compass test, but some of what we've talked about a lot and we will return to where we're hearing so many, so many horror stories of what people are experiencing. In their workplaces and in the schools that their children are in, and on campuses on college campuses. And now many episodes ago, I had said that we might do an episode devoted devoted to school and I frankly I'm just so drowning in all of the stories and evidence of things has gone so awry across so many domains that I'm not even sure where where to start with that. So this is, you know, this is obviously not that episode. But I wanted to share a little bit of an essay from Alexander Solzhenitsyn that he wrote in 1974, called Live not by lies that tip to Barry Weiss, for posting this, I think on on Twitter and leading me down down this little rabbit hole into a rabbit Warren. So for those for those who don't know, I'm not going to read the whole essay, but we'll post it in the probably the video description so that you can find the whole thing but again, it's called Live not by lies, socialists and fought for the Red Army for Russia in World War Two, but any obviously on the side of the allies. But a critical comment about Stalin in a private letter got him sent to a Soviet gulag, which is a forced labor camp for eight years. So he he fought for the allies. He was one of the millions of Russian soldiers who really substantively helped win the war, who was then sent to a gulag for a critical comment that was supposed to be private, even about Stalin. I personally was first made aware of soldier needs in my first quarter in college when I was still a literature major, and I was in a class devoted to reading soldier needs and and the works of soldier knights and coonara as well we read, I don't think we read the whole gulag archipelago, we read selections from it. And he, he has always struck me as you know, so many of the important Russian thinkers have as pointed and careful and deep and surprising. So here a section from this live not by lies

**Heather** 1:07:08

essay from 1974, which I think it's bright, it's that year that he was exiled and he lived in the US for many years. And then after, after the Cold War ended, he ended up moving back to the to the sub to Russia, I guess, where he he died many years ago. So from the middle of this essay, is the circle closed? Is there really no way out? Is there only one thing left to do to wait without taking any action? maybe something will happen by itself. But it will never happen as long as we daily acknowledge, extol and strengthen and do not sever ourselves from the most perceptible of its aspects lies. When violence intrudes into peaceful life, its face glows with self confidence as if it were carrying a banner and shouting, I am violence. Run away make way for me, I will crush you. But violence quickly grows old. After only a few years, it loses confidence in itself and in order to maintain a respectable face. It's someone's falsehood as its ally, since violence can conceal itself with nothing except lies, and the lies can be maintained only by violence. Violence does not lay its paw on every shoulder every day. It demands from us only obedience to lies and daily participation in lies. And the submissiveness is the crux of the matter. The simplest and most accessible key to our self neglected liberation is this personal non participation in lies. The lies may conceal everything, the lies may control everything we should be obstinate about this one small point, let them be in control, but without any help from any of us. This opens a breach in the imaginary encirclement caused by our inaction, it is the easiest thing for us to do and the most destructive for the lies. Because when people renounce lies, it cuts short their existence like a virus, they can survive only in a living organism. Let us admit it, we have not matured enough to march into the squares and shout the truth out louder to express a lot what we think it is not necessary. It's dangerous. But let us refuse to say what we do not think. This is our path, the easiest and the most successful one which allows for inherent, well rooted cowardice. And it's much easier. It's shocking even to say this than the sort of civil disobedience that Gandhi advocated. Our path is not that of giving conscious to support support to lies about anything at all. And once we realize where the perimeters of falsehood are, everyone sees them in his own way. Our path is to walk away from this gangrenous boundary. If we did not paste together the dead bones and scales of ideology. If we did not sewed together rotting rags, we would be astonished how quickly the laws would be rendered helpless that would subside, that what should be naked would then really appear naked before the whole world. So in our timidity, let us make each make a choice, whether to remain consciously a servant of falsehood. Of course, it is not out of inclination, but to feed one's family that one raises one's children the spirit of lies, or to shrug off the lies and become an honest man worthy of respect from one's children and contemporaries. And one final paragraph Near the end of the essay, and he who is not sufficiently courageous to defend his soul, don't let him be proud of his progressive views. And don't let him boast that he is an academician or People's Artist or distinguished figure or a general, let him say it himself. I'm a part of the herd and a coward. It is all the same to me, as long as I'm fed and kept warm. Wow, there's such a need for you.

**Bret** 1:10:28

So I can't help but feel that there's something we are so far from a moment in time when it is even conceivable that lies wouldn't be the majority of what we encounter, that it just seems almost an impossible gap to cross

**Heather** 1:10:52

well, but he's not saying do not encounter lies. He says do not acquiesce to them. Do not Do not Do not Do not intone them yourself. Do not repeat them. And indeed he is there's a long bulleted list in this of what what you should do, which I decided not to read because it's fairly long, but do not do not repeat them. And when they come at you, even and this is harder to not buy your silence up here to acquiesce to them.

