Bret and Heather 93rd DarkHorse Podcast Livestream\_ School o...

Sat, 10/9 12:10PM • 1:40:56

**SUMMARY KEYWORDS**

students, point, school, questions, teaching, good, children, teachers, public goods, people, capable, world, system, understand, experience, ability, part, learned, tragedies, problem

**SPEAKERS**

Bret, Heather

**Bret** 00:06

Hey folks, welcome to the Dark Horse podcast live stream number 93. Is it?

**Heather** 00:13

That's right, that's right three.

**Bret** 00:14

We are slightly discombobulated having just returned from a fantastic if brief excursion to the San Juan Islands.

**Heather** 00:23

Yeah, it was terrific. For those of you who don't know, the San Juan's, the most Northwest Territory of the lower 48. In the United States there, it's an archipelago that is that is divided in half by a political line, right? The the Gulf islands of Canada are part of the same archipelago, and you know, really, so is Vancouver Island, but they are extraordinary, really extraordinary.

**Bret** 00:47

Yes, they really are an amazing, amazing place and with an amazing history, and we will be talking more about them next week. It was a little bit difficult to get some of the photographs from our trip, wrestled into shape, because we arrived so late last night. So next week, we'll talk more about the sad ones. And all we learned and thought we did

**Heather** 01:09

indeed and more and more, more immediately a little discombobulated because you just brought me water, we just got back. We had left our cats in the capable care of a young woman and they missed us and one of them is now sitting here drinking with his pot from my water and spraying it all over my computer.

**Bret** 01:24

Yes, rendering the amount of water that you have at your disposal. Suddenly, zero. It's desertification right here on the podcast. Yeah, happening in real time.

**Heather** 01:34

So we are going to continue our March through through the chapters of our forthcoming book. Today we're going to be talking about school, which is, which is the topic of chapter 10 of a hunter gatherers guide to the 21st century, which will be out in less than a month at this point. But first, if you're watching on YouTube, consider trying it out on Odyssey that's where the chat is if you're watching live. We have disabled the chat on YouTube, only because it's very difficult for the moderators to keep track of to two chats at a time. But the chat is just as good on Odyssey. You can submit questions for the q&a that will happen after this, this main live stream on dark horse submissions.com. And there's a there's frequently asked questions there for any questions that you have. You can also email darcars moderator@gmail.com. With not with your questions for us. But any logistical questions. consider joining one or both of our patrons right now the open question period is is open for? We haven't been here for a while No, no. For the private q&a on my Patreon that happens with both of us on the last Sunday of the month. So you can even go there right now we're doing a COVID free q&a this month at the request of some of the patrons last month. So I've taken a look at the questions that have already come in. And there's there's a great diversity of questions and nothing having to do with COVID

**Bret** 03:03

COVID. Free we will still be maintaining every precaution against the disease. But the question the content of the questions will

**Heather** 03:11

be COVID for the q&a. Being virtual makes it rather easy. It simplifies

**Bret** 03:14

things greatly. It does it does.

**Heather** 03:20

You can find shirts and other other stuff at Dark Horse store that dark horse podcast.org and consider joining me at natural selections.substack.com. My post this week was about herons and Watson Watson which are forget fermenting Amazonian birds. And it's very, very rare for fliers to be grazers, because leaves are such of such low caloric quality. And flying takes so much energy. And not only our leaves of sexual equality, but it takes a lot of them. It takes a lot of like space in your gut to achieve fermentation. And so as it turns out, we've seen Watson in the wild and the Amazon and they fly really

**Bret** 04:06

badly. They're amazing birds. They're

**Heather** 04:09

amazing birds, they sleep, they smell bad, and they fly badly. And it turns out it's not because they're just kind of lazy or slothful or bad at flying because they don't they don't put the energy in. They actually there's not much room for the flight muscles to attach because they're for guts are taken up like all this space. And so they just they don't have the lift that other birds of similar size would

**Bret** 04:32

have. It's like a tropical tree chicken with a vegetarian diet.

**Heather** 04:37

Yeah, except they're not chickens, right? It's not even clear what they are like I went I dove down into that phylogenic rabbit hole like who were they related to? It's not clear. It's still an open question. tacos. Maybe dubs? Maybe dubs is one possibility. Yeah,

**Bret** 04:53

I could almost see that. Yeah, but the wild makeup around the eyes is Yeah, yeah. Crazy on these shirts. Yeah. As you say, right yeah, for the rest for the free audio sound for crest.

**Heather** 05:07

Exactly. Okay. So before we get into talking about about school today, we have two ads, two ads for you to sponsors of the show today mud, water and public goods. All right, mud water is a coffee alternative with four adaptogenic mushrooms and aromatic herbs. With 1/7 the caffeine is a cup of coffee you get energy without the anxiety, jitters or crash of coffee. each ingredient was added for a purpose by the makers of mud water cacau and Chai from mood and micro dose of caffeine, Lion's Mane for alertness quadriceps to help support physical performance Chaga and Reishi to support your immune system turmeric for soreness and cinnamon for antioxidants and I will say this as I said the first time that we run an ad for mud water I enjoy my coffee but I don't need it and that's intentional. I've spent time places where coffee was was not or might not be available and so I intentionally reduce my dose to zero every now and again just to make sure I don't need it won't get headaches without it etc. So I wasn't sure that I wanted or needed a coffee alternative but I've been drinking it off and on for several weeks now and I really like it invited I didn't have anyone we were away in the San Juan's but I had some this morning and I really enjoy it the chocolate I'm a sucker for chocolate and the masala chai blend which includes a number of spices that anyone who enjoys Masala Chai will be familiar with cinnamon, turmeric, ginger, cardamom, black pepper, nutmeg, cloves is really good. It's got all the things you would expect of a company like mud water, it's 100% USDA Organic, non GMO, gluten free, vegan, kosher certified. Furthermore, they donate a percentage of their revenue two maps the multidisciplinary Association for psychedelic studies now this is not a psychedelic drink, but that is whom they donate some of their revenue to and they work with an organization called pochamma. Not Pachamama Pachamama, which they pay monthly to reforestation efforts to ensure that they have a net positive carbon footprint so visit mud water calm. Visit mud water comm slash darcars to support the show and use Darkhorse at checkout for $5 off that's mud water not spelled as you're expecting it, m UDWT r.com slash Dark Horse use dark horse at checkout for $5

**Bret** 07:29

off. All right, next up public goods, dyslexia begun. public goods can be your new one stop shop for high quality, everyday essentials. Their ingredients are carefully sourced and affordable. public goods has glassware and sponges and hand soap coconut oil, black tea vinegar and spices garlic, almonds and for after your garlic comments breath mints, too. They've got niche items like bone broth concentrate, and gluten free pasta and plantain chips. public goods cares about health and sustainability. For its customers and for the planet. They plant one tree for every order placed and the ingredients are ethically sourced, their products are largely free of harmful ingredients and additives. public goods products have great design to the aesthetic is simple and clean and does not shout late stage capitalism every time you look on the counter, which is nice, it is nice. Finally, their subscription service is efficient and simple and easy to use public goods members can buy all of their premium essentials in one place. It really is an everything store. For Darkhorse listeners, we have the following offer receive $15 off your first public goods order with no minimum purchase. They are so confident that you will absolutely love their products and come back again and again that they are giving you $15 to spend on your first purchase. Go to public goods.com slash Darkhorse. Use the code Darkhorse at checkout. That's public goods p UBLICGOD s.com. forward slash dark horse to receive $15 off your first order.

**Heather** 09:07

Excellent. And I was going to say that today's episode is brought to you by the number 93 in the letter P, and read the index from hunter gatherers guide, the 21st century for the letter P. But it seems familiar to me. And although my notes do not suggest that we've done p before, I'm going to skip it for this week, and perhaps bring you next week's episode but the letter P, and just make sure that I haven't In fact, use p before,

**Bret** 09:30

right. I don't think you have but I can't be sure I'd know halfway through the index, but then it would be awkward to

**Heather** 09:36

Yeah, you know, I have a spreadsheet and all but i think i think i fell down on the job a little bit. So I'm not sure enough. Okay, so we're gonna talk about school today. We originally had not just a chapter on childhood, which we talked about last week and a chapter on school in this book, we actually had two school chapters. We have a chapter on school and a chapter on higher ed and the idea in part of the This book is that every single one of these chapters, including I mean, really, every single one of the sections in every one of these chapters could easily be expanded into a book of its own. And so we took even more out of the school chapter than we did out of many other parts of the book. So I would like us to use this as a way to open up the conversation about school, there's lots to say, but you know, understand that this is this might be the last time that we're talking about school and, and this conversation right now will not necessarily be about the particular things going on right now, in schools, although there's plenty, there's plenty to discuss there. You would suggested maybe, maybe beginning with some, some personal stories about what our experiences in school were,

**Bret** 10:47

yeah, I think this is actually essential for our listeners and viewers to understand where we're coming from. And there's something interesting not only in the fact that you and I had very different experiences in school, but that our relationship brought those two sets of experiences together. And, you know, I came to understand what your perspective was, and you came to understand what my perspective was. And I think this worked out really well for our students, because effectively, each of us had the vicarious experience of the other. And therefore, there was a larger range of students that made intuitive sense to us at the point we, we ended up in front of the classroom

**Heather** 11:25

before you spell it out, I guess, I would say I would add to that. I think it's easy for good students, people who just have an easy time in school, to imagine that those who don't, are are either not capable, or they're slacking and they're lazy. And it's easy, I think, for people who are not doing well in school, but know that they have capacity to imagine of the good students that they are brown noses, and uninteresting, uncreative. And that while they're, I'm sure people in those categories. In each case, there are slackers, and their brown noses and their uncreative people who do well in school and for sure, and they're lazy people who don't. But the that that is hardly the complete solution set.

