Bret and Heather 75th DarkHorse Podcast Livestream\_ Stop Dis...

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**SPEAKERS**

Bret, Heather

**Bret** 00:11

Hey folks, welcome to the Dark Horse podcast things are there they're moving a pace. I'm a little behind the eight ball. I have just showered, my hair is going to dry. There is no telling what is about to happen. Hair wise,

**Heather** 00:24

at least I think you just said it's about to happen. It's about to dry. Well, hopefully watching hair dry is less interesting watching paint dry.

**Bret** 00:31

Oh, it's not a good it's not a good activity. But the thing is sometimes with me this hair, it drives in a way that I have to start over. I've got to go back to bed and get up shower again and get everything right.

**Heather** 00:44

I do feel like this is one of the ways in which we are gender role reversed. I feel like you think about your hair a lot more than I do. I really think about your hair. No, I like your

**Bret** 00:52

hair. No, no, it's it's not like that. I'm not focused on interested it does crazy things that elicited comments from people.

**Heather** 00:59

I think the comments from the people are the crazy things. Okay. All right.

**Bret** 01:03

Well, I'm willing to go.

**Heather** 01:04

That's what I think. I think they're jealous.

**Bret** 01:07

Jealous. Well, I have I have wondered if some of the nastier comments on YouTube are the results of the bald community rising up against those of us with more than our allotment of hair?

**Heather** 01:21

That's right. All right. So it is Episode 75. Spring has sprung here in the Pacific Northwest. We were going to start the few announcements talk about we're going today and then just embark. So where we're going today. First, before the announcements, we're going to talk a little bit about privacy and game cameras. Asked if we should be allowing children to transition medically and surgically a topic that we have returned to over and over again. But it is so of the moment and so important in our estimation that we're going back there. We're going to talk a little bit about the FDA approval of a new drug to treat ADHD. A remarkable finding about how parent intervention affects children. You're gonna talk a little bit about a kerfuffle between Tallahassee coats in Jordan Peterson, and then we'll talk about sunlight.

**Bret** 02:10

Yeah, sounds perfect. All right, I believe it is spring has sprang though it really is.

**Heather** 02:15

Is that what you're saying?

**Bret** 02:16

Hang versus hung. When you're talking about a

**Heather** 02:18

person? Well, you go ahead and think that all right. Fair enough. All right. Announcements, we as as as usual, we encourage you to subscribe to like to go to our Patreon and and become our patrons there. And also, last week, we introduced doing ads, we don't have any ads today, we're not going to probably for the rest of this month. But we are going to start doing paid ads. But we wanted to be clear in a way that we thought we were clear last time but maybe word about the the the nature of those ads, one of which is there will always be an audio indicator, both before and after anything that is paid. And also, if you're watching on YouTube, there'll be that green border around it. So if you don't see the green border, it is not a paid ad. And and for first time we spent some time, you know, we spent a much longer time on the paid ads than we will in the future, which will just be you know, a minute or two.

**Bret** 03:10

Yeah, and I would just say this is really a failsafe measure. Because the important thing is that we are not motivated to say things that we wouldn't say. which means that we have to be ultra selective. And the fact that we will only endorse things that we actually think are worth your while. That's the first layer of protection. The second layer of protection is that you'll know unambiguously when we are speaking from that perspective versus everything else we say. So anyway, W protected.

**Heather** 03:40

Yeah, what why is one more thing on that is that, behind behind the curtain, something that I certainly wasn't aware of, and I'm not sure I ever thought of before we were doing this and when I was listening to podcasts and hearing ads, and you know, I would hear many of the same products come up in ads and wildly different podcasts. And you know that that's because there's some number of vendors out there who are interested in advertising on these things. And it's not like you know, we have we have a private list of things that we use, that we would advertise for that darn good option because those companies don't don't advertise on podcasts. So we are being selective within a rather already a narrow and narrow grouping. Yep. All right. All right. Do you wanna say anything more about that,

**Bret** 04:25

or? No, I think I mean, I think that's pretty much it. I just want people to understand, you know, by and large, the reaction was quite positive. Both people were accepting of the fact of us doing ads and they liked the way we did it, where we did a bunch of pro bono ads, both for and against certain products and services. I certainly had fun with that. Yeah, it was it was fun. There was one person who was concerned about knowing when we were motivated by by an advertiser to say things so this is in large measure responsive to the fact that that is a legitimate concern, absolutely that we would share. But it is also important, I think, to say, we didn't choose to do this, that this is the result of the fact that our new way of earning a living in the world is subject to effective unilateral veto power BI platforms means that we have to think about how we approach the world differently. We don't have a salary or a court that we can go to. If our employer treats us badly, we are functioning in a way in which there's no safety net. And so anyway, I'm just hope people will understand

**Heather** 05:35

it's an interesting longer conversation to be had there actually, you, you caused me to throw an error a little bit when you said, we did not choose to do this, because obviously at one level, at the narrow level, we did absolutely choose, you know, we could have said no, as you know, as we did for a while, but there is there sort of, you know, we have employed this language before over in phylogenetic systematics the science of trying to figure out the deep history of who's related to whom in in evolution. There, you can talk about the sensu stricto, the narrow sense of a term in the sense of lotto the broader sense of a term and, you know, in the sensu, stricto sounds we of course chose. And you are pointing out that at the systemic level we are now we are all living in a system in which much of our sons who locked to a level of choice is being restricted behind the scenes. And that's, in fact, kind of a meta theme of what we are doing here is talking about a restriction of choice, while people point out little choices that we're allowed to make and saying, so you have full choice like no, no, no, no, no, we don't just because there's narrow choice since choice center stricto, does not mean that we are retaining the full level of choice and to lotto that we would claim to not just hope for but deserve in a free democracy.

**Bret** 06:47

Well, when I said that we didn't choose this, I was specifically thinking of the fact that we had, what appeared to be secure salaries and jobs, and then our institution melted down in a way that made it impossible to continue teaching there. So we didn't choose for our institution to do that. In fact, we tried to prevent it from doing that. And having had our institution disintegrate. We had to find another way of earning a living. And so I don't feel that that was a choice, of course, how we chose to, to show up in the world as podcasters was, obviously choice at one level. All right.

**Heather** 07:30

All right. So you wanted to start by picking up on something that you did a pro bono ad for last week on talking about trail cameras, and also privacy.

**Bret** 07:38

Yeah, so we did get a comment from somebody that again, because it resonates with things that you and I feel I thought deserved coverage. Somebody said they hated the idea of trail cameras in nature areas, because it was the death of privacy. And you and I absolutely feel this way. As you mentioned, last week, when we are at field stations in the tropics, people very often use these things as research tools. And the fact that you happen on a camera and that you know that it captures you has some impact and it's negative. But the value of what is gleaned from these cameras is so immense that we all understand it makes sense that they are they're

**Heather** 08:18

one of the things that's true at least at to Puccini's Field Station in the Ecuadorian Amazon, which we refer in where we've spent a fair bit of time is that not only do cameras exist as part of an ongoing, very valuable research project to actually monitor and, and and describe the charismatic megafauna mostly but there's always a sign before a camera on the trail too. So you actually know before you're about to stumble into what's called the camera trap, and and get flashed and know that you're lost immortalized

**Bret** 08:49

right now I did want to point out though, that in the case of what I've been doing, this is not a serious issue because I have been placing the cameras in places that they don't capture people I'm not placing them on trails that are being used by people so literally the only people in several weeks now using these camera traps the only people I've captured are two people who were illegally fishing in the reserve right so these are people who are doing something that is destructive of nature what I'm doing, you know, there is some downside to it I will say I try to compensate for whatever the impact of my presence there is by removing a significant piece of trash from the reserve each time I go the reserve is actually pretty nice doesn't have a lot of trash so that takes some searching on my part, but

**Heather** 09:42

I'll pick it up.

**Bret** 09:43

But the thing is the camera traps are set in a way as to only capture wildlife except in the case of these two illegal fishermen.

**Heather** 09:55

Now you're no fishermen can be illegal Zach, Zach, I called us out you did call

**Bret** 09:59

me as well. Weird. I'm just gonna right past it. But the you've told me that our voices increasingly sound alike.

