Bret and Heather 98th DarkHorse Podcast Livestream\_ Everybod...

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**SUMMARY KEYWORDS**

book, critique, point, culture, humans, genome, years, understand, footprints, talk, fact, part, people, epigenetic, evolution, written, history, mechanisms, imagine, world

**SPEAKERS**

Bret, Heather

**Bret** 00:04

Hey folks, welcome to the Dark Horse podcast live stream number 90 something 90 What is it? 98? It's 98. It is. You've probably noticed it's autumn. Autumn is no longer coming. It's here. So saddled up the direwolves we ride tonight. Wow. All right, you didn't see that coming.

**Heather** 00:25

I did not I forgot to source any direwolves when I was down at the farmers market this morning, but I think actually now that I now that I reflect on what I was finding, it was like it's that amazing season where we're still getting the berries and our and the stone fruits. And we're also getting many of the fall like the brassicas and such, and I did not see any direwolves there this morning on offer not a one not a one. That's a shame. Maybe they're not at the farmers market

**Bret** 00:51

where they're farmers there. If so that implies the dire roles are not at least dense on the ground.

**Heather** 00:58

That's probably true. Yeah.

**Bret** 01:00

All right. We got stuff to do,

**Heather** 01:02

we got stuff to talk about. Today we're going to talk about, we're going to talk about our book continuing to and some of the critique some of the critique that is come at it and and you know, what critique is and what it is doing in the world and its value. We're gonna talk about some of the earliest Americans some new, some a new scientific result out this week, which is consistent with the view of the peopling of the Americas that we reflect on in, in our book. And in service of that where I was going to talk about this concept of stolen land and understanding human history and how history is often being taught. And, and a couple of weeks ago or so in the q&a, we got asked if we knew of this Roger Scruton essay called dying in time, and neither of us did. And I have since read it, and we're going to share a little bit of it and talk about the value of courage. All right, but before we do that, we have some logistics. Okay. If you've gotten the book, hunter gatherers guide to the 21st century, evolution of the challenges of modern life and you have enjoyed it, please consider giving a review that said Amazon has been sold out since three days after publication date, and it remains sold out to this day. We know there are more books coming. But if you are looking for it, Barnes and Noble still has copies and we encourage you to go there most local booksellers apparently are out as well. It is there and more more copies coming but supply chains and the incredible response to this book have both cause there to be shortages, where we were hoping there would not be any should point

**Bret** 02:40

out though, that the audio book is doing spectacularly well. anomalously Well it might partially be because our voices are well known and so people are preferring that mode. But it also may be that people who aren't finding the hardcover are buying that and hopefully they will enjoy it it is read by us.

**Heather** 02:59

Yep, it is it is read by us and strangely, it's not available in in a large part of the world and I think that may also be a supply chain issue is

**Bret** 03:08

a supply chain. Yes, the supply of vibrations of air molecules is apparently not sufficient to meet the demand.

**Heather** 03:17

Yeah, yeah, no, that's it's really hard to fathom and the publisher on the other side of the pond is is working on it's not their fault. It's unclear why but for those of you and other English speaking parts of the world who are looking for the audio book, it should it is available apparently everywhere, but audible but audible. In the UK not not so much. Okay, if you're watching on YouTube, consider switching over to Odyssey. That's where the chat is happening. If you are watching live and you want to be participating in the chat, you may ask us questions. We're going to try to prioritize questions about the book this week. But there's always there's always room for a lot more. And you can ask questions at WWW dot Darkhorse emissions calm. consider joining our Patreon tomorrow is the monthly private q&a on my Patreon, the questions have already been asked for this month. But it's small enough, it's intimate enough that we are able to engage the chat in real time and often can can respond to questions that are asked in real time and then those stay up afterwards for for patrons to watch if they can't do it in real time. So that's tomorrow at 11am from 11 to one pacific time. And maybe we'll just go right to our ads before then jumping into the main part of the program.