**Bret** 12:13

No, it's hardly the complete solution set. And in fact, I, obviously you and i, you and i know that we are both exceptional for the categories that we would have been slotted into. And that begins to tell you something about what school is and what it might be if we did it right. So let me just say from from my perspective, school failed for me in the second grade, I remember it happening. And of course, I have an adult's viewpoint, retrospectively looking back on that period, but I remember that effectively. I was in a public school, the teacher had too many students, and my inability to do the work that was being presented, just simply created a predicament, which is, does the teacher invest very heavily and figuring out what's going on with that student very, probably fail and thereby neglect the rest of the students who are in a position to do the work? Or does the teacher effectively throw up their hands and say, Well, let me teach the people who are in a position to, you know, to follow the directions that they're given. So why did it fail? For me? It failed, because of something that very frequently gets described as dyslexia. And I must say, I'm not really a believer in the category. And it's not that I find anything troubling about the idea of being defective in some way. I have defects I'm colorblind in a way that clearly blocks my ability to see color. Normally, it doesn't bother me that I am, I find it interesting, I wouldn't change it if I could press a button and not be colorblind anymore. But the dyslexia thing never rang true, because it doesn't make sense that dyslexia would be a a mal adaptation. And the reason is that writing and reading are so new that what does it even mean to say that you're defective with respect to your ability to do these things that have only been around for less than 8000 years, and for which most people had no experience until, you know, the last several 100 years? So if it is true, that there is some inability for some of us to do these things, you know, I might also not be good at Grand Theft Auto right? Are we going to create a disorder and say, Oh, he's Grand Theft Auto defective? Or is the idea Hey, maybe Grand Theft Auto isn't an essential part of being human.

**Bret** 14:39

So in any case, I, I imagine that there is a a bell curve distribution of how awesome Your mind is at the point that somebody points it towards reading how awesome Your mind is at picking up symbols off the page and transducing them into meaning and I'm at the end low end of that, which makes me dyslexic. But I also know that everybody gets what I've got when they're tired or when their glasses are dirty, right? It's not like we see the world in some different way. It's like reading itself as a challenge. And I also know that the reason that reading is a challenge is because paper and ink were expensive until 20 minutes ago, right. And so, because paper and ink are expensive, there's pressure to make the font as small as possible to get as much text onto as few pages as possible with as little ink. And so okay, we've picked a font size that renders some fraction of us not great at processing the symbols. And if you jack up the font size, it gets a lot easier. So again, this is all suggesting some sort of technological novelty got in the road for schooling. But nonetheless, it did something for me, which was, I think, totally essential to becoming who I am I, right, it broke the link between school and me, school gave up on me, I gave up on it. At the time, I thought that was the end of my intellectual life, which hurt because my family was an intellectual family. And I assumed Well, I guess I'll have to do something else. Right. And then it turned out that wasn't the case. Because I had smart people around me, I had a grandfather who took kids very, very seriously. And he mentored me, even though he didn't see any reason to give up on me. And so all of that worked out pretty well. And what it meant was that I was sort of in school because that's what one did. But it wasn't an effective place. Nor was it where I got my validation. And it left me Well, in a funny spot. I was on Russell Brand's program, I think it's just out today. And he and I had a good long conversation about what I call the cosmic joke. And the cosmic joke is something you can tell 1000 different ways. And some of the ways that the cosmic joke gets told you're the butt of that joke. And the idea that I really detest school and I have since very, very early on, and yet didn't manage to escape it until you and I were more or less unceremoniously hurled out of our professorships in 2017 you know, I had been in school from the point I was five years old to your late 40s right to my late 40s. So that's a hell of a thing to happen to you if you really dislike school. On the other hand, I did get because evergreen was such a strange place I did get the opportunity to reinvent school in a way that it would have worked for me and it worked for a lot of people who weren't good at school, which was an incredibly fun, rewarding fascinating experience and so that's more or less at school didn't work something else did you know i think i only got through school because every fifth or six teachers saw something in me and was willing to bend or break rules for me right had those people not been there at the right moment I probably just would have gone the other way and who knows what I would have ended up doing but having gotten to the front of the classroom at a college where there were no rules about what you had to teach where couldn't teach or how to teach you could completely reinvent the classroom which I did. And it was great and so anyway okay, that's my side of the equation what let's talk about your side and then we'll talk about how they fit together

**Heather** 18:31

we could just go on forever on this couldn't wait. So I had school is easy for me. I read early, I was driven to read and I loved reading and so the part of the part of your story and the other people who were diagnosed or not with dyslexia who I've come to know well that I cannot I don't have any match for in my experience is where you you avoid read out you find it actually painful in some in some regards. It's true that there are moments you know fatigue and such where reading may become a little bit more difficult but it's I don't think it ever you know what you said about everyone has this experience of sort of seeing the world seeing the written word as if as as if through a so called dyslexic sighs I'm not sure that's true. Because things can get more confusing but they're still deeply enjoyable I mean, you know, that I find I love to explore and I almost never want to go out without without some written word with me in case just in case you know, I will spend hours on end just watching animals do what they do, but I also want to to have something to read just in case and and there are many people like you who are not who are not driven to have the written word with them. And I think that's that the fact that the written word is what modern schooling revolves around is, is the biggest challenge for many people. That That is true. I also had parents who were good at school and who, but who were willing, when I brought things home that didn't make sense to say, yeah, that's not the way to do it. And so specifically remembering my dad, I was I was not just you know, very much a reader and a writer, but very mathy and my dad had actually taught math at the graduate level, before he became a computer scientist. And he thought the way that math was being taught in the 70s and elementary school in the 80s and middle and high school was insane. And he basically said, you know, don't don't do it that way. Why, why are you memorizing things, we will do this from first principles as much as possible. And it was fun and exciting and wonderful. And, and it, it ensured that my love of math was maintained as opposed to disappeared by the, by the compulsory schooling that we were all being put through. It is also true, I am certain and there is ample research to back this up that modern compulsory schooling, at least in the you know, sort of standard public and most private school modes in the weird world are more designed for girl typical ways of learning than for boy typical ways of learning. And that while it is not, I think, good for girls, either to be expected to sit in rows, neatly tidally quietly and raise their hands, whenever they have anything to say, and have to be excused to do anything physical with their bodies, girls or girls are typically even, you know, non gender typical girls like I was, you know, fairly tomboyish girl, girls are more able to sort of put up with that level of, frankly, authoritarian, you know, top down description of what it is that you need to do in order to be allowed to learn than boys are. So I don't know there's, there's a ton more to talk about, but I, you know, I just I was rewarded by school early. For reasons I think that came from, within my family and within me, I did not take those rewards as the source of my value, which is I think it's that conflation, that allows school to to beat people that if if school can convince you that when it says you're good, that means you're good, and therefore you keep chasing, it's it's description of you being good. And when school tells you, you're bad, that means you are bad, and school is right, and you need to chase schools association of badness or goodness, then then school has one and then your motivational structure has been hacked by a system that is probably not interested in your well being but actually interested in, in containing you,

**Bret** 23:00

yeah, at best is being efficient at at some massive expense to you. and at worst, it's actually grooming you for a role that is in the interest of the system more than it is in your interest. And that so if we can talk about what it was, like, you know, to fall in love with each other and encounter this very different kind of creature, you know, I of course, had been dealing with great students my whole life. And, you know,

**Heather** 23:34

some of them are your friends. Right? Right. And some of them are total pains in the ass is

**Bret** 23:37

awesome. One of my best buddies in high school was, you know, valedictorian, you know, top of the class. So I, it's not like I didn't get along with people who were good at school. But I did find that there was something about most such people, where there was a way in which there was a kind of ability to think that was clearly that waned over time, right. And this was not the case with you, or with john or with the other, you know, excellent students who I did end up hanging out with, but it was definitely the exception rather than the rule because, you know, what I saw and then what I think we saw when we were teaching was that school is a very game herbal system, and that a lot of what great student syndrome is, is it's people who have gotten lured into the game of school, and they've gotten very good at getting school to spit out the, the hallmarks of success. And the chances are if you get very good at the school game, and you see Well, if I'm succeeding at school that I am good at this and I am knowledgeable, that effectively what you don't realize what you're giving up, which is the ability to see where it's wrong, for example, and if there's one thing that is essential to making progress in the world, it is figured out where the world has stuff wrong, right? So in some sense, the most important thing is easily lost if you're too good at school unless you have, you know, in your case, a father who How have you said it he did not suffer fools glass plate. Right. And so the point was somebody you know, it's the ideal thing is more or less what you had, which was the ability to do school but not an obligation to listen to it when it was wrong. And that's the hard thing. That's what we should be shooting for in the in the creation of school structures. But it's very hard, you either create something that isn't very effective at all, or it's too effective, and it causes a loss of the ability to see what doesn't add up.