**Heather** 10:08

I actually do not confuse you in any way but parents will know that in households with a lot of individuals, the name somehow sometimes gets swapped. So yes, anyway, my point was just a joke on the you know the objection right? calling people, illegal immigrants and shortening it to illegals is is dehumanizing.

**Bret** 10:28

Yes, these are illegal. Is it pesky? No, that's people who eat fish. Well, presumably they but I'm assuming these people eat fish. So

**Heather** 10:37

but pescatarians I think are people who are vegetarians, but also eat fish. Oh, I see lazy, lazy and vegetarianism.

**Bret** 10:43

These are pescadores

**Heather** 10:44

No, no, they're fishermen that are fishermen.

**Bret** 10:46

Alright, they're anglers. I don't know what they're angling for. Well, I

**Heather** 10:49

started with the with the failed language. So now we're just

**Bret** 10:54

yeah, so alright, so I did want to show something. So part of the intrigue of these cameras is that they actually allow you to nail down features of animal behavior that are very difficult to nail down otherwise, and I completely forgot in our discussion last week that I am oddly one of the early pioneers in this field. It wasn't camera traps, camera traps are now an object that you buy and it holds an SD card and batteries and all of that but when I was doing my dissertation work, as you will know, I was working on tent making bats and bats bats bats don't making is a behavior that had never been seen by humans. In fact, humans had a misunderstanding about how the bats did it because we tense for commonly seen and we're well described in many cases. But the fact that the animals would never do it when a human being was watching meant that people had guessed and they had guessed wrong. So I impart on the suggestion of a friend of ours john Cooley started to use bank surveillance cameras which happened to be sensitive in the infrared spectrum and I soldered This is the mid 90s Yeah, the mid 90s I soldered together and I did some experiments I have some of the crude experiments that I started with I built an illuminator made of television remote LEDs that I strung together at first I thought it wasn't going to take very many you know one to a 10 it turned out my final design add a 247 LED is that nothing number was necessary to get the voltages right but anyway I

**Heather** 12:32

made and was that like the betbright 2000

**Bret** 12:35

that was the betbright 4000 is that right in 2000 was not bright enough. But in any case, so I made the betbright 4000 and I use these surveillance cameras and I hung out in the forest I found this was in the middle of the Panama Canal middle of the Panama Canal I was adept enough at finding these tents that I was able to find one that was partially had just begun to be constructed I was able to tell that a bat was working on this leaf but that it wasn't done.

**Heather** 13:02

So this is not the place for a full curriculum in 10 pet biology but I think people are imagining like pup tents there's there's a whole lot of imagining go We

**Bret** 13:12

will return to this I will dig up some video and show it but a tent is a large understory leaf that has been or there's actually one style of tent that involves multiple leaves but a large understory leaf that has been modified so that it collapses in a very irregular way that obscures the bats protects them from rain, etc We can talk more about why they do that another time. But anyway, it you know at the point that I don't know night shot or whatever it is started showing up on cameras It was like oh yeah, actually I was doing that, you know, with that 12 volt car battery and a bank surveillance camera and LEDs from television remotes and all that. But okay, so these things are very useful at seeing things you can't see. I couldn't have watched the cameras or Yeah, I couldn't have watched the bats make the tent. If I had been close enough to see it, I had to be at a distance in order for the bats to do it, which meant that I needed to use some technology just

**Heather** 14:07

to clarify for the non animal behaviorists, they wouldn't do what if you were right there right needed to be far enough away that they weren't thrown by your presence.

**Bret** 14:14

The reason that humans had never seen bad snake attend was not for lack of effort was that everything you would do in order to observe it scared the bats off they're very sensitive about it. So anyway, I would do it at a distance and an order that I wouldn't just leave a light there and a regular camera which would also disturb them. I used infrared light which they can't see. So anyway, that's the basis of these these trail cameras now. So let me just show you some of the things that we've captured recently. Zack, do you want to show the first of the No, no, not that one. Show the show the beaver one. So I set up a camera on a on a burrow. Not knowing what of several animals were inhabiting the burrow. Yeah, so show this one so this is not the primary animal I see associated with this burrow, but that's a very clear image of a beaver entering this burrow.

**Heather** 15:17

Just like showing off his tail in case you were at all wondering what was going on right

**Bret** 15:21

now this camera shoots both day and night. And so that's

**Heather** 15:25

where I was last night. I was April 10. It's Yeah, like 2am

**Bret** 15:29

Yes, it sends me videos. Okay, now show the second one from that burrow. here that's interesting. I was not expecting to see this animal here at all that was an otter. Okay on a beaver at the same entrance now I don't know that was also night. Now show the diurnal one facing the other direction.

**Bret** 16:01

Now this is the animal that I thought was responsible for this Bureau and that I expected to see this is a nutria so a nutria

**Heather** 16:12

and you're sure that the second one that you showed was an auto nutria Absolutely. I haven't looked at you except now show

**Bret** 16:18

you can tell because the tails it's fluffy are radically different. It has a like a triangular to the otter has a triangular shaped tail. The nutria has a rat like tail. mistakable

**Heather** 16:28

Yeah, flat tail deck conic, otters and like a conical tail, right?

**Bret** 16:33

So a this raises all kinds of interesting questions. You've got these three species. Now the nutria. And the otter, and the nutria. And the beaver are probably close competitors of each other. The otter being a carnivore to the nutria and the beaver are both rodents. And

**Heather** 16:57

probably insect divorce though I know beavers not necessarily but nutria is probably in the sector for now. I

**Bret** 17:02

don't think so. I don't think so. But in any case, very odd to see them sharing a burrow. nutria is invasive here, which we will get back to I think this is also a very interesting question. And then the otter, which is native here is a river otter, of course. Although in the Puget Sound, the otters, even though it's saltwater, our river otters, off the coast, they are sea otters, which are quite different. But in any case, it very interesting to see these three species of large, moderately large bodied mammals sharing the same barrel system, how are they interacting? How much conflict is there? I mean, they're

**Heather** 17:39

there to ground, you know, are they are they sharing? Or are one or two of them exploring? Oh, occupied? Nope, not for me. Move along, move along. You know, that's obviously an exercise in exploration that organisms that do use burrows engage in

**Bret** 17:54

sure. But I'm virtually certain that's not going on here, because I set this up that this is actually a borough system. Okay. So there are like five or six entrances that I've found to these boroughs and I set up on the one that looked to be the most active, but it's quite clear, a these cameras would have seen the animals retreat, had they done so quickly? My guess is they could

**Heather** 18:19

have gone a different entrance, right. But all these

**Bret** 18:21

animals a they weren't tentative going into the bureau. B. What are the chances that I happen to capture them exploring all at the same time I set this up in the case of in the in a matter of two days, I saw all of this activity? And so this seems like just regular activity, it doesn't seem extraordinary.

**Heather** 18:46

Alright, so mixed living borough.

**Bret** 18:48

Yeah, mixed living borough, it raises interesting questions. Somebody may know the answer. But and in any case, this is the way actually good field work goes is that everything you discover just starts raising questions. And you can imagine what those questions would begin to unfold. Like if you were, you know, involved in this dissertation work rather than just, you know, curiosity, as is the case here. But all right, let's, let's get back to the question of the nutria. You and I had this discussion a couple of nights ago. The nutria are invasive in in Oregon, and increasingly in much of North America. They are Neo tropical rodents. And there's something surprising about the fact that they are successful in invading, which is that almost everything that is tropical, would be limited by climate and unable to invade temperate habitats. Because even if they would do fine in the summer, and maybe spring and fall, the winter would be too cold and it would kill them. So what is

**Heather** 19:47

it another way temperate habitats tend to be an invisible by tropical organisms. But the inverse is differently true.