**Bret** 1:11:17

Yeah, I guess I mean, I, I, of course, agree with this and try to live by it. But But nonetheless, I do. I think that something having to do with advertising, you know, which has changed so much since that was written has drenched us so thoroughly in lies, that we have become a nerd to them in a new way. And I don't know it's slightly hopeless to to imagine that we have to turn the tide against lies in order to make progress. Well,

**Heather** 1:11:52

you know, of course he is he is speaking to the lies of Ascendant or now now in meshed in society ideologies. Yeah. And that is that, you know, that's why I read it here now, right that we have, we have lies coming from every politician, every politician, I'm quite sure of it. But some of them are in the moment useful to them, and don't have any, necessarily any systemic meaning to them. But when when so many people are being asked to, for instance, agree that they're racist, agree that they can't never not be racist, agree that the color of their skin makes them responsible for the sins of their forefathers agree that their children are racist, agree that they have toxic masculinity? No, right? No,

**Bret** 1:12:42

that's nice. It's not binary, that

**Heather** 1:12:44

sex is not binary. I mean, it goes on and on and on. And on that, that talking about the reality of sex being binary makes you a transphobic? No, no, it does not. None of these things are true.

**Bret** 1:12:59

Yes, well, in that context, I think it's important to recognize, I'm still not quite sure how to phrase it. But something very powerful in Bret Stevens in the New York Times, having pointed out just how broken the 1619 project is an AP has been, and he was very careful about it as I think he would have to be in order to publish it there. But but the duplicitous way in which the central claim of the 1619 project was memory hold, because it was unsustainable. That recognition is not just, you know, a massive lie of a kind that is beginning to move civilization. But it was a massive lie in what was known in our lifetime, as the paper of record, right to have the paper of record whose clear obligation is to report to the best of its ability, what has happened, and what it appears to mean, to have get dispensing lies, which are clearly ideological, and targeted at political power. I mean, it's obviously not news to anyone that the New York Times is now doing that, but to see such a spectacular example, which now the New York Times has been forced to admit, because apparently it couldn't sustain the lie, is really stunning. So maybe there's hoping that maybe we've reached some place where there is a limit to what one can claim in this space. And even though it has taken many, many months to reveal the bankruptcy of that perspective, it has now it has now emerged. That's an important victory.

**Heather** 1:14:49

Yeah, I hope so. I think I guess I'm reminded, as you're talking about, I can't go into tweets but a tweet that I saw Today that I responded to, that says, This guy, I'm just I'm not, don't show it. Second, I'm not even gonna read the guy's name. If you go on my Twitter feed, you'll see that I quote tweeted it. But um, he says a lot of mediocre white men are obsessed with the 1619 project, because nothing that they will do in their life will ever have the kind of impact that then Hannah Jones had and their fragile egos can't handle it. Well, that's one lie and assertion and ad hominem attack on top of another, right? It's clearly about the Brad Stevens piece in The New York Times about the 1619 project. But the idea that it's men who are white, who are mediocre, who are obsessed with this project, and it's because they themselves are failures, as opposed to it's it's a lot of us, regardless of the immutable characteristics that we were born with, who look at this project and say, actually, that's just, that's just a bad piece of work, or is a bad piece of work. It's bad scholarship, and it's divisive. And you're lying. And we're not going to stand for it has nothing to do with our mediocrity, no, right? Well,

**Bret** 1:16:10

I would say it even goes a step beyond that, because the whole idea of this country can only be understood as a from the first moment white supremacist project, leaves no option but to dismantle it, because there's nothing to fix, right. And so this lie is so pernicious with respect to the actual nature of this country, which Yes, screwed up from its first instantiation, but did aspire to something better, in fact, aspire to exactly the thing that an honest broker would want us now to achieve, right, which is a truly equal society. So anyway, it was it was absolutely necessary to push back on this because the basic point is, if you accept this narrative framing, then it necessitates a massive project of undoing that is not justified. And so you know, this was about power and limited resources, stupid as your advisors. file cabinet reminded us every time we walked into his office, it's right. All right. Are we there? Yeah, I believe we are there.

**Heather** 1:17:21

I think we are. So I had intended to start this hour by reminding people that we answer questions that you write in the Super Chat. In the second hour, I failed to but I'll say it now. Also any questions you asked now, we will try to get to next hour and then we will start next hour. We will also answer questions that come in the Super Chat in the stream for the q&a, which will start in about 15 minutes. We have a private monthly q&a on that you can access on my Patreon, there is a private Discord server that you can access of either a Patreon where it runs a couple of conversations each month through his as well. And we encourage you to subscribe to the channel so that so that you don't miss content. You've got at least one other podcast Dockers podcast coming up this week and we may have a couple more in the works. We will definitely be back live a week from today. Maybe before then, but there will probably be another Dark Horse podcast before that. Yes,

**Bret** 1:18:23

I believe we will do one and hopefully it will be out shortly thereafter. Alright, so looking forward to all of that. All right, we will see you in 15 minutes. In the meantime, be well