**Heather** 25:42

Yeah, no, absolutely. Maybe that's maybe I think I think we should continue this conversation. But let's, let's read this first excerpt because i think i think it fits nicely to what we're talking about. So this again, from chapter 10, of hunter gatherers guide to the 21st century. What is school? For Children school can be understood as love and parenting commodified. put it another way, part of what school is, is parenting that has been outsourced. We've already seen many of the harms and risks of reductionism. yet one more is that reductionism facilitates the commodification of easily quantifiable things, while turning to ignore those things that are less quantifiable. Thus, school becomes about metrics, how much how fast how well, to the little one read to their multiplication tables, memorize a poem, it should go without saying that there is clear and enduring value in reading multiplication and poetry. If focus on speed and quantity is an error, however, with me what myriad things are not being learned in school because they succumb less easily to reductionist assessments. School is based on economic efficiency while being unimaginative about what could be accomplished. The Economics, not to mention the perverse incentives behind compulsory schooling of school tend to fill children's heads with knowledge without showing them a path to wisdom. Perhaps school should serve the purpose of helping young people grapple with the question, Who am I? And what am I going to do about it? That Incidentally, that the footnote there is to Derek Jensen's excellent book on education? Another way of phrasing this might be what's the biggest and most important problem I can solve and my gifts and skills? Or how do I find my consciousness my truest self? Done? Well, then school can provide a great platform for formalizing and delivering rites of passage. Rather than focusing on any version of these questions. Though modern schooling especially the compulsory sort, widespread across the weird world, is more apt to teach quiescence and conformity. What if we took as one of the goals of school teaching children how to understand and hack their own incentive structures? knock them off the low adaptive peaks that they are surely on? I'm not good at math languages or sports? Or conversely, I'm so good at math, languages, sports that other things fail to grab my attention. What if we knocked them off those low adaptive peaks and valleys that are uncomfortable, but from where there are many possible peaks to climb? Or perhaps schools should reveal to children that fringe positions should be explored and considered not thrown out immediately on the basis that they are unpopular. betting against the fringe isn't easy bet, usually a safe one, and when done in a tone of paternalistic indulgence, say or authoritarian disdain usually shuts down dissent. While most fringe ideas are in fact wrong, it is exactly from the fringe that progress is made. This is where the paradigm shifts happen. This is where innovation and creativity occur. And yes, most of it is wrong or useless. But the most important ideas on which we now base our understanding of the world and our society came from the fringe. The sun is the center of the solar system. Species adapt their environments over time, humans can create technology that allows us to communicate across time and space to fly to create an explorer virtual worlds. These were all impossible ideas, laughable at the time. Those who quickly joined in laughing at all fringe ideas now would have been laughing at all of those ideas in their time. school should be fun, but it should not be gamble. A child shouldn't be able to win at school, although many do and many more lose on it. social rules and mores are learned at school, but at its base school should be about discovering truth, both universal and local. School is for better and for worse, a standard for parents for kin group for those with whom the child has shared fate. school should not therefore teach through fear. Risk and challenge help children learn as with parenting. This requires early tight bonding during which a secure base is established, which provides children the competence to go out adventure and fairly early because they know that someone has their back no matter what school that operates by fear will teach the opposite lesson.

**Heather** 29:36

Fear is an easy mechanism of control and so it should not be surprising the teachers use fear to control students of all ages. As corporal punishment in the classroom fell out of favor and many but not all places. psychological and emotional control replaced it. It leaves few remarks. Children are threatened with poor grades or test scores and having their parents informed that they have behaved badly, which most children will hear as you're a bad person. The rise of metrics within a system which are often overly simple, wrongheaded, and only pseudo quantitative tends to accompany a decay in social trust. How can good teachers stuck in a system of escalating metrics imposed from the outside counteract the prevailing cultural forces. One approach, which will be more effective with older children and young adults, is for teachers to explicitly hand away their own authority by telling students not to trust them just because they are the figure in the front of the room. When a teacher then does earn the respect and the trust of her students such that she becomes a legitimate authority figure, one with authority that was earned rather than assumed her authority will better serve both the students and their education. Using fear to keep children seated neat and tidy rows to keep their eyes forward and their mouths closed to keep them from moving their bodies at all, but for a few scheduled moments in each day. This will help create adults who are unable to regulate their own bodies and senses, unable to trust in their own ability to make decisions, and likely to demand similarly controlled environments and their adult lives, trigger warnings, safe spaces and the like. For young schoolchildren, one solution would be having a garden at school and spending time in it and all sorts of weather, frequent field trips to natural areas and spending time actually outside rather than in the climate control the protection of the Nature Center will help to well, it always be comfortable. No. Well, some children be ill prepared for rain or wind or sun. Yes, well, they learn from small early mistakes to start taking responsibility for their own bodies and fates and so get better at navigating the world. Yes, Yes, they will. Humans are anti fragile. Exposure to discomfort and uncertainty, physical, emotional intellectual is necessary. preparing students to understand risk encourages them to expand their worldviews and embrace experiences that lead to maturity. This does however, come at a cost. Sorry, I lost it. Understanding risk cannot completely protect individuals from danger. In short, risk is risky tragedies will happen and that's no minor thing. For those of us who have been lucky to avoid it, it's nearly impossible to imagine how a person continues on if their child has died, or if they have been involved in someone else's child dying. tragedies that happen because someone introduced risks into a school trip are easy to point to. The story is often easy to tell and compelling to hear. By contrast, population level tragedies, those that happen because whole swathes of the population have difficulty navigating risk, and so avoided at all costs. This is also a tragedy, and much further reaching. Modern School tends to protect against individual tragedies while facilitating the larger societal ones. Arrange all little boys and girls neatly in rows, assign them seats and tell them never to speak unless they are called on first because that will make it easier to keep track of them. At the same time at home teach the little boys and girls that they are each the center of the entire universe, and that they may in fact should interrupt adults at any moment for any reason. teach the children that temper tantrums are acceptable by caving to them whenever they erupt, and also tell the children that they are the most precious and infallible beings in existence, and as such any criticism is a crime against their core selves. We should not be surprised when children raised this way can make no sense at the confused and confusing messages coming at them from home and from school. Nor should it surprise us when they gravitate to the systems that are most capable. Mom doesn't like it when I scream or whine but if I persist at it she gives in as a way to make me stop. Noted. Teacher leaves me alone if I occasionally contribute a comment in class and earn good grades, even though I'm learning nothing by regurgitating from a textbook. Got it. Congratulations society have successfully produced self satisfied whiners who are accustomed to getting what they want, who are good at school, but not at thinking and who are in fact neither smart nor wise.

**Heather** 33:37

So something I have said let's we'll do another short excerpt soon. But something I have said about having taught at evergreen for 15 years is that made me less of a misanthrope that I had little hope for most of humanity having gone through, you know, having been an excellent student, and a student who also loved school, not someone who was just regurgitating. But I really loved school, I learned from school and I had a series of just extraordinary teachers. But by and large, I felt that non human animals were much more enjoyable to spend time with and to learn from and in part because so much of so much conversation seemed to me to be about small talk and regurgitating truisms that weren't actually true or that if you dug a little bit, you couldn't, you just didn't get very far with people. And then, to my surprise, as much as anyone's I ended up taking this job that then we both were at, which was an academic job that focused so much on teaching and so much less on research that this was really where we put a lot of our creative and analytical focus for some number of years is figuring out how to be excellent educators and communicators and people who were engaging through the whole the whole human. And hell if I didn't come to love humanity a lot more because this the Evergreen students were not the elites, right? They were, you know, They were there were certainly in every classroom students who had been excellent students. You know, people who'd been excellent students, people who came from you know from from some privilege in terms of the, you know, upper middle class or even upper class resource base they'd come from, but more students always or were students who were eligible for Pell Grants students who were first in their families to go to college, non traditional age veterans, students who've been homeschooled and unschooled and you know, gone to Sudbury and Montessori and Waldorf, and you're all of these alternatives. And, you know, just throw them all in together in a classroom where now we can do whatever we want to actually educate. And almost every single one of my students in every single one of the programs that I taught, taught me something and surprised me, and we're, you know, demonstrating what a beautiful thing a human can be.

**Bret** 35:52

Yeah, it was very much a different experience than one would have had, let's say, you had the job at Harvard, right? A, if you had the drive at Harvard, you probably It wasn't your primary focus, you were probably there for some other reason. Sure. And then the other thing is, if you got the best student in every high school, who has shown up at Harvard, it's a very different class than a group of people who are extremely quirky, and unusual. And each one, you know, it's not that they've all gotten good at the same game. And to the extent that they've gotten there, they've learned very different things along the way. And, you know, I can even hear in this description, what somebody at one of those high powered places, is thinking about the sort of pitiful classrooms full of people that we had, but that was exactly not what they were, the amount of potential in those rooms was amazing. And the job of figuring out how to unleash it was like nothing else. That's right. I used to spend all summer thinking about what I was going to say on the first day of class, right, in order to set it in motion the right way. And I don't think I ever once said what I intended to say, right, it always was some speech I didn't see coming. But you know, it

**Heather** 37:06

was one of the things that we both did in different ways, is what is alluded to in that excerpt I just read from, which is to say, you know, I'm up here with the degree and I'll be reading your evaluation at the end with no grades. And that was actually a good thing. But you know, I don't, I don't work for you, you know, you're my employees, and I'm not your boss. And I'm not your employee, and you're not my boss. But also, the fact that I'm standing here sort of sage on the stage style, does not mean that you should trust me yet. You know, you should show me respect as I should show you respect as he as a fellow human being. But I have to earn your trust such that you know, hopefully, you know, day after day, week after week, month after month, you come to find that you don't need to be skeptical of anything that I say that sounds outside of your domain, because you've come to recognize that I am actually trustworthy. But don't assume I'm trustworthy, just because someone hired me because I got a degree. Because there are plenty of people who've been hired who have degrees who are in no way dressed, where they don't know anything worth worth teaching,