**Bret** 19:56

Well, let's put it this way. The great ecologist MacArthur. Famously, he was an ornithologist famously observed something that I then not knowing that he had said this, rediscovered in my trying to figure out why there were more species as you got towards the equator, which seems like a question we should all know the answer to, but strangely, is one in which there is not yet a consensus, though I did advance what I think is the right answer in my dissertation. But in any case, what MacArthur said was, that species tend to be limited on the northern end of their range by climate and on the southern end of their range by competition. So

**Heather** 20:36

when he was talking with a northern hemispheric bias, so that so put that more generally, species are limited at the more at the end of their range towards the poles by competition, and at the end of the range, no other way, at the end of the range towards the poles by weather or climate. And at the end of the range towards the equator by competition competition,

**Bret** 20:59

exactly. So what the heck is freeing the nutria to, to invade North America. And you and I had a discussion in which I think we came up with something quite useful, right? So your point, I think, was that

**Heather** 21:15

I asked you whether or not it was about it being aquatic, that that basically, a largely water dwelling organism might have the variability in climate in the temperate zones, somewhat mitigated somewhat, be able to invade at least farther into the more extreme towards the pole and of its range, right. So

**Bret** 21:37

just to make that clear, water mitigates whether, because water has such a high specific heat, water tends to cause a reduction in fluctuation of temperature. So the coasts tend to be more stable than inland, which tends to be much more variable, etc. And so you suggested and I think this is part of the answer is that places that because these are always found near water, these are semi aquatic rodents, they spend a lot of times swimming, and I'll dig up some pictures of them swimming around at some point. But the fact of them living in habitats that are always near water, mitigates the weather somewhat, but I also wonder, and we talked about this, too, whether the fact of them being in the water itself doesn't drive the evolution of their capacity to preserve heat in a way that other creatures that simply near live near water wouldn't. Exactly because water is so good at robbing the body of heat that every animal that lives in the water has mechanisms, you know, beaver now, otter pelts, for example, are incredibly dense, right? They effectively function like a wetsuit to allow the animal to trap heat.

**Heather** 22:48

So the water the aquatic environment may both be mitigating a variability in in climate and also lead to a robustness, which could even be an anti fragility with regard to extreme climate.

**Bret** 23:00

Right. So this leads to that's a hypothesis about what's going on to two hypotheses that are consistent with each other. They're not mutually exclusive. And it leads to a clear prediction, which is that when animals invade, habitats, which they are expected to be limited by climate, that they those that invade are more likely to be aquatic creatures than terrestrial creatures. But then it also raises another question, which is, if the nutria does so well, in this habitat, why wasn't it here in the first place? Right? Why did it not migrate North? And it could be a? It could be that it is a I'm not,

**Heather** 23:48

I've got one you got. You, you used to present. And I always used this when I got to the relevant parts in my, in my curriculum, a sort of a three prong set of answers to why as an organism x and habitat why, right? And, you know, I'd love to do this in such a way that we could drop that and let people think about it, and then do it at the end. But given that we're in this conversation, broadly speaking, the answers were organism x can't exist there can't live there, can't get to there and can't compete there. So can't live there is like just unable to function in the environment because of say, climatic barrier can't get there. There's some kind of a barrier to dispersal perhaps. And that would be that's, you know, that's the one I'll come back to here. Right. It's possible that humans need to get over say the Sonoran Desert. I don't know I'd have no idea. Right? What all it would have had to go to get over but it might be that nutria couldn't get here on their own. But once here, once here, they clearly can live here. Maybe they couldn't get here, but they clearly can also compete here. Yes. And so the competition is against organisms in similar in the similar niche. So that's that three pronged set of answers. I think as soon super useful like you know if God ecology curricula taught that and only that that would be

**Bret** 25:05

gets you a long way it's very long, at least one of these things has to be preventing any creature that isn't in any habitat. I will also point out that our habitat is now heavily modified by the elimination of things like the natural predators of many creatures.

**Heather** 25:19

And fire suppression, you know, all sorts of

**Bret** 25:22

who knows if something has been altered, but there is at least a set of interesting questions that follows from the observation that these animals are now here and doing great, and they really are doing great. Even though climate climatically one would expect them to be hobbled, which they are apparently not. Yeah, all right. And final thing on this I want to switch from the nature reserve to our backyard and show a couple things that are cameras that we've set up as we attempt to fend off a nightly threat by a small number of coyotes that are persistently here

**Heather** 25:58

we've got three coyotes who desperately want to eat our cats. Yes, they're failing. They're not for lack of effort. They're

**Bret** 26:04

clearly stocking our cats our dog is very eager to take them on. I am not all that worried about her. She has in fact tangled with coyotes physically, individually.

**Heather** 26:15

Yeah. I saw that within the last week with one and then saw that there were other two the two others who were waiting when I go in and we're out of here,

**Bret** 26:23

right? Yeah, so we are now quite concerned because we have a number of animals that it's quite possible Maddie cannot fend off. And in fact, last night, the we went out I was take her out before I go to bed. And we encountered the coyotes and she was gonna go after them. And I tried to grab her and I because these these animals are stocking our cats. We've been carrying some bear spray so that we can send them a strong message that will dissuade them from doing this and I accidentally sprayed Maddie and me. Oh, it's terrible. Yeah, it's terrible. No, it was really bad. But okay, so Zach, do you want to show

**Heather** 27:06

our cats have not got outside since since these coyotes have been right here for like two weeks and so they're really crazy. The coyote

**Bret** 27:11

is call and it isn't just the three here that all of the coyote is in the surrounding area call and they've been doing it every night for the last several weeks except for the last two nights where I've put a recorder out hoping to capture it and so anyway, they're shy somehow. But do you want to show the onto us not shy? Yeah, show show the first one. So this is just one of many videos. Ah, so what I want you to can you show that again? What I want you to see here I noticed last night in the interaction that Maddie and I had with these coyotes. I noticed for the first time that this animal appears to have one eye Now it may be that it's lost an eye

**Heather** 27:51

for those listening rather than watching. You see the eye shine of just a single eye shine is the reflective coating at the back of nocturnal mammals is called at 2pm lucidum.

**Bret** 28:00

Yeah, so they reflective coating in the back of the eyes actually sends the photons through the receptive layer twice to amplify the light and which is why we always use head lamps to find nocturnal animals, you

**Heather** 28:12

shoot you you shine a light beam close to where your eyes are. And you're going to pick up I shine of any nocturnal mammals and also turns out when you're in the near tropics, so many spiders last night Oh my goodness.

**Bret** 28:23

But in this case, we've been watching these animals you've seen them every night for weeks. I've not seen a one eyed animal until last night, at which point I saw this one eyed animal and then it showed up on our cameras which raises the possibility that this animal got an injury that it got a thorn in the eye and that its eyes gonna heal but it's closing its eye This is a different animal that has one I don't know. But for some reason a one eyed coyote is now showing up on our cameras and in person when we see them so that was one of the interesting things and we have dozens of videos of coyotes in single multiple all around our house show the other one This was another interesting one I did not expect to see Oh, this is two coyotes. You can see an eye shine in the back of the the back of the video. See there's an eye and then this other animal is carrying what is pretty clearly a squirrel. And that can you read the time stamp on that sack? That's the that's the date. 24 hour time.

**Heather** 29:32

I said 2005 I mean

**Bret** 29:35

yeah, it's 805805 So

**Heather** 29:37

hey, oh, wait, that's not possible, though. Because it's not 2005 on April 10 yet,

**Bret** 29:42

oh, well, it may be the date may be off on the camera. But in any case, this is this is clearly at night. This is not dusk. This is clearly at night.

**Heather** 29:50

Yeah. So you know five doesn't make sense. Anyway, it's that's dusk here at this point.

**Bret** 29:55

There's a question about what squirrel

**Heather** 29:58

1227 Okay, well 20 7am

**Bret** 30:00

Yep. So just after midnight so what squirrel was that? And how did this coyote again?

**Heather** 30:08

Yeah, right because squirrels are pretty dire and oh,

**Bret** 30:10

well all except for flying squirrels.