**Bret** 04:32

Visual listeners, visual watchers, I suppose we'll see the border around the screen indicating that we are reading ads. For those of you who are listening, if you would put on your ad colored glasses that would be useful.

**Heather** 04:43

They're very good. Yep. So we have three sponsors this week. Again, as we've said before, we only take sponsors for products that we actually stand behind and we have rejected many people who have approached many companies that have approached us not because necessarily their products we don't approve of but just that we have no ability to have a relationship with. So the three that we are bringing to this week are ones that we have brought before vivo barefoot four sigmatic and omaxe cryofreeze. vivo barefoot is on a mission to create regenerative footwear and experiences that bring you closer to nature and your natural potential. It makes shoes for feet that sounds unremarkable perhaps until you realize that most shoes are not made for your feet. They're made for someone's idea of what feet should look like and do and be constrained by most shoe makers seem to have no idea what feet are or what they should be able to do. And we have were sent by people barefoot a few pairs each and we've been wearing them for a few months now. And they have aside from when we're in cleats for biking or, or otherwise needing specialized shoes. This is what we are both wearing. We love them they It feels like you're barefoot but you have the production of shoes, you get better tactile feedback from the surface as you're walking on because no pain at all because there are no pressure points forcing your feet into odd positions. And it's actually ridiculous how fantastic they are. And to to that point I will say that when we were flying back from Texas a couple of weeks ago, guys sitting across from me across the aisle from me on the plane asked me about the shoes and he was wearing them too is that I don't see them out here very often but I love these shoes. He's a runner he said I run them so he's actually using them as running shoes. And as everyday shoes as you know playing going shoes and we had a little conversation about how we both wish that they were more widespread because we imagined that people will you know have a better relationship with walking and with their own bodies if they would be wearing shoes that are this well designed with this much of a sense of what it is that the human foot is and has been and how not to impair it with with footwear so I could go on and on and on. But let me just go right to the call to action here. Go to vivo barefoot comm slash Darkhorse to get an exclusive offer of 20% off Additionally, all new customers get a 100 day free trial so you can see if you love them as much as we do. That's vivo. barefoot vi vo b a r e f o t.com slash Darkhorse. Second,

**Bret** 07:08

all right for SIG

**Heather** 07:09

Matic that's fo you are SIG Matic This is a wellness company known for its delicious mushroom coffee. I know that sounds weird and kind of off putting. I was skeptical but I've been drinking lately most mornings and it's really really good. It contains coffee, as you might expect, although from the name you might think maybe it's just mushrooms but no it's got organic Fairtrade single origin Arabica coffee and also has Lion's Mane mushroom for productivity and Chaga mushroom for immune support. It adds for me I think a little something some Christmas some focus. The world seems a little more clear after drinking it. It's delicious just like Ray their coffee if you like that sort of thing as I do. You can't taste the mushrooms it's if that's what you're worried about. But it tastes just like your favorite coffee dark and nutty and delicious. This like all of four SIG Matic products are organic, vegan, gluten free. Every single batch is third party tested to ensure its purity and safety so you know you're getting the highest quality coffee and mushrooms possible. And they back all of their products with 100% Money Back Guarantee love every sip or get your money back. So we have an exclusive offer with four SIG Matic on their best selling mushroom coffee but just for Darkhorse listeners get up to 40% off and free shipping on mushroom coffee bundles. You go to four sig matic.com that's fo you are si g ma t IC, comm Darkhorse and save up to 40% and get free shipping. So for SIG Matic comm slash Darkhorse fuel your productivity and creativity with some delicious mushroom coffee.