**Bret** 38:11

right? And I, for my part came to look for the one or better a few students that were present, no matter what you did, if you put together an interesting program description, it would attract at least one and often several students who were willing to push back sometimes they didn't even realize it because they've never been invited to exactly

**Heather** 38:33

you're talking about from moment one. Because over time, lots of students would would well

**Bret** 38:38

that's my point is if you've got the one at least one, right? if let's say, let's say it's the worst case, right? And you know, this only happened a couple times and 14 years of teaching. But let's say you've only got one person bold enough to contradict the professor on day one, right? And so then, okay, you've got to find them. How are you going to do that? Well, you know, I used to this is gonna sound terrible, I know, it's gonna sound terrible, but it's amazing. It's amazing that you don't destroy the respect in the room, if you do things with a certain glint in your eye, and that sort of thing. But to the extent that nobody is ready to do that, because they don't know that you're really serious, and that you do actually want them to push back. You have to say things that are sufficiently outlandish as if you mean them, so that somebody cannot stand it any longer and has to challenge you, right? And that, you know, to the extent that you have students that already know you know, if they're repeat students, you know, or they've been your students and I'd come in and guest lectures and they knew that this was the game then they'd be ready to go right away. But if they didn't know you have to say something that causes them to say goddamnit That can't be right. And even if it's going to cost me my my evaluation in this class, I am going to challenge right and then the person does it and then They get rewarded for doing it right? Because of course, there's some place that you can go from whatever it is that you've, you've gotten them into, and it becomes clear that it's fun, right? And then others want in on that game, too. And so the question is really, how do you create the lesson that says, This isn't like another classroom where you're going to be punished for revealing what I don't know, this is the classroom room where you actually you will have succeeded at the point you get to the thing that I can't answer the question, and then we'll talk about how it might in principle be answered.

**Heather** 40:29

Right, please let us all reveal the holes in each other's understanding.

**Bret** 40:32

Right? And so you know, one of the things that was somewhere in a lot of those first day speeches was there's no such thing as a biologist. Right? Why is there no such thing as a biologist? Because biologists

**Heather** 40:44

some of the things you said, I still wonder what the hell you meant by them?

**Bret** 40:48

Well, this one is perfectly clear, right? To the extent that biology is a dozen different fields, and that we're talking about, you know, an incredible diversity of organisms, and that we don't understand even how the simplest cell function is completely, there's lots of things we can say about things that go on in that cell, but we can't explain how the cell works, right? So the point is, you cannot it's not like, you know, it's not like analytical chemistry, where you can effectively master a landscape of, you know, analytical chemistry up to a point it's the landscape is so big, that the point is what you can have are the tools that allow you to unpack the landscape, and then at the point that some set of questions becomes interesting to you, you can pursue them.

**Heather** 41:36

Yeah, I mean, I guess, I guess I, you know, I used to have occasionally, you know, if I was doing vertebrate evolution, for instance, and I'd end up awarding credit in vertebrate zoology and phylogenetic systematics, and, and evolutionary and, and, you know, both evolutionary theory, and depending on what they'd done, maybe, you know, research methods, and then I'd have students come at the on site, Well, okay, but, you know, do I do I get credit and biology, like, it's, it's, it's all biology, right? But any of the same thing, when I was doing animal behavior, I'd give, you know, credit and behavioral ecology and tropical but you know, tropical zoology, depending on you know, and what it was, and in statistics, and, you know, various things that we're teaching, it's okay, but you know, what about the biology? So I guess, I feel like you're contributing to the confusion?

**Bret** 42:31

Well, it's contributing to the confusion is how you teach. But no, I'm not denying that there is a field that deserves to be called biology. My point is, it is impossible to be expert across it. And you know, how many times did we encounter people who thought they were expert in some taxon? Or some process who didn't know thing one about the way adaptive evolution works? Yeah. Right. And the point is, Well, okay, that's not my specialty. And it's like, well, yes, but you're the questions, you don't understand that there's an edge to the questions that you're good at answering that, you know, is right at the place where we start getting to the question about why it looks the way it does.

**Heather** 43:09

So So part of what you're, I think, I think the point I just don't, I don't love this particular approach. And you know, this is this is something that we revealed when we taught together to that, you know, we we in some way, share a brain and yet we have very different approaches, both because of our own experiences in school and our own development experiences, and just our, you know, our our proclivities and interests. But you know, part of what you're saying, revealing is, the more of a generalist you are, the more that you can use first principles and rules of thumb and analytical toolkit to approach any problem as opposed to I've got this stuff memorized, and oh, I've got this, let me see. Is it on my is it on my cheat sheet is on my recipe list? Like how do I deal with this thing? The more the more of a generalist you are, the better able you're going to be for certainly this modern world that we're in. And, you know, that is a match to four, I think why? Well, you know, modern K through 12, schooling is failing for a number of reasons. Part of it is all of the injunctions being placed on teachers in, you know, just like you have, teachers have so many fewer degrees of freedom within which to move, that the best teachers can't reveal that they are that they are, you know, really, really skillful. But in also so that's sort of coming from the government end of things. Schools of Ed which are, you know, captured by a bunch of crazy ideology. But even before that, they're training people very, very narrowly. And so you know, you have people who are like well, you know, I teach I teach history has like, you know, the younger the kids are, and really we found this at at the college level, but certainly the younger the kids are, the more you want someone in the front of that room, and you're going to have to be, you know, rewarding their efforts more than elementary school teachers are currently rewarded. But the more you want someone in front of that room, this capable of taking any question that comes up? Well, right. And, you know, why are the plants growing now? Why, you know, like any number of questions that little kids ask that something, you know that that a teacher will say, Well, let me know that's not in the curriculum today, Ricky, like, any teacher who says that to a kid is is helping kill off the curiosity and creativity and helping turn helping turn that child into a cog, which you know, is it's in the book, too. But I literally had a colleague, a faculty member, say at one point, well, they're gonna end up cogs anyway. So of course, I'm going to help turn them into cogs.

**Bret** 45:36

Yeah. Okay, those people are terrible. My point was, it's tools, you can look up the facts, it's tools, right. And so what's tools, the reason that there's no such thing as a biologist, because if we imagine a biologist is somebody who knows biology, it's impossible to know, biology, which you can know is how these things tend to work. And then you can go look at the piece that is necessary for a particular set of puzzles. And, you know, so that, you know, of course, I deliberately set it in a way that causes the brain to, you know, throw an error. And the reason I did that was because I wanted them to think carefully about what their expectation Oh, you've got a biologist teaching this class? What does that mean? Does that mean that they're, you know, an expert in all things biology, because I find that extremely unlikely, right? You It's hard enough to get a faculty of biologists that, you know, could be expert in all sorts of things which you're going to get is, you know, deep dives here in there. And if you're lucky, you're going to get a, you know, a high capacity to wield the logical tools that will allow you to unpack the various puzzles that might be might be relevant, right.

**Heather** 46:45

And just this, this reminds me of so this is john Taylor Gatto, who's who recently died. But he was the key one awards for his teaching in the New York City schools, and he's written a number of books, weapons of mass instruction is another one. This one is dumbing us down the hidden curriculum of compulsory schooling, both highly recommended, but here's just a little section from the preface of dumbing us down. He's talking about the 30 years. He says over the past 30 years, I've used my classes as a laboratory where I could learn a broader range of what human possibility is the whole catalog of hopes and fears and also as a place where I could study what releases and what inhibits human power. During that time I've come I, john Taylor Gatto, have come to believe that genius is an exceedingly common human quality, probably natural to most of us. He says he didn't want to accept that notion. He went to two elite universities that taught him quite the opposite. But he says The trouble was at the unlikeliest kids kept demonstrating to me a random moment, so many of the hallmarks of human excellence, insight, wisdom, justice, resourcefulness, courage, originality, that I became confused. And then he says, was it possible I've been hired not to enlarge children's power, but to diminish it? That seemed crazy on the face of it. But slowly, I began to realize that the bells and the confinement, the crazy sequences, the age segregation, the lack of privacy, the constant surveillance, and all the rest of the national curriculum of schooling, were designed exactly as if someone had set out to prevent children from learning how to think and act to coax them into addiction and dependent behavior. Bit by bit, I began to devise guerrilla exercises to allow as many of the kids I taught as possible, the raw material people have always used to educate themselves, privacy, choice, freedom from surveillance, and as broader range of situations and human associations as my limited power and resources could manage. So some of the incoherence and the fracturing and the just constant barrage of untrue things masquerading as true things in not just school, but the media today, especially in the last year and a half, but also maybe especially in the last five years and 10 years. And you know, it goes on and on. follows from the lack of privacy, the constant surveillance, the segregation by you know what development stage you're at, that we are inculcating our schools.

**Bret** 49:14

Yeah. And I think the tricky part and you know, I don't always know with gado, I mean I think he nails the phenomenon perfectly right? He diagnosis exactly the catastrophe that school is and then I figured out it was because I know because it gave me the freedom to do so by cutting me loose. Question is, why is it like that? Right. And you know, I think the problem is that there are a lot of pieces to that puzzle. There definitely is an influence of him employers that want compliant employees they don't want them to clever because employees that are too clever are a problem. But it's not as

**Heather** 50:01

he walks through the deep history of compulsory schooling coming out of Germany in the US at the turn of the last century with the era of the robber barons and such, you know, right, but Blairism.