**Heather** 30:13

Oh, I so we we are big enough fans of flying squirrels. And we had some, some years near our house in Olympia and watch them and are just you know, we're animal behaviorists. We love flying squirrels. I feel like if they were flying squirrels near here, we'd we would be likely to know. Well, I do there are a couple of fewer squirrels anyplace else, we have a blip. But there are a few squirrels and some of the trees nesting near us. And you know, maybe maybe the fact that the Kennedys are taking them is why there are fewer than anywhere else I've ever lived before

**Bret** 30:43

part of it. I'm certainly have flying squirrels here. The reason so the couple of times that we saw them in Olympia. It was the same phenomenon, which was the squirrels for whatever reason, we're in a battle with each other, which caused them to vocalize. The thing about flying squirrels is when they don't vocalize. They can fly. They're not uncommon, but when they fly over your head, you're very unlikely to know that it happens. They fly Yeah, from a branch to a tree trunk. So it's just to be

**Heather** 31:13

clear, they're not actually flying. They don't have powered flight. They can't get left unless they catch a thermal between trees, which is pretty unlikely. Yeah, I

**Bret** 31:18

mean, I always wonder about you know, climbing a tree to power your flight seems to me like powered flight, but it seems like a semantic argument. It is. But so is the argument that they don't fly. But anyway, nevermind, they, they glide

**Heather** 31:32

flying over your head to gliding over your head, they glide but

**Bret** 31:35

they have a very impressive glide ratio, they can go a long distance, and their landings are perfectly silent because they're on the tree trunk rather than in the lands vertically, right? Yeah, they land on the tree trunk. So it's not like you know, with monkeys, you typically hear the leaves rustling on the animal moves before you know, sometimes a long time before you figure out where the animal is, you know, there's something over there and it's got to be of a certain size in this case,

**Heather** 32:00

I think I'm not positive but I think actually the vertical grasping and leaping that is characteristic of the arboreal locomotion of the group of lemurs called the ingredients the chef Fox and the injury injury are also somewhat quieter than the than the leaping around entries of saying the tropical monkeys because they're doing this that I used to demonstrate for students but I'm not going to get up and do it here. Now. That is really it's throwing themselves from vertical ball from vertical tree to vertical tree, and they land sort of in this position, that it is a bit quiet because because in part because they're not interfacing with foliage, right? They're just interfacing with

**Bret** 32:38

foliage is the thing that gives animals away. So anyway, I know that we have flying squirrels. I don't think that was a flying squirrel. I think the tail was too fat. I didn't see the light underbody underbelly So anyway, I think that was a diurnal squirrel, which raises the question of how a coyote is coming up with a diurnal squirrel at 1230 at night. Is it finding them can't climb? It's a coyote. Yeah, so

**Heather** 33:04

yeah, so we've we've gotten a tiny bit of pushback in the past like of course dogs can climb my grandma had a dog that could climb famously. But you know canids compared to feel it's actually just can't and again sorry for the people just listening but this this action of pronation is limited for canines so cats are great at this and and that ability to basically move your radius around your own is what allows climbing and so if you're limited in this position, if you cannot pronate because your radius and ulna are effectively locked in in position much more so than they are in say the felids then you're climbing is going to be very much restricted. Because you because you cannot grasp So

**Bret** 33:44

in light of all of that there's some mystery here. How did this coyote end up with a dire and seemingly a diurnal squirrel which presumably nests high in a tree for exactly this reason? Right? So anyway, I think that probably we are going to be unable to answer this question. be interesting if somebody who was expert on coyotes had some sense about whether this was a fluke could be an animal that you know died and it was found fresh in the coyote didn't turn up its nose at the already dead animal it's possible, but I think it's unlikely I also will say though, that I am now spurred to try to use these game cameras to find flying squirrels. So I'm gonna see if we can't nail down our flights worlds and document their presence. You don't want to actually nail them down. No, no, no, I was a figure of speech. Certainly I'm a I'm a liberal I'm I resonate with the flying squirrels. I don't want to see them nailed to anything. Excellent. Yeah,

**Heather** 34:45

I'm glad we agree on that. All right. Are we there? Yep.

**Bret** 34:50

I think we are okay.

**Heather** 34:52

So apropos, the movement that is happening in many, many state Ledger's Slater's in the United States right now, to limit the ability of children to medically and surgically transition. And specifically, the state of Arkansas was the first to do to do this a couple of weeks ago, and the ACLU and what is becoming its generic knee jerk, frankly, uninvestigated stance, said, you know, trans youth will be denied health care, and it made it seem like all health care, like if you show up with a broken arm and you're trans, and you're 16, you would not get your arm set, which of course is not true. And so I'm off to the ACLU is has become the thing that I do on Twitter, by rephrasing their, what they said accurately and actually maybe I'll just show this or read this what I said was actually, the ACLU said breaking Arkansas has become the first state to ban healthcare for trans youth. I quote tweeted them and said breaking Arkansas has become the first state to ban gender transition procedures and people under 18. And the ACLU has become the first organization to wildly misrepresent what has happened. Someone and you don't need to show this act, but someone with a fancy PhD and a lab of their own said, quote tweeting me, and and thinking, I think that he schooled me, gender dysphoria can start around seven years old and includes a link and that includes three links. And I could, I could tear all of them apart, but I'm just going to talk about one of them. And what it led me to think about here. So the one, the first paper that he links to, excuse me, is this one, you can just show this quickly. This is a research letter in JAMA Network open, published last year by several authors called age at first experience of gender dysphoria among transgender adults seeking gender affirming surgery. Okay, so that's it. And I looked through it, and it does indeed find assuming that it's doing an accurate job of describing what what it was looking at that some people who transition later in life start saying that they are trans at a very young age. Okay. Yeah, that's I believe that. I mean, I would I would be shocked if that weren't true, in fact, in fact, it has to be it has to be true, right? So the missing piece of the research, though, the idea that that research is in any way a rebuttal to my implied claim, and what I and what I tweeted, and I'm going to talk explicitly about what my implied claim is here. The thing that is missing from that as an argument against giving medical and surgical intervention to children, is how many children who do not let our transition, say the same thing. And we, in fact, have probably no way of knowing that I would love those data, I would love to know, and yeah, we would basically have to survey widely across all children. And ask parents, you know, did your child ever say something like, I'm a boy, or I'm a girl, and it wasn't their Natal sex? Or did they dress up in Mom, you know, did you do find the boy in mom's heels one day, and you know, any numbers that have gender nonconforming things that are now taken as evidence of trans ness? And absent that, absent knowing how many people and I will posit that I am certain, but I do not have the data. And I don't think it's possible to get the data again, that a much larger number of children, of course, make such claims. Because make believe and playing with identity and exploration is exactly what childhood is about. So the fact that some people who do later transition make claims early on is not evidence that we need to be supporting their transitions medically and surgically. And here's why. I would ask which era does society prefer that we make? Should we intervene at an early age with experimental and known to be unsafe medical and surgical interventions such that a large number of non trans adults are mutilated, both physically and mentally for life? Or should we fail to intervene at an early age with experimental unknown to be unsafe medical and surgical interventions such that a tiny number of actual trans adults come to be a slightly less good fit for their internally perceived gender. So we can use the language of statistics here, I think quite usefully. And some people will actually be better able to make sense of the landscape this way. And certainly people like this. This professor who thought that he had made a killing blow at my argument should be able to do this kind of logic.

**Heather** 39:42

This is going to be the language of null and alternative hypotheses and the kinds of errors that can result that is to say type one and type two errors. So the null hypothesis, which is the also called the default hypothesis, in this case is that you are not trans that if you are a child, the null hypothesis is that you're not trans. The alternative hypothesis is that you Why is the null hypothesis that you're not? Oh 500 million years of uninterrupted sexual reproduction in human history and overwhelming evidence that a deeply felt disconnect between your actual sex or perceived sex is extraordinarily rare. We have said on this podcast and elsewhere many, many times that we understand trans to be real, and exceedingly rare. And that a majority of what is going on right now in the names in the name of trans rights is not actually about actual trans ness. So the null hypothesis is you're not trans type one errors when they occur are that you have rejected the null hypothesis, even though it is true, also known as a false positive. In this case, in the case that I'm talking about here, you reject a type one error would be assuming that you are trans even though you're not. And the societal ramification of such a type one error would be encouraging transition even for those who do not turn out to warrant it or want it. Compare that to a type two error, which involves rejecting the alternative hypothesis, even though it is true, also known as a false negative. This case, the one that we're talking about right here, a type two error would be assuming that you are not to trans, even though you In fact, are. And the societal ramification would be again, preventing people who do turn out to be trans, from transitioning early in life. So given given that we've got two types of errors, type one errors and type two errors in this landscape of people who aren't trans and people who are trans and we have childhood and a long period of development, and how can you know, early on or what should you do, given that the background rate of trans people is exceedingly low? I think actually, that is our human societal responsibility to minimize type one errors. In this case, to drive to as close to zero the number of healthy children harmed with medical and surgical intervention, for two broad reasons. The sheer numbers of people who are going to be harmed by medical and surgical intervention is so much larger than those who are harmed by failing to surgically or medically intervened fully aside from whether or not the medical or surgical intervention itself is is a healthy thing to do. But just looking at the numbers of people who are and are not trans, the number of people who will be harmed by intervention when it was not called for is so much higher. And secondly, intervention and to go to the, to the later point, intervention in this functional, ancient system, when no demonstration of the safety of that intervention has been made goes against all that at least I understand to be moral, and right. And in fact, just for me, this is in fact, a matter of justice. And I think that in fact reframing trying trying to get the narrative back and reframing some of these issues is actually you know, who is on the side of social justice for populations like children. And you know, and women is, is those of us who were saying you were redefining things and you're misunderstanding statistics, and you have taken a, you know, a radically deficient data set to try to make a point in which you're actively harming people whom You have no right to