**Bret** 50:11

But what I'm saying is it, there are components of this. There are also ways that those components actually work. Right? It's, you know, what are the confusions of a person who finds themselves at the head of a corporation, and doesn't necessarily know what they want is employees that have been cognitively hobbled. So they're not too independent minded, right? That person doesn't sound like that inside their own mind, right? They have a list of things that they want that are desirable things, and they don't either understand or allow themselves to understand the tensions between those things and other desirable things that they might want. Right? So, you know, we see, for example,

**Heather** 50:53

so important you're pointing out that there there are cognitive dissonances that are required that be because most people aren't supervillains are superheroes, right? You don't it's easy to imagine the the nasty CEO who sounds like that, but that's not actually what most of them sound like. And making Stark the cognitive dissonance is in our own heads as part of what being an educated person is, I think,

**Bret** 51:14

right? It is the ability to take up position that you don't hold and see how robust it is, if you you know, give it a good solid go. Yeah. You know, and there are also ways of compartmentalizing, right? So some great corporations have had a skunk works in which the rules look very different than they do, right. In other words, even the entity that wants compliant employees to do the job also knows that it has to have unruly people somewhere in order to innovate the next job, right. And so I don't know why school looks the way that it does. I know it's built to fail, where it's built to fail, if what you think its purpose is, is to create enhanced capacity mines. And I completely agree with gado. I mean, it's almost a tautology from my perspective, that we are all born with genius level capacity, and it gets quickly narrow, you know, all of us were born in tact, right, that the human mind, it's not like some of us are programmed to be super capable and others are programmed not to be, you know, back to what we talked about last week, we're talking about the blank slate, you know, in all of, you know, animalia? Why is it the blank slate, because that offers the possibility of innovating new programs that are capable of extracting more from the world than a pre programmed creature, could

**Heather** 52:42

it So there seems to be an assumption among the the chattering class, the so called intelligentsia that most people can't handle the truth, right, basically, and that, therefore, it needs to be dumbed down, it needs to be obscured in order to deliver the message to get people to do what we've all agreed behind the scenes we need to do. And I think you're in my experience in in 1415 years of classrooms, plus the many years that we spent being teaching assistants in graduate school revealed quite the opposite, actually, that you know, every, almost everyone is capable of taking in diverse, weird, you know, crappy data that has conflicting signal in it. And that requires nuance to parse and trying to make sense of it. And that does not guarantee that everyone will come to the same conclusion, of course, but then neither does democracy. And, you know, we it's a weird moment to be in when the people in the world's democracies are simultaneously arguing that we need to obscure information from people in order to to mandate compliance with conclusions.

**Bret** 54:04

Yeah, it's like the generic built in cover story for which there is no evidence, actually, you know, yes, if you shout fire, people may Stampede toward the door. But does that mean, you know, at the point, you start obscuring that there's a fire? You're the villain, right? The question is, you know, can we deal with the question of how to get the truth into the public sphere? And, you know, some people will be hearing this and, you know, clutching their pearls over, you know, did they miss the game theory problem, if I tell them the truth, they won't do the right thing. Those things are real. On the other hand, we have a tremendous amount of evidence that not only are humans capable of addressing those things, but that they do it beautifully. Up until modernity, right? It's modernity that undoes

**Heather** 54:48

well. So I mean, there's Is it is it modernity, and you know, it being modernity is an hyper novelty to use our term is really one of the prime theses of our book but As part of modality is it also possibly a problem of scale, such that those things that have worked in the past so it's not so the thesis in the book is largely, it's not we are we are best suited to change, you know, the human niche is niche switching. And we we deal with change so, so well and so fast, but the rate of change has become something that even we cannot keep up with. So that is, you know, that's one of the main theses of the book. But can we do so even if the rate of change were to slow a little bit with these numbers? Well, with the numbers that we have,

**Bret** 55:39

unfortunately, there's obviously a question, right? There's obviously, you know, I don't know that Dunbar's number is actually a number. But there is a limit above which you can't keep track of the details of some number of individuals lives. And that creates props. So there are scale dependent issues, to be sure. The point is, we also have systems in which we can say, look, this is a problem we can't deal with above this scale. That's why we need a system that does the job, right? And these things evolve naturally, right? You know, Catholicism doesn't make any sense. If you try to understand it at the level of kin selection, which is part of why evolutionary biologists don't deal well with questions of large religious beliefs and structures. The point is evolution was dealing with this problem. Now we have new problems that are modular systems that do work well at unprecedented scales create, right. So for example, if you, if you are a fisherman, and you're being a fisherman is something that you picked up from your parent, and you will pass to your children, it's the family job, your interest in the fishery, being healthy, is built in, you Intuit it, and as the fishery begins to fail, it causes you to worry as it should. Whereas if you are part of a corporation that is extracting fish from the sea, but it is also extracting lumber from the land, and it is, you know, doing 17 other things. And what's more, the members of the board of the corporation are also members of the boards of other corporations. And so the point is, well, this is all like, you know, skin cells that can be slept. And as long as we have some new thing to do, it doesn't matter that we destroyed our last opportunity. And if we didn't, somebody else would have so we might as well, the point is, you've just created a tragedy of the commons where individuals who had a coherent way of being that continued from one generation to the next would have avoided it right. For

**Heather** 57:38

reasons at the aggregate Commons. It's a tragedy of the

**Bret** 57:41

new mechanism by which the commons will supposedly be managed, but it couldn't possibly be right. So it's like we you know, you will hear people challenge the idea of the tragedy of the commons. based on the fact that Elinor Ostrom proved it wasn't true, but they don't really understand that both things are true. The tragedy of the commons is real Elinor Ostrom discovery of the mechanisms whereby people avoid tragedies of the commons are real. And then this novel thing

**Heather** 58:08

of the commons isn't your inherent fate. But it could be

**Bret** 58:12

it is simultaneously inescapable and easily solved. And that's the problem, right? It's inescapable if you structure things a certain way, and that's easily solved if you structure them a different way. And the question is, well, which have you done? Or, you know, are you magically hoping that it's going to solve itself? Because it won't? Or do you have a coherent structure that exists because it succeeded in preventing tragedies of the comments from unfolding. So anyway, it none of this is all that hard, right? You just have to know what to focus on and you can't have,

**Heather** 58:42

it's a bit hard and it requires keeping a number of things in in your head at the same time. And I do think that again, you know, it's, it's, it's become all too easy for me. And frankly, it became very easy for me in grad school and just got worse for the many years that we were professors to point my fingers squarely at the people who are supposedly our peers and say, this is actually on you. Like this is not on the many people who you claim to be caring about and educating because I hear what you sound like when you leave the room and how you talk about the students. Now you talk about the people who don't go to college and, you know, frankly, it's unacceptable. And, and your degrees often don't mean anything, because I've also seen what those programs look like when you got the degrees and they're often worthless, and they're not teaching you how to think they're not teaching you how to hold, you know, things in your head that seem like they couldn't possibly be true, and sit with that for long enough, go like, okay, instead of just getting so uncomfortable so quickly that you kind of just make a hasty decision and throw one away. And it's possible that the one you threw I was the true one. And this was the one in error or that it's actually different contexts and you can't, you'd need to know that these are both possible but in different contexts. There is there is a refusal To sit with uncertainty, that is, I think, all too often a result of a modern education. And the more educated you are, the more likely you are to be really uncomfortable with that uncertainty.

**Bret** 1:00:15

I think it's even worse, because not only are these programs very often the academic programs, Yeah, something like worthless, but that they are actually successful at doing something that is antithetical to their stated purpose, right. So what they effectively do is take highly capable people, and cause them to become responsible to certain kinds of dog whistles that snap them in line. And you know, at first, it's an issue where, yes, you may be able to think across a domain very effectively, and then some thing can't quite stomach the last step in that domain. And so it backs you off just slightly. But eventually, once you've, once you've allowed something, to stand between an individual and the pursuit of the complete truth, as best we can understand it, what what the point is, you've just, you know, you just basically brief the damn, right, once you have that ability to, you know, hold back on the truth a little bit. The point is, it just becomes captured, and it sells false stories that are actually about economic well being more political power. And the problem is, you've got all of these people with fancy degrees who, yes, if they had been raised in a different system might be very, very good in their domain, but in fact, are capable of telling flat out lies, because something, you know, successfully signals to them, Hey, you know, you go too far down that road, and you're going to start, right? There are no, they're not enough jobs, and you won't have one, right? If you keep going that direction, right.

**Heather** 1:01:56

And this, you know, this is a conversation for another time, probably, but you know, this is what tenure is supposed to, to grant right, like 10 years supposed to give, provide the protection against such perverse incentives, that now you can tell all the truth, right. But certainly, for scientists, it can't possibly be fully protective, because as we've talked about in in previous episodes, at the moment, the way that science is funded, means that your 10 year doesn't get you anything like that 10 year doesn't get you NIH grants or NSF grants, you need to be asking the right kinds of questions and have peers that are going to read your grant application with with a kind I and then, you know, peer reviewers for the publication of it. And so it you know, it, it, it has become your as, as such systems Well, it has become a series of sort of nested sets of, of cronies. And somehow when you say that, you get told that you're not speaking truth, even though it's exactly the truth?

**Bret** 1:03:00

Well, that we've got another problem with respect to tenure, which is that the things that you are absolutely required to be good at in order to get it are the things that guarantee that once you have it, you're not going to use it for anything interesting, right? And

**Heather** 1:03:14

so the guy who had tenure to another person who had tenure

**Bret** 1:03:18

at evergreen wasn't even called tenure. So the point is, evergreen was so weird. And the whole process was so bizarre that yes, we did have the thing that was closest to tenure at evergreen. Look how much good it did us but right, but nonetheless, you know, it is exactly the same puzzle, as well. How do you how do you get to be president? Right? Well, you have to demonstrate that you are, you know, good at greasing the wheels and taking orders from the people who've got the power. And then once you have that job, the point is what you're excellent that is corruption. Right? Which is exactly why, frankly, unity 2020 was whatever you may think of the plan itself, the right idea, which is you have to speed somebody past the corruption and get them into the office that has the power in order that when they get into that office, they will do something that isn't corrupt, right? So yep, yeah.

**Heather** 1:04:17

I bought this here's a quote from the great Robert pirsig in Zen and the Art of motorcycle maintenance and inquiry into values, which is a book I highly recommend. The real purpose of the scientific method is to make sure nature hasn't misled you into thinking you know, something you actually don't know. If you get careless or go romanticizing scientific information, giving it a flourish here and there, nature will soon make a complete fool out of you. So this this inservice not of talking about all of school, I don't know that that has particular relevance in discussion of literature or art, perhaps but you know, when Zen was written in what 1974 I think it didn't have I don't have it written down. Something said On Mondays, I believe. And here he says, you know, if you get careless or go romanticizing scientific information, giving it a flourish here or there, that sounds like hashtag follow the science. To me, right? This, this is exactly what he's he's seeing it a long time ago. And there are others that you know, there, there are certainly other important scientific papers from that era and the 60s as well, saying, Ah, you know, wait a minute, we, you know, I see some, some fields beginning to go off the rails and being less analytical, less creative, more, you know, catalyzed. And even that discussion is becoming harder and harder to have now.

**Bret** 1:05:41

Well, the problem is what we were talking about earlier, where there's a sort of sense that certain things are true in a way that we can actually skip the methodological part. And because they're true, and it's really important that people get them, then, you know, the point is, it's time for, you know, honorable PR on behalf of these two things. And I 100% agree. And, you know, we have said many times different versions of the single value of the scientific method is that it tells you where what you think is correct, isn't right, the whole point of the thing is to force you into the place where you can see what is true in spite of what you expected, if it was all intuitive, and we get all to say, Well, we know xy and z, you wouldn't need this method. And so what we are now living in is an era in which people think that the landscape of those things that you can just Intuit this thing is good, and that thing is bad. And here's the solution to our problem, right? And the point is, will that stuff, it's not like we've got to, you know, everybody here went to college, we don't need to run through all of those things to figure out whether they're right, let's just get the message to the masses. And the answer is, do you understand what I mean, especially in complex systems, right? If you're talking about the supposedly obvious true is about what we should be doing and shouldn't be doing in a complex system, or, you know, even worse as the cases with COVID, where you have a three layered complex system, right? No, you need to think very carefully about whether or not something in that set of layers reverses one of the signs on something and makes the conclusion something completely counterintuitive.

**Heather** 1:07:31

I'm just, it's not clear to me what the three layers are, you're talking about,

**Bret** 1:07:34

you've got the immune system, a complex system in and of itself, embedded in a creature, a complex system embedded in a society with a pandemic, right? That's three complex systems layered on top of each other. And the idea of well we all know what the solutions to these things are. And let's deploy it as quick as possible. It's like you do not know what game you are playing you do not know how how intricate the interrelationships are in each of those layers and then how little we know about the relationships between the layers. And so anyway, we get sold a bill of goods but the basic point is, look, if you want science done right, you have to insulate it completely from those forces that think they know the truth and are just trying to get it out there. Right? Yeah, you know, because what that ends up being is just an invitation to market forces it's an invitation to corruption to the co op thing of the scientific voice right and that's really what it is it's a voice and authoritative voice that isn't about science it is being used to get people to think in a particular way for what reason maybe we don't even know yet but but it's a very dangerous process and the point is what the only antidote is real science and real science is quirky and weird and done by people with you know who may not be the easiest to get along with they may not be your favorite person at the cocktail party, but you know, you need people who are good at the method and know how to deploy it and know that they can't back down just because it tells them something counterintuitive.

**Heather** 1:09:19

Yeah. And it doesn't it it often doesn't look like you're expecting yeah that it's it's not linear. And it doesn't necessarily come in a lab coat with glassware

**Bret** 1:09:28

right it right the trappings of science are not science science is a method right and you know, as we've demonstrated before, you know, science can be done in a laboratory It can also be done wearing rubber boots and you know, wielding a machete right? It science is a method that works anywhere where there are processes to be understood.

**Heather** 1:09:46

Exactly. Okay, little little pivot here a little bit more sure. short excerpt. One and a half Page excerpt from again, the school chapter of a higher a hunter gatherers guide to the 21st century. The section is called the world is not about you, from the school chapter, children have been harmed through new through numb the world. Did I mention that the cat drank my water? Here? I have so I would, yes, I would love some of your water because you did not put your paw on this No,

**Bret** 1:10:27

no, not even once.

**Heather** 1:10:30

Thank you much better. The world is not about you. Children have been harmed through no fault of their own by a perfect storm of societal factors that emerged in the late 20th and early 21st century, which we have already reviewed. The rise of pharmaceuticals being prescribed to children, helicopter and snowplow parenting, and the near ubiquity of screens. Nevermind what is on them have all made school and even more difficult place in at once was in the United States. Add to these the economic and political forces that have reduced school funding, while increasing testing that's cutting the creativity and freedom of teachers off at the knees. When Heather that's me, primed her students for study abroad trips to Panama or Ecuador in advance of embarking with them. She was trying to build not just the academic skills required for the work, but also the social and psychological ones required for extended trips outside of anything most of them had previously experienced. She would ask them what is your relationship with risk? And what is your relationship with comfort. Just because you can say in advance that you will be okay with the bugs in the mud than not having access to the internet doesn't mean that you actually will be. Perhaps most important of all though, we are going to leave ourselves open to serendipity. We cannot know what all will happen on this trip we're going to go and some interesting things will happen. Those conversations included discussions of how risk is different and landscapes that haven't been rendered safe by liability lawsuits and in which medical help is far far away. We talked about the hidden hazards of the jungle rising water tree falls, compared with the familiar ones like snakes and big cats that people are primed to be scared of. Risk and potential go hand in hand. We need to let children including college students risk getting hurt. protection from pain guarantees weakness, fragility, and greater suffering in the future. The discomfort maybe physical, emotional or intellectual, my ankle, my feelings, my worldview, and all need to be experienced to learn and grow. The students when we took on study abroad trips were carefully chosen, mature, capable, smart and adapt. Even so the inability to control our surroundings, the intentionality of succumbing to serendipity when in the jungle, through many of them into states of confusion, which sometimes manifested as anger. Many of them believed themselves to be excited about exploration about discovery, but only when it looked and felt the state already imagined. By inculcating in children the sense that order is always better than chaos. And that being easily counted and prioritizing, doing things that are easily counted is the honorable way to go through school. And therefore life many would extrapolate. Society creates adults who bristle at the unexpected and the new. Not only doesn't the jungle look or feel as you're led to believe, from even the best nature documentaries, but the people in the streets of Panama City or Quito aren't what you think, the cloud for us and the people who call it home long before the ink or the Spaniards ever arrived will surprise you too, as well. Everything else, if you take your blinders off, and let yourself experience the world without taking everything. So personally, mostly the world is not about you, but you can learn from it. And an education should allow you to do just that.

**Bret** 1:13:25

Yeah, this is a you know, it's funny, it seems so obvious that the world is not about you. And yet the nature of one's interaction on the internet, I think especially if it's, you know, if you're young enough that it is your developmental experience reifies the false belief that it is about you. And it's it's epistemologically devastating, right? The ability to understand yourself as a biased observer, and to try to minimize that is somewhat dependent on your ability to understand that your, your centrality to your own perception is a bad thing and not a good thing.