**Bret** 43:05

harm, not only people that you have no right to harm, but we are talking about a population of kids who show some sign of dysphoria, right? That group presumably includes some trans people who will persist in their dysphoria. And an includes presumably many people who whose dysphoria will clear up, we know that that's a common pattern. So the point is, actually, that group kids with dysphoria need protection from medicine that would surgically alter them, thereby eliminating their potential to reproduce as adults risking their sexual functionality as adults. And so the point is, if you're interested in protecting kids with gender dysphoria, it is incumbent on you not to provide this surgery in light of the fact that that many of those kids will not grow up to be trans adults. And so by doing the study in such a way that you are looking through the lens of, of those people who were trans as adults, many of them believe they had just gender dysphoria as children, you are looking at the wrong, the wrong data set as you point out, and it simply there is no justification for policy even those who ultimately go on to be trans as adults cannot have known that their gender dysphoria would be permanent, as children, and in light of that, that group, gender dysphoric kids needs protection so that they have the full range of options when they grow up.

**Heather** 44:45

Exactly. And, you know, true gender dysphoria is is a tiny subset of those people who are gender non non conforming. And gender non conforming kids is a subset of people of children who are just exploring identity All right. And, and, you know, I would hope that actually all children are exploring identity, I would hope that that that is, you know, a perfect that sample is a perfect match for the population that is children, some children aren't able to, or maybe they just don't explore, you know, and certainly a lot of kids don't explore over in gender identity space, that's not inherently interesting to everyone, but the idea that all you have to have done is to be different from the societal norms, frankly, from the 1950s right, to in some cases be pushed into something that will permanently alter so much about your life is should be criminal. And in fact, what we are seeing are these, you know, once once necessary powerhouse organizations like the ACLU, who are turning this on its head and who are defending the, you know, the right and therefore, this sort of this, you know, the steamrolling of of modifying children for permanently because really, you know, increasingly now we're finally seeing but, you know, even as recently as a couple years ago, people were still saying, Well, you know, there's no, there's there's no harm, just, you know, block them just, you know, put them on puberty blockers, it'll be fine. And then that allows them to figure it out, like, well, a, if you're on puberty blockers, nothing about your development is now normal. There's no figuring things out as if things weren't going along normally at this point. But certainly, certainly you're going to have effects like and then when we already we've gone through all of these but you know, physical, mental, psychological effects, fertility effects, you know, all you know, sexual function effects, all of these things.

**Bret** 46:35

So, I don't know, if you're where you were headed with this, but I do want to make clear why you and I both think it is inevitable, that you will have some fraction of trans adults who experience gender dysphoria as kids and why, therefore, we need to be very careful to draw any conclusion at all from the fact of that group existing. Right? So in other words, it it seems important, well, if there are people who know that they're trans when they're young, then why not, you know, get them on the road to whatever adult role they're going to play as quickly as possible. But here's the problem, even if you're gender conforming, or nonconformity as a child, and that same parameter as an adult, we're completely independent of each other 100% independent, some small fraction of people would flip the coin the same unusual way, twice. And so it is inevitable that you will have a group of adults, given that there are trans adults and given that there are gender, there dysphoric kids, some number of people will have been both, even if there were no implication whatsoever. And the fact is, there probably is some implication of your dysphoria as a child and dysphoria as an adult. So first

**Heather** 47:59

there is, I mean, like, I get your point, and I think it's, you know, it's, it's true, but I think like, of course, it's going to be a core. Of course, if you are a trans adult, you're more likely to have shown dysphoria as as a child, but, you know, dysphoria and gender nonconformity are imprecise imprecisely, and often inaccurately assigned, they are conflated. And there will be plenty of people with one or both who do not turn into being trans people as adults,

**Bret** 48:28

right? Totally agree. The reason I'm highlighting this is that the there's a Monty Hall problem buried in here, oh, which is going to result in people upon the discovery that some people apparently know from a very early age that they're trans, when that's not really what they know, they're just work as young people. And it turns out that they are at the point that they are in a position to judge our trans. But it does not have any implication whatsoever for how we should treat those young people. Because it isn't says, as long as the category of people who were dysphoric and don't go on to be trans as adults, is a sizable fraction. They deserve protection. And you cannot act, especially in light of the fact that even if transition is more successful, if you start early, right, it is still successful enough if somebody upon you know, reaching 18 or 20 years of age says, yep, I'm trans at that point, right? They still have options. And so protecting kids from permanent modifications, as you point out, even the hormone, even the puberty blockers are permanent modifications, because of the way they interfere interface with development is it has to be prevented.

**Heather** 49:43

Yep. All right. So what may not appear at first to be related, but the next thing we want to talk about, I feel like is exactly, you know, demonstrates sort of the coherence of our worldview with this evolutionary lens. Which is that the FDA What is the Federal Drug? The Food and Drug Administration here in the US has approved a new drug to treat ADHD, which is a tension deficit and Hyperactivity Disorder. So let me just show First, the, this is the diagnostic criteria for ADHD. Okay. And actually the hyperactive impulsive type diagnosis because that's what we're talking about squirms when seated, or fidgets with feet and hands marked restlessness that is difficult, difficult to control appears to be driven by a motor or is often on Lego lacks ability to play and engage in leisure activities in a quiet manner, incapable of staying seated in class, overly talkative, and it goes on. When we were teaching, I occasionally, probably at least once every quarter that I had a new group of students, sometimes more than that, I'd have some very smart, young male student come to me, having failed to turn something in on time, and ashamed would explain to me that he had ADHD. And I started to say to these smart young men, of course, that's the diagnosis era smart young men. Like this beat, this became a speed that it became predictable. And that does not mean just and I actually feel like this is a part this is a really good map for trans like, I believe that there is something at the edges, that is real, and that there are people who actually will benefit from some kind of intervention. I don't know that that intervention exists yet for ADHD, I don't think it's this new drug. And I don't think it's the old drugs and all of that. But I do think that there is a real thing. And like with trans, and possibly for some of the very same profit motive reasons by the pharmaceuticals, it has become this huge thing in which the vast majority of parents who think that they're only caring for their children are trying to take care of their children and it certainly makes their jobs easier and the teachers jobs easier if instead of a classroom in which a quarter the kids are bouncing off the walls and and having a hard time sitting down when they're told to. They're now basically drugged into quiescence. Well, that does make your job easier, doesn't it? But it also means you've drugged your children. And indeed, from the CDC, I found another line under the hyperactivity variant, which just cracked me up. This is one of the diagnostic criteria from the DSM for ADHD often leaves seat in situations where meaning when remaining seated is expected and

**Bret** 52:41

expected. Right, the problem is clearly what the child is driven to get out of their seat. Exactly. So

**Heather** 52:45

I again, I'm just because because this came up on on Twitter this week, I was directed to this article that got put out, and you can put it on the screen if you'd like Zach, I said, hey, look, new drugs to fix broken children. Maybe the environment in which so many children find themselves. Oh, sorry, maybe the environment in which so many children find themselves a bad fit could be altered, rather than altering the children to fit the environment. And there was a lot of good positive reaction to that. And some people who think I'm Satan, right, the idea that I am against drugging children, and instead think that maybe we should create school environments that are a better fit for all of our children. And not just the smart and middle and the Smart Girls, which, frankly, is what school is mostly a pretty good fit for at the moment is apparently a bridge too far.