**Heather** 1:14:09

Yeah. No, that and then that's, that's right. And that's actually a great segue to, I wanted to talk about a little bit about embodiment as well embodied cognition and embodied perception. And, you know, the idea that many people have largely I think, without having formalized that this is what they believe in their heads that you can learn sufficiently just by being passive by taking it in. And you know, this is one of the less frequently objections to video games as a whole as a holistic learning environment. As we said, I think last week, you know, neither of us feel that video games are inherently you know, a negative, but that the higher the proportion of your, your life they take up, the more likely you are to be limited in how you can how you can understand yourself in the world. So there's this, there's this classic, pretty immoral, I think it couldn't be done today, research on learning and kittens from 1963, called movement produced stimulation and the development of visually guided behavior. And it's different from actually from the one that we are more familiar with, in which pairs of kittens from 10 litres are kept in darkness for all but three hours a day. And then for three hours, one of them is basically harnessed up and allowed to move and walk and explore. And then the other one is basically on the other end of like a carousel from the one who's hard to stop, but passive, and so everything that the one that the one sees the other sees as well. But the one is actively engaging with the world in order to interact with it. And the second kitten in each case is, is only passively experiencing it. And those kittens who only passive experience passively experience at but see everything that the actively engaged kittens do are rendered basically helpless and hopeless. They can't they cannot make sense of their world later on. And they're you know, there's plenty of work that is followed from that there's a whole new field called embodied cognition that recognizes actually that when we are restricted, restricted from moving our own bodies, in relation to the world, we find, we find ourselves in capable and often don't recognize that we are incapable. So I think I think for me, that may be the most important piece that we also lack the recognition of our own and capability. I found an interesting piece by a woman named spiekermann, from 2018, called carousel kittens the case for value based Internet of Things. in which she says human beings are highly complex biological systems with an embodied consciousness, the develops intelligence through experience of the world, technology is making that experience passive rather than active. So this is bigger than school. This is this is about, you know, what the world is that we are creating for ourselves. But I would say that school to this model of school where you sit still, and you know, there's a moment to be active, and it's called recess, and maybe we'll even skip recess if we feel like we need to cram more stuff in to study for the test is is effectively a way of assuring us that our children will grow up in capable of being fully functioning adults.

**Bret** 1:17:33

I have tried to encapsulate this in the distinction between knowing how something is done and knowing how to do it, which sounds like they're synonyms, but they are not right. In other words, you can know a lot about how you know, you could you could be an avid fan of pole vaulting and never having never have pole vaulted. And the point is you'd be thoroughly inept at the point you attempted it. Because, you know, yes, you could know a lot about what makes a good pole vaulter better than a bad one. But the point is, the knowing isn't in the part of you that is involved in the doing and the most important thing, and I know that the reason that you're you're making this point central here is that at some level, those who have only received the information, don't know which part of it is likely to be false. That's right. You can read a textbook full stop discerning, right. They don't know what the truth sounds like, and how it sounds different than fictions that are plausible, but not right. And it is essential, the ability to you know, discernment is really about that distinction between the things that are actually true and the things that only sound true, right, that's the important border. And, you know, we have an educational system that is obsessed with, you know, delivering things in this abstract form that does not allow you to detect the distinction. And yeah, it's it's a, it's an absolute tragedy, I think, in some sense. You know, you're hitting the nail on the head that the the passive kitten is a thoroughly disabled kitten, no matter what they've seen. Yes, right.

**Heather** 1:19:21

Yes, you can have been shown the world. But if you didn't take yourself around that world and make decisions about how you would engage it. You are just a passive vessel and your passivity early will turn you into someone who can only be passive later you lose your agency, you lose the potential to be an active and engaged individual in the world. And that's, that's what so much of this embodied cognition research is, is demonstrating which really like, like, like with a lot of evolutionary biology, it feels obvious in retrospect, and just like you know, of course, a Of course you can't separate humans. You there is no simple duality right? There is no split between mind and body. And you can just, you know, treat them you know, make sure that your body is functioning and then focus entirely on your mind. They are engaging one another, there are feedback systems, and it will not work. Neither will work fully. If you treat them as separate systems.

**Bret** 1:20:26

Alright, you're ready for a curveball, please. All right, this raises an issue. Hey, Zack, can you show the, the picture that we managed to extract from? From the camera? The be

**Heather** 1:20:41

Oh, so God. So you took this beautiful picture which for people just listening what what are we looking

**Bret** 1:20:47

at? You're looking at a single very large flower. This is from the San Juan's on the coasts, like literally, maybe 100 meters from the water, and a very large dormitory. Yeah, on a rocky windblown Bluff, and you're looking at something like a sunflower, and a bee is approaching to pollinate. Now the reason I raised this is, there was something in the quote, you read about technology, making this passive engagement with the world. Normal. And I'm, you know, there's this paradox for me, I love photography, I love to take images, especially of creatures. I have almost, you know, use them in my teaching, because I had them, right. They weren't necessary, because there are lots of images in the world. And it's kind of an antiquated form. Like, why do you want a still image in the first place? Right, a video can capture so much more. But I know that for myself, there's something about the puzzle involved. You know, there really two puzzles, if you're interested in photographing animals. One is Do you understand the animal well enough, that you can do something other than just be lucky, right? Because luck is not, there's not enough of it to get good photographs at a high rate, you have to understand the creatures, which sometimes means I don't know anything about that creature, but I'm going to watch it for several days and try to get photos of it, and figure out enough about what it's going to do that I can position myself so that I'm in the right place, right. You know, so in this case, with the be, you know, I have a zillion photographs of bees on flowers, right? They're pretty boring, right? catching the bee on the way in and managing to get the bee in focus, right, required, you know, this up there for a while, I was there for a while. And you know, it's a problem I've never quite solved previously. So this was a case in which I, you know, half an hour or 45 minute investment finally solved the puzzle I hadn't solved before. And, you know, is a highly technological puzzle, too, right? You got to wield the camera just right. And, you know, in order to get the boat, the flower and the be in focus, you have to be Yeah, they have to be in a plane. And anyway, so my point is, in this case, it's actually technology that sort of sets a bar, it creates a useful puzzle to solve. Yeah, and the change in the technology does things to the way I shoot photographs now is, you know, has almost very little to do with what it was like back in the film era, right? Because your constraints are different. And anyway, only my only point is that figuring out how to solve puzzles in the physical world, whether or not they're technological puzzles, is a way of training your mind to see things whether it's how the animal behaves, so that I can be in a position to photograph it when it shows up, or something like that. So anyway, I would just advocate, take any real realm, even if your interface with it is technological, and figure out how to is puzzles a word, know how to personalize it. So that there are there are solvable, difficult, but solvable problems and that they're interesting enough problems to you that you that your motivational structure will cause you to do it.

**Heather** 1:24:05

There it is. Let's just maybe begin to wrap it up with two items from the corrective lens this week from the school chapter. First one, I'm on the wrong page.

**Bret** 1:24:22

You are Yeah. All right. I'm gonna fill in here and I'm getting

**Heather** 1:24:27

the next page. Here we go. Okay, higher education in particular should recognize that civilization needs citizens capable of openness and inquiry. They should therefore be the hallmarks of higher ed, the need for nimble thinking, creativity, and both the posing of questions and the search for their solutions, and ability to return to first principles rather than rely on mnemonics and received wisdom. These are evermore important as we move forward in the 21st century. A misunderstanding of how work will look in the future is driving people to specialize early. And more narrowly, higher ed is the natural place to counteract that trend and push toward greater breadth nuance integration. Students of traditional college age today cannot accurately predict what their career will look like by the time they are 7050 or even 30 colleges where breadth should be inculcated. And so again, higher education in particular should recognize that authority is not to be used as a bludgeon to shut down the exchange of ideas. Bob Trevor's evolutionary biologist, Parks alongside our mentor in college, once advised us to seek positions in which we taught undergraduates. his reasoning was this, undergrads do not yet know the field. And so we're likely to ask questions, the aren't expecting dumb questions, if you will, or once imagined to already be settled. When the educator is confronted with such questions, one of three things is likely to be true. One, sometimes the field is right, and the answer is simple, full stop. To sometimes the field is right, but the answer is complex, nuanced, or subtle. Figuring out remembering how to explain that complexity or subtlety is worth the time of any thinker who deserves the title. And three, sometimes the field is wrong. And the answer is not understood. But it takes naive view of the matter to ask the question.

**Bret** 1:26:19

Yeah, it's so true, you lose the ability to see the question. And

**Heather** 1:26:26

when you're immersed in it, and you're any, anyone who's taught at all, you know, it doesn't require being sort of, you know, deep researcher into something very deep. But anyone who's taught, can see themselves moving farther and farther from the minds of their students, the longer they do it, the the, you know, how was it to be naive? I even like an open wonderful sense, not in a no in an ignorant sense, like, what was that? And how can I maintain my theory of mind and understand what it's like to be in the heads of these people in front of me, so that I can best reach them and communicate with them, and they can reach me and communicate with me?

**Bret** 1:27:00

Right? And the, you know, the ungroomed mind asks questions aplenty that aren't so useful. But it's it's very much the question of the fringe, right? The fringe is mostly wrong. But within that sea of wrongness, there are the hints of the next frontier. And the the ungroomed mind doesn't know which of their questions are the good ones, necessarily, but the point is

**Heather** 1:27:27

ungrouped, I've never heard this, this.

**Bret** 1:27:30

Well, if you become you know, if you become expert in let's take the this example. Our colleagues do not understand that the waiting time problem in evolutionary biology is actually real, because it was delivered in a sea of not very good critiques that came from intelligent design, folks. But the point is, it's actually a good question. Is there enough time for the process that you know, to have explained the adaptations that you see and claim have been produced by it right? And if the answer is no, it doesn't necessarily imply what the people who asked the question think it implies, it implies maybe you're looking for another layer of process, right? And so anyway, the point is, the grooved minds are so used to saying, here's the process that explains it.

**Heather** 1:28:18

So by group so I'm just I'm hung up on this group versus ungroup. That sounds like it could. For me, as someone who's done comparative anatomy, I'm thinking like, you know, the more the more actual grooves in brains, the higher the cognitive capacity, I don't think that's what you're meaning to imply. I

**Bret** 1:28:34

don't know. I mean, grooved as in canalys, last canalys. All right. Well, the point is, if you're very excellent at something, it has a lot to do with following those grooves because they lead to useful places rather than to spinning your wheels.