**Bret** 53:42

Well, the perverse incentives here are many, and I have no doubt that many well intentioned people have ended up allowing their children to be drugged. And the cognitive dissonance required cannot withstand the scrutiny of someone who points out that a child getting out of their seat is hardly an indication of a disorder, especially in light of the fact that seats themselves are now the root of many a disorder that we now recognize these are not healthy objects. And

**Heather** 54:16

what's more, the same society that is celebrating standing desk right is dragging children because they don't say their buttons. Right,

**Bret** 54:21

exactly. There's something off. So I would also say that the system we have built is so clearly guaranteed to produce an outcome where I agree I don't know whether ADHD is real, but I suspect that it is I know for sure I would have been diagnosed with it. If it had been a thing when I was a kid. But I you know, I think we've got a novelty problem, which is to say, All right. Yeah, it's all it's all good. Wow. some serious Cat Cat, a cat quick. Um, thanks, Zach. The, as I was saying, the

**Heather** 55:13

bunkers from being locked inside for two weeks,

**Bret** 55:15

let's imagine for a second that they're, you know, in the fantastically complex series of events that have to unfold in order for development to work out properly. There's something that causes certain a small number of children to be hyperactive and not be able to focus on something, right? Then there's a question of, Okay, what do we do about this tiny percentage of children? And the answer is, oh, well, we've got a lot of drugs we can try. And then it turns out that drugs that have really powerful effects, many of them have some interaction with this because of course they would, right. And so you find some drug like speed that happens to do something with these kids that actually, paradoxically, as many things, as many pharmaceuticals work with children, you know, calms them, right, it's effectively functioning as some kind of sedative. Right? And then what happens next, okay, you say, Well, this is the drug that treats that as if it was a specific interaction, rather than just something that has massive effects across the brain, one of which happens to look positive, especially in light of the jury rigged system in which the drug companies test whether or not something has a positive effect. It's

**Heather** 56:24

not a tight hypothesis driven science. And so, you know,

**Bret** 56:27

it's it's not hypothesis driven, if you know what I mean. But then the question is, okay, once you've concluded through whatever, you know, it's effectively a kind of idea laundering, not of the typical kind, but idea laundering, where you make some drug out to be the solution to some problem that you vaguely understand or at least can recognize, and then the question is, okay, how many kids might have it? And what do you think the drug companies desired answer for that is,

**Heather** 56:56

I think it's a lot. It's a lot.

**Bret** 56:58

It's a really large number. This is wildly and I don't

**Heather** 57:00

want your child to be sick to you, right?

**Bret** 57:03

Oh, what do we have to do? Well, you know, maybe, you know, Johnny doesn't appear to have ADHD, but maybe he's got ADHD type B, you know, this kind of,

**Heather** 57:14

right. So you just did he stand up when you didn't want him to stand up?

**Bret** 57:18

I saw him standing. I did. Yeah. And when he was sharpening his pencil, right, and that's what he says is due for he sharpened his pencil he got out of his seat, which is one of the diagnostic characteristics. Yeah, that Johnny he, he's clearly an ADHD.

**Heather** 57:33

We can fix them, though. We can fix them. Right, good. Excellent, good. So one of this, just this article that I linked to do in that tweet, says, quote, I have no idea how to pronounce this Calibri with a Q is apparently the name of the new drug. It's being lauded as not speed, right, like not speed to treat your ADHD kid Calibri, developed by supernus Pharmaceuticals of Rockville, Maryland, carries a warning of potential for suicidal thoughts and behavior, which occurred in fewer than 1% of volunteers and studies of the drug. Short term studies of the drug in which we're being told that these children are going to be on it for many, many years. So right 1% is low. And I'm sorry, then, you know, less than 1%. I don't know what the number is. I couldn't I couldn't track it down. But you're creating suicidal ideation in a population that had none? I'm sorry, that's unacceptable. It's unacceptable. That's unacceptable. 1% as they get out of their fucking seats, right?

**Bret** 58:29

1% is a huge number, right? So yes, it was a few were fewer. But the point is, you know it, it's not fewer than one in 1000. Right? This is a large number. as you point out, it's a large number in a short period. So does that mean that as you put people on this long term, you're going to cycle all of them through suicidal ideation, who knows,

**Heather** 58:50

which, which we know happens with many of the other drugs neuroleptic neuroleptics and anti depression meds that are on the market already. And this is more this is closer to that class of drugs biochemically than it is to speed.

**Bret** 59:05

And you know, you you alluded to this in your introduction to this topic, but there is a chronic condition, undiagnosed, in my opinion, in which society takes all of the problems that we are causing by inflicting novelty on people and then falsely diagnosis the person as disordered and then seeks to treat them for profit, right? It's like, you know, it's a racket. And it's not to say that disorders don't exist, they clearly do. And of course, they exist at a larger, higher rate than they would otherwise because people do grow up in an environment that is chemically socially in every other way. novel.

**Heather** 59:45

We probably we probably do benefit far more from drugs, then would our ancestors have had they been available because we have created so many problems with our environment?

**Bret** 59:53

Yeah, your Yeah, your ancestors because they were a good match for their environment would almost never have benefited from drugs you know, you're gonna get occasional circumstance of somebody getting an infected limb where an antibiotic might might help them or something. But

**Heather** 1:00:08

well, I you know, not, you know, we don't need to straw man. We in western medicine, right because it hits does it it does it plenty well itself. Like, as we have said here and elsewhere for decades, we have long viewed antibiotics and vaccines and surgery as the three major triumphs of Western medicine. And all of them are overused. And that doesn't mean they're anti on about I grant I vaxxers are anti surgery except in some situations, of course, because there's some situations that don't call for antibiotics, or vaccines, or surgery. And there are a lot of things that would benefit from a different approach entirely.

**Bret** 1:00:46

I am anti the pretense of safety. Right? The fact is, all of these things have dangerous just as we know that every single drug has a lethal dose, they're all toxic, they have to be in order to function right for them to be physiologically interactive, means that there is a dose at which you are doing harm. So the recognition that all of these things are unsafe, and instead of having a stupid debate over whether or not they're safe having a debate about how unsafe are they and therefore, when is it worth taking that risk? And when is it not, would be well, well worth doing

**Heather** 1:01:22

what and both about the risk, and then about the benefit, like you know, who? What percentage of people are actually getting, what level of benefit when they take this drug? And what percentage of people who take this drug are actually suffering cost? And what is the level of cost? And with with something like this, or with something with a lot of drugs, that actually should be an entirely individual decision? Yeah. Vaccines is trickier.

**Bret** 1:01:52

Vaccines is trickier. But you know, even just our family has so many stories in which we have come to ultimately understand that we were exposed to risk we didn't know about from the orthodontia that I had, as a kid, your kilis tendon repair my hair so much as the rupture that really got to me, well, that's the thing, both your rupture and the repair the

**Heather** 1:02:17

surgical repair, as it still plagues me. What is it Seven, Six years later, and

**Bret** 1:02:22

it turns out that this is something that will heal on its own without surgery, right, which was something we did not understand fully at the time

**Heather** 1:02:30

to be explored more later. In my case, it turns out not only was it a complete rupture, but even the sheath in which the Achilles tendon runs was ruptured. So it's not actually 100% clear in my case that it would have healed like when the sheath remains, but the Achilles is totally ruptured. It it repairs, but without the sheets to guide it. It's not clear what would happen.

**Bret** 1:02:51

Yeah. All right. Well, we'll return to it another time. But even just for a small family to have at least four instances in which iatrogenic harm that is to say, medically induced harm is evident because of the enthusiasm of doctors and dentists. Well, I

**Heather** 1:03:10

don't think we spelled out that with regard to the Achilles rupture in the first place. It was probably it was almost certainly affected by and maybe largely driven by the fact that I had taken a fair bit of Cipro when we were doing a lot of field work both together and independently in our 20s and Cipro and the entire class. I don't remember what that class that drug class name is right now. of drugs is now known to cause soft tissue specifically ligament and tendon damage. Yep, yep. But right, there's no indication then no take Cipro if you know you'd need to get on a bus for 12 hours and you got gi stuff you need to take sup, bro? Yep. All right. So this next one's we got three more topics here. This next one is is brief, but I actually think it sort of wraps up this you know, talking about medically, medically intervening with children who declare themselves trans medically intervening with children who have been diagnosed with ADHD and here we go this isn't about medical intervention but the organization let grow which was founded and I think is still run by our friend the amazing Lenore Skenazy tweeted about this paper which is not showing up, hold on. I will find it on.