**Heather** 1:28:48

So I want it so Okay, I know I need to get to this point, that's eight steps down. And I'm not going to every time I spend time making the first five decisions, because I just already know where I have to go in the decision tree.

**Bret** 1:28:59

Right, which is what Trevor's was telling, was that you need somebody who is naive, in order to help you see where you've actually made a cognitive choice that you don't realize, is a choice, because you make it every time, right. Similarly, I would just add that the there's a parallel experience to the one I described at first, where somebody in the class is willing to push back because he just can't stand to hear you say something that isn't right. And then once they do it, and it turns out that they get praised for it rather than get scolded other people want in on the game. And suddenly you've got a whole class full of people pushing back on you and each other and it's very vibrant. There's this other thing the flip side is

**Heather** 1:29:44

so it requires a teacher, a professor who knows that what they think they know might not be true, and is willing to say in front of the class. Oh, yeah, that's probably right. Actually, I had that wrong. Or I don't think so and then come back the next day, the next week, whatever it is, and say, Yep, you were right. I was wrong,

**Bret** 1:30:07

right? Or you can do it intentionally. And so the point is, you can drop something in,

**Heather** 1:30:12

right? You can do you can do it intentionally. But you would not no one would do that if they weren't comfortable doing what I just said, Because Because and yeah, we've we've been known to many of these people who are like, well, I can't go there, because then they're going to start pushing back over on what is my domain? And I can't take pushback in my domain. Yeah, we know. And that's, that's unfortunately, a big part of the problem. And it's not that there aren't plenty of people who are capable out there. But if they fear being revealed, as incapable of some part of what they claim is central to their, to their, you know, their depth, that that will basically, you know, the entire thing will turn out to have been a Potemkin university or something, yes,

**Bret** 1:30:48

they rigged their whole teaching lives around not being exposed for their own limits. And you know, yes, that's a terrible teacher, you insecure teachers is a hazard to your ability to think. But anyway, the thing I wanted to point out was, there's the encouraging the student to push back, because all of the rewards come from them actually spotting things that don't yet add up and figuring out what's in those gaps, and all of that. And then there's the, the detection that a student is being socially motivated, which is bad. Right? Now, most teachers use social motivation to get students to accomplish stuff, even good teachers, right. But the problem is, there's a limit to that, to the extent that somebody is very plugged into what the social authority is telling them to do, it depends on it being a good authority, otherwise, it's just a mechanism to be manipulated into nonsense. And so the other thing I would do, which you saw me do many times was when I detected that somebody was trying to tell me what they thought I wanted to hear in order to get a pat on the head, right, I would lead them down a logical chain, right? to some place that was dead wrong. And then I would basically cut off the limb behind them so that they would get the experience of like, Oh, yeah, trying to tell this person what they want to hear is actually not the road somewhere it's actually the road to not knowing where you are and being a little bit embarrassed and, and but then, you know, you've got this great lesson, which is okay, if I just lead you six steps down something to something we all know is false. And you agreed with every step along the way, where was your error?

**Heather** 1:32:28

It's crazy to me how much you enjoyed this?

**Bret** 1:32:31

Well, that's the thing is, I mean, you know, you will agree, I was not hated by my students. So it wasn't like they it wasn't like

**Heather** 1:32:37

no, it did it. They didn't work for absolutely everyone. But it was pretty clear right away that those those relatively few people for whom this wouldn't work, and no, not the quite quite the opposite. And that's not what I just said, has nothing to do with anything on there. And just that some, Yeah, I did. I did a lot of things that you never did. And you did a number of things in the classroom that I never did. And some of those things that you did, I would watch and go I, I see that that is effective, and that no one else is doing it. And I just could not bear to do this do. I couldn't.

**Bret** 1:33:17

Alright, so here's one for you a couple of weeks ago, I got a communication from a former student, somebody who had actually given me a lot of trouble, right? And was not

**Heather** 1:33:30

when when you when you were in professional relationship with one another? Yeah, when you work with somebody,

**Bret** 1:33:35

this is somebody who did not quite get what the style of teaching was, it was that rare, exceptional person, highly intelligent, but didn't dig it and said so and anyway.

**Heather** 1:33:47

But that was that could that happened? Sometimes? It was interesting. Yeah, yeah.

**Bret** 1:33:51

Anyway, contacted me. And she said, by the way, first of all, she asked if I remembered who she was, of course, I remember if she was

**Heather** 1:33:58

totally thorns in each other's sides. Right, exactly.

**Bret** 1:34:02

But I'm not going to use her name because I didn't check it with her. But anyway, if you're out there, you know who you are, you have an unusual name. And she said, You know, I just wanted to tell you that I don't think I was ready for those lessons. But I now get what you were up to, and I really appreciate what you were doing. So anyway, even in the cases where it didn't necessarily work, I think there's where's the ability to, to see what its its point is,

**Heather** 1:34:30

and I mean this to this, this is one of the things that that I don't actually see a way around this, but that modern education is limited in that the assessment happens too soon. Right? That the assessment both by faculty of students and by students of faculty happens when you're still just in the thick of it. And you know, maybe you know, maybe your professor managed to game it such though your last week was an incredible amount of fun and you feel like you've learned a lot and so you're going to write this glowing evaluation and maybe They weren't thinking about it. And so their evaluations are more variable, even though they actually, you know, a year on five years, 10 years, 20 years on, you realize, Oh, that's the person I learned from, why did I write that sort of mediocre evaluation of them? Oh, because they didn't, you know, game it so that my, I was feeling full of dopamine at the point that I wrote the thing and the same same thing for faculty writing, evaluations of students. And, you know, I used to say, actually, especially after the study abroad, programs, you know, okay, you know, final final thing is not a science thing, but I just want you know, a short essay on some aspect of this, be it you know, five and a half, eight, week, 11 week, whatever it was expedition through either Panama or Ecuador, that you that you were surprised by, and that you can analyze in some depth. And I would invite people to write me another one in a year and two years and three years saving, I'm not, I won't, I won't be in this relationship with you, then you're under no obligation. And, of course, under no obligation to read it, but I'm telling you, I will, anyone who sends me these a year, on two years, on three years on reflection about this thing that we just did, that I created, on your behalf, and on my behalf, and on our behalf, and that I allowed a lot of serendipity to happen so that I couldn't predict everything that would happen, or all the lessons learned. I would love to see those. And there are a couple or a couple of people who do send me send me those years, many years later. And it's amazing, because you know, the idea of assessment when you're still in the thick of the thing that you're supposed to have learned, imagines again, that learning that you know that that the short time horizon is where it's at. And it's not. Well, there,

**Bret** 1:36:39

there are three things there. One, it reflects what he said up top about, I'm not your employee, you're not mine. Yeah, there are superficial resemblances between this relationship and that, but that's not what this is. And the extent that anybody would take seriously your assignment that gets turned in at their discretion years after any relationship, any formal relationship at all exists. The point is, well, actually, you as the professor, were trying to create an experience that was meaningful enough, that years later, it would still be on your mind. And that's, of course, what you should be doing. Right. And the fact that, you know, you and I know if you've been in the field with students, right, you've been suffering with them, you've been, you know, shocked alongside them, right? You've seen amazing things together, right? You know, it's obviously the experiences one off for each of us. But there's so much that gets that's in that relationship that doesn't get quantified, that doesn't get evaluated. And of course, it builds this connection that years later, they want to tell you, you know, what, that actually meant to me, you know, what it meant to me, I didn't get for three years. Right, right. And then finally, it dawned on me, and of course, the idea that you're important enough to them, that they would think to tell you, right is a demonstration that this this actually did live up to what the experience was supposed to be it wasn't encapsulated in any way.

**Heather** 1:38:14

And that's what you know, the all too common and pat phrase now, you know, lifelong learners, right? That's, there's honor in that that's what we all should seek to be. And an educational system that is functional, should inculcate that desire in people who are currently called students and may later be called teachers, or carpenters, or scientists or whatever it is, they're called. And they should want to both continue to learn. And, yes, it's deeply human to want to share with those who helped create the experiences in which they learned the thing. what it is they learned.

**Bret** 1:38:49

Yeah. And, yeah, unfortunately, the attempt to systematize education has driven all of this stuff that's hard to explain and even harder to defend. You know, it's driven and out of the system for most people, so they just don't ever encounter it, I guess. Yeah. terribly sad.

**Heather** 1:39:09

Indeed. All right. Are we there? I think so. All right. We will, we will no doubt be talking about school again. But that's it for now. Hopefully, there are some questions in the q&a that we will come to shortly about school so we can continue the conversation a bit. We're going to take a break, we aim for it to be 15 minutes there is some technical problems that are not an RN that kept it way too long. Last time, we'll be back as soon as we can be with our q&a. Go to Dark Horse submissions comm to to post questions we never get to all of them. We'll get to as many as we can. consider joining one or both of our Patreon again, the window for asking questions on mine for next week's private q&a is open right now. You can get stuff at store dot Dark Horse podcast.org. You can ask logistical questions at Dark Horse moderator@gmail.com and please consider liking this video sharing this video subscribing to all four of the relevant channels both on YouTube here, Brett Weinstein and Dark Horse podcast clips and on Odyssey, same things. You have anything to say.

**Heather** 1:40:18

Go solve some puzzles, to solve some puzzles. Be good to the ones you love. Get out now. Be good to the ones you love, eat good food and get outside.

**Bret** 1:40:28

Be well everyone