**Heather** 1:04:39

I will try to find it. And I don't, okay, well, Princeton dropped me out so I did not have that paper up anymore. A paper called children persist last when adults takeover published and Child Development just published now and I will put a link up although it looks like you'll need to do some fancy work behind the scenes to get it Without University, just to just to say what they found is it's pretty good paper. It's, it's, it's social science, and they do three separate sets of experiments. And this paragraph from the discussion aptly summarizes what they've done or what they found. We found that when adults take over and solve hard problems for children, children persist less. First, we showed the parental taking over negatively relates to parent report of child persistence. That's not so interesting, right? Then the second two experiments, they do an experimental study, we demonstrated that taking over causes children to persist less on a subsequent difficult task. And finally, in a second experimental study, we found that change in the language and context of taking over slightly but not significantly ameliorated the negative impact of taking over on children's persistence. And in the following paragraph, they say our findings suggest that it may be easier to D motivate children than to motivate them. Which I thought that was sort of the crux and that we can you know, you haven't read the paper, but I don't think I don't think you need to basically what it says and what Lenore says in tweeting this letter Skenazy, it's like, well, you know, does this should be obvious, but so much of modern parenting style is about intervening is about getting in the way of normal childhood, a normal childhood development. And in this case, it's not about drugging, it's just about a parent, watching a kid struggle on a small way with like a puzzle or a task. And in those cases, where the parents like, let me just do it for you. Or let's just forget to show you how to do let me show you how to do it, let me do it for you, let's just forget about it and move on to something else. All of those are, you know, are demin, demonstrably, resulting in children being less likely to persist and later tasks that are hard, they become less, less interested in difficulty.

**Bret** 1:06:47

Yeah, and as we both discovered, and thought quite a bit about us in our teaching lives, the failure of motivation is the key factor in the failure of education, right, a child who comes to understand that a problem can be solved, and that being dogged in pursuing the solution results in ultimately getting there. In other words, a relationship with the failure that comes along with progress, that is healthy, is the key thing. And even for students who appear to be doing very well in school, and therefore you would expect to succeed, when they get out into the world, if what they have learned to do is to succeed in order to please the person at the front of the room, then at the point, you remove the person at the front of the room, the person does not know how to accomplish anything. And these things

**Heather** 1:07:42

are devastating, and there's no carrot, what am I doing? Right? And it doesn't even add

**Bret** 1:07:47

up that way. It's like the whole idea. I guess the point is, you've got it's like a almost a military mindset, right? Where the soldier might be very good at doing what they do, but they do it because somebody has ordered them, that's the hill you're going to take. And to the extent that that's the educational model, then the point is, okay, well, this may be great for producing people who will do what their boss tells them to do. But it's not great for teaching people how to innovate and solve their own problems, or even recognize their own problems.

**Heather** 1:08:17

Again, it probably makes the educational environment easier to deal with, right, especially if you've got some unruly kids, some people who are unmedicated ADHD types, right? They're more likely if they are trained to be motivated by the teachers approval or by being you know, being given a task and, you know, having it be pretty easy. And knowing that you'll be moved on to the next task, and you'll get another star stamped on your forehead as a result. Those you know, those classrooms are certainly easier to navigate. But they don't produce independent autonomous thinkers with agency nor I think, what we are seeing in the world, nor do they produce people with particular amount of compassion and respect for people that don't look like them. Yeah, like that, that that is actually what we are seeing is that the people who are yelling loudest over and wellsville are actually the least compassionate, the least respectful of people who don't sound just like them.

**Bret** 1:09:12

Yeah, I think this is exactly right. And I think I was going to draw the same analogy for a different reason, which just has to do with the fact that we are interrupting all sorts of processes that are about figuring out how to navigate the world, right? By telling people Oh, you're having trouble navigating the world. That's because the world is fucked up. Right? Now, the world is fucked up. But when you tell people the reason that you're having a problem is because the world is fucked up. And therefore it relieves all of the burden on you to figure out how to interact with the world, then you don't learn how to interact with the world. What you do is you demand that the world be bent to fit you and that is not viable. The fact is, no matter how bad a world you've been born into, right, you absolutely want to figure out How to make the best use of it no matter how unfair it is that you were exposed to that world, and maybe other people aren't exposed to that same level of dysfunction. Nonetheless, it is absolutely clear that your best investment is figuring out how to make the best use of the world as you find it, and then demand that it be fixed, but don't demand that it be fixed instead of figuring out what to do about how to interact with that world. Because you're not going to get anywhere if you're waiting for, you know, effectively utopia, which is what so much of this is about, right? We're not going to do anything until you fixed every last ounce of every problem that we've named. And it's like, well, that world isn't coming nor nor could it exist. It's not a plausible world even. Yes. So you're harming yourself by, you know, by stamping. Yeah, effectively, we've got a generation that stamping its feet, you know, in the aisles of the market demanding stuff. Right. And well, yeah, disaster,

**Heather** 1:10:57

as Nancy Roman has said many times, they have demonstrated a clear ability to break things. But we are still waiting on a demonstration of their ability to make things.

**Bret** 1:11:07

Yeah. That's an excellent way to put it.

**Heather** 1:11:12

All right. Well, we've got two more topics here. Brett, you want to talk about what is going on? And I know almost nothing about this. So you are going to take the lead on?

**Bret** 1:11:24

Yeah, that's so I just wanted to point out and I think Zack, I sent you a link. This is just one of many places that they show this as a Newsweek article describing what is going on Jordan Peterson discovered,

**Heather** 1:11:39

can you show it on the big screen to Zach since I haven't seen this yet, and I can't read it there.

**Bret** 1:11:45

So Jordan Peterson, discovered this week that he was clearly I would say being parodied by Tallahassee coats. in Captain America, effectively, Peterson's 12 rules for life has been changed to 10 rules for life, and Peterson himself is being analogized to a arch villain, Red Skull, who has Nazi overtones. And this is noteworthy for a number of reasons, right? It's literal villainizing. Right? Peterson actually, literally, right? literally being villainized here, and I would say, you know, Jordan is a friend. He deserves nothing less than to be villainized. He may be wrong about things, though, I would say it is incumbent on anyone who says he is to point out in what way he's wrong, but being wrong and being a villain are two very different things. And I have seen Peterson interact up close with his many, many fans who come up to him, you know, he could have lines out the door of people coming up saying you changed my life, you helped me find a direction you helped me get myself out of a hole that I was in, increase my capacity. All of these things are things that are commonly being said to him. So the idea of turning him into literally a cartoon villain is so insane, as to be absurd, but it's grotesque. The other reason that I wanted to mention this is that we are constantly asked why we only supposedly interact with people who agree with us supposedly about things like woke ism. And I don't think this is true. But it is true that we interact mostly with people who agree with us on this. And part of the problem is it's very hardest topics. It's very hard to find people on the supposedly other side of this topic who can be partnered with enough to even have a reasonable discussion. And so from my part, I have been saying for quite some time, that I find Tallahassee coats to be a very different sort of person, then even Kennedy or Robyn D'Angelo, or any of these other folks. We, as a family Read between the World and Me

**Heather** 1:14:14

Back in would have been fall 2016. When writing for the school year started, I read it aloud to the bus.

**Bret** 1:14:22

I certainly got a lot out of it. I thought it didn't have exactly my perspective. But I learned about coats perspective, and I believed it was a valid and valuable book and I have said so publicly. And so therefore coats exists in a separate category to me, somebody who could be productively interacted with, and somebody who brings something to the table that I think is worthwhile. And so, in any case, some of the people you know, john McWhorter has given coats a very hard time as has Glenn Lowry, but in any case, it sort of feels like coats was the person For two, to whom we could address, critique and receive critique from, but what are we to do? When the reasonable person on the other side of the discussion starts villainizing somebody literally villainizing them as some sort of Nazi esque. You know, figure. There's just nothing to do, right? So, in any case, I don't know what I'm

**Heather** 1:15:25

curious what the 10 rules for life that red skulls espousing are, and I'm wondering if, you know, one of the more famous ones from 12 rules for life because I read it, I thought it was a powerful book. And you know, it wasn't that what I wasn't the target audience for it. And I think and I actually think Katie Herzog said this first I had the sense of like, okay, I don't need this in the way that I know a lot of people need it and I didn't learn as much as many people did from it therefore, but I see its value and I was I was deeply touched by it and I did learn some things as well. But one of the one of the rules in the original 12 rules and of course he's got another book out now with 12 more was when you see a cat on the street pet it just I'm wondering if there's a modification of that in here. We see a cat on the street feed it to a coyote carefully

**Bret** 1:16:14

excluded from this portrayal Yeah. Yeah, when what I did see was the suggestion that the Jordanian Red Skull character was leading young men to believe that everyone was against them and that they needed to rise up that kind of thing, which oddly is almost exactly like in that verse. Yeah. With what Jordans message actually is dirt is messed up your room hi curtains, messages about taking responsibility for your position in the world and not concentrating heavily on other people get you know, don't compare yourself to them. compare yourself to who you were yesterday, that kind of thing. And so anyway, deeply unfair to do this to Jordan, who I must say, despite significant differences in viewpoint, I find him unendingly decent. Absolutely. Right. So anyway, what a terrible thing to do this and frankly, I do think you owe Jordan and apology coats and I can't it's hard to imagine in light of having released this that you're going to deliver that apology, but you know what possessed you to do this. Alright, that's about all I've got on that topic.

**Heather** 1:17:34

Okay. You so for our final topic today, maybe sunlight really is the best disinfectant. And I don't know much more than you sent me. A link to this article, Zachary. Sunlight in activates Coronavirus eight times faster than predicted. We need to know why. And that links to this paper UVB radiation alone might not explain sunlight and activation of saris COVID to a paper that came out actually in February of this year that finds basically the theoretical underpinnings for why why it was thought thought that SARS COBie two was not transmitting, as I guess, was not transmitting and was not there for manifesting as COVID and people who were outdoors was largely based on a model around UVC. I think the activating deactivating the virus but the empirical evidence that's come in since those early theoretical predictions says Actually no, there's going to be a lot more going on. This virus is just on able to persist out in sunlight for very long at all. And, you know, we're not going to we're not going to go inside baseball here on on, you know, all the reasons, all of the disconnects. But it's fabulous news like there is not a variant yet that we have heard of SARS, COBie two for which this is not true, that is to say, which does not deactivate in sunlight, which means that the advice that we've been giving from the very beginning, go outside spend time outside, and you know, and you know, do you do not need to wear a mask outside unless you're jammed together, holds and is, you know, is even it's important for mental health. It's important for physical health, it's important at just about every level possible.

**Bret** 1:19:23

Yes. And so I want to recap a little bit about what we've said a SARS covi two does not appear to transmit outdoors. That could be a purely UV light or sunlight more generally based phenomenon, but it isn't it doesn't appear to transmit outdoors at night either. Right? So that's really important. What that means is that you've got at least two mechanisms and that what it results in is at least for the time being, that we have a loophole in the constraints that come from SARS Coby to especially when the weather is hospitable and meeting outdoors as possible. And we should be taking full advantage of that. You wanted to say something?

**Heather** 1:20:05

Well, hold on. I mean, one obvious second explanation, and I suspect it will be more than two is that it is well understood that this like, I don't know, maybe all but certainly many. And I think most viruses and other pathogens are effectively density dependent. And so outside where there is airflow, and where you're constantly blowing away boundary layers, and, you know, the the viruses, you know, heading up into the atmosphere, as opposed to staying in the room where you are, is going to be effective at effectively dispersing the virus.

**Bret** 1:20:43

Well, we know this to be the case. The question is, is that the mechanism that makes night safe outdoors? It is unlikely that that is completely the explanation.

**Heather** 1:20:55

I said, I said one one clear hypothesis that I would say I can't imagine this isn't true. I just wanted to name the two that we definitely know are true, right?

**Bret** 1:21:04

We know their volume and airflow reduces the density of particles that one interacts with, and that that has a highly protective effect. And we know that UV light disables the virus and maybe sunlight does so more generally than just its UV component. Why is an interesting question whether this interacts with the question of where SARS covi to came from, if it was laboratory in origin, obviously, laboratories are not drenched in sunlight, they're drenched in artificial light. Of course, the fact that the virus ultimately comes from bats, whether it was modified in the lab or not, does suggest it would not interact terribly frequently in daylight as bats are all nocturnal. So anyway, there's a lot of questions that could be addressed. But a couldn't evolve to be transmitted outdoors. It could so you should be cautious outdoors, though not overly so. But for the moment, it is apparently the answer to how to keep things functional during a time when you can't afford to do certain normal things like you know, go to a concert. So in any case, it's a it is an important finding. And it is important for us to continue to track whether or not that changes but the fact that no variant yet as has figured out how to transmit outdoors as great as it sure

**Heather** 1:22:25

is. Yeah. Okay, before we go into end of, you know, sign off announcements, you want to share the thumbnail that you chose for this week, which is from a little photo essay that you were working on yesterday, perhaps Yes.

**Bret** 1:22:38

Trying to get decent pictures of these these year animals, including our epic Tabby, Fairfax here,

**Heather** 1:22:47

so this is a little bit a little bit confusing because I keep saying workouts I haven't been outside in two weeks. We specifically the two of us, left them outside just right outside our house with us on them the whole time. Because they were crying. It was such a beautiful day and they were crying, crying crying to come out. So yep. And you know, and we wouldn't our Tesla, our 10 year old cat, the black cat kept wanting to wander off and I've scooped him up four times. And Brian was like, dude, you're not listening to the rules. And as soon as we scooped them all up, we saw a coyote. They're watching,

**Bret** 1:23:20

they're watching and of course, we run the risk of renewing the smells that they leave outdoors and that could reinvigorate the coyotes. In Tesla's case, his failure to listen to the rules I'm fairly certain is indicative of ADHD, type C cap variety, and I have no doubt that there are pharmaceuticals available to treat his condition.

**Heather** 1:23:45

So I did actually get him high on catnap recently, as you know, and Fairfax the epic Tabby, who was just on screen was somehow not aware of this and so Tesla and and Moxie are their cat enjoyed their little foray into cat Hi. And I guess they told Fairfax about it, though, because a couple of nights later, Fairfax had figured out how to break into the cabinet and got him and all of his friends Hi, and they were rolling around being completely stoned for the evening.

**Bret** 1:24:18

Yes. It's a constant battle to

**Heather** 1:24:23

counter drugs

**Bret** 1:24:24

and keep the cat out of the drugs. Yes. All right.

**Heather** 1:24:28

All right. So we are going to take a 15 minute break. For those of you watching and then go to the live q&a, answering questions you've posed during the Super Chat. We did a practice run of our Super Chat replacement system this last week, and we'll do one or two more before going live. So we're still doing Super Chat. One thing I've got to mention is I had a wonderful conversation with Bridget fantasy this week. And that's up on walk ins welcome. We talked a lot about vaccine passports, among other things, something that we haven't really talked about on air. So go look for that if you're interested in that comment. do consider joining us at either of our Patreon ads, you get a free monthly to our q&a live q&a with us at my Patreon and Brett has conversations at his as well the next one at the highest dollar amount is tomorrow morning, actually, from nine to 11 pacific time evolution focused, evolution focused. Please send any questions to a dark horse stop moderator@gmail.com as well as logistical questions like how do I do this? Maybe that's it, we got a great clips channel, what's continuing to turn out clips and if there's anything that you really want to clipped, consider emailing again darker stop Mater gmail.com. And they will forward that to the awesome person who makes the clips. Yes,

**Bret** 1:25:47

subscribe, don't just like love. And don't hesitate to spread the word we feel strongly that the platforms are not necessarily allowing people to see our content or not recommending it the way they might have certain patterns. But anyway, you can counteract that by pointing people to Dark Horse content.

**Heather** 1:26:10

That's right back in 15 minutes in the meantime, love the people whom you love actively and eat real food and get outside. Be well everyone