**Bret** 08:40

All right. Oh, Max cryofreeze. Let us talk about pain. Pain is an adaptation it does various things for you. It tells you when you are doing damage to something and you should stop it tells you when you were at risk of doing damage damage to something and it can train you to avoid behaviors that might cause damage. However, much pain that is chronic is not useful. It's simply annoying, it distracts you and it causes you to pay less attention to other things. Oh Max cryofreeze is a CBD based product that allows you to deal with chronic pain you just roll it on. It smells good. I think a very light smell but it smells good. It's not sticky or otherwise gross. It isn't. It isn't greasy. It's 100% natural and it is designed to block pain receptors right at the location where you have pain so for example, if you've been driving too much, I did some driving recently and got out of the car and felt a bit stiff in the shoulder but it on it works well. Alright, so max health is offering our listeners 20% off a full bottle of cryofreeze CBD pain relief rolawn this discount also applies towards any product sitewide to Go to Oh Max health.com today and enter the code, Dark Horse. That's Oh Max, oh ma x health hga, l th.com and enter the code Dark Horse and get 20% off cryofreeze or any other product sitewide. All right,

**Heather** 10:22

that's our ads. Let's talk about let's talk about critique,

**Bret** 10:26

let's do it.

**Heather** 10:28

critique is an utterly necessary part of many aspects of human endeavor science, for sure. art as well, it looks a little bit different, in general in art, but anyone who has taken for instance, studio art classes understands the value and the and the necessary place of critique in assessing even something like art, which might be understood to be you know, sometimes representational, but even so there is obviously interpretation involved.

**Bret** 10:55

Alright, I want to stop here. So I have said that very often, we have a term in which there's the legitimate version of something and the malignant version. And there's a question about whether we should be saying, I think critique is one of the most useful things in the universe very hard to come by. Because in general, people have perverse incentives, even people who are on your team may not want to give you honest feedback, because they don't want to hurt your feelings or mid may complicate your relationship. And so getting honest feedback is fantastic. It's the thing that allows you to navigate and improve, but it's tough, but it's rare liver, and it's tough to receive, right, and we all get it. Yeah, nobody likes delivery, you know, delivering critique to somebody that they value. Right. So it's it's a, an important but rare phenomenon in the universe. And it is different from criticism, which can be motivated by all kinds of things. Right. So maybe critique is a version of criticism, it's a, an honorable exploration of what might be changed or improved or what isn't right, rather than just simply the allegation that something isn't right, which may or may not be well founded that fair?

**Heather** 12:09

Yeah, I think that is fair, I think some forms of critique are more common in some cultures than others. And I think there also, it also may be gendered. In fact, I'm certain that it is. So with regard to cultures, I think, for instance, somewhat stereotypically, but accurately, the, the Jewish dinner table tends to be one in which there's talking over one another, and there's disagreement, and it's often very lively. And none of that disagreement, which sometimes is critique is imagined to be about hatefulness or discouragement of thinking into areas where you might be wrong or more capable of making errors and in others, right, it's all it's about it's, it's exactly about in being in service of both the you know, the family dynamic, and community and also truth.

**Bret** 13:01

Right, and I'm hesitant here, because I don't have a lot of experience with Japanese culture. But the reputation of Japanese culture is that the critique is delivered. So subtly, that one has to read deeply in in order to get it, it's not that it isn't there, right, but but the point is, your calibration has to be very different, right? Because you're expecting for somebody to just say, flat out, hey, this is what you did wrong. And here's what you might do. And somebody is really you know, that if it's written between the lines or something like that, you may have to go after it in order to even get the value of it. And of

**Heather** 13:35

course, you know, if in your home culture, you will be expected to understand exactly the form that the critique comes in, and be either unable to detect, or flabbergasted by the directness of critique that may come at you, depending on, you know, which end of the spectrum your home culture happened to have. And I would say that we also know this, you know, the cultural differences are different from sex differences, because every single culture has both sexes and always hats. And so you know, this is this is one of the many reasons that the kinds of isms that people talk about, are not simply of a type, right, that sex ism. And sex differences are very different than say, racism and possible race differences. But something that I have been thinking about a lot of late, and I've begun to talk about a little bit in some of the very many interviews we've been doing about the book is the differences in male and female strategies with regard to establishing and maintaining dominance, that, you know, we all need because we are now living in a world thankfully, gratefully in which men and women can interact, as you know, on a par as equals in the intellectual space. But pretending that we don't have differences that that are more ancient than that ability is is a fool's errand, and in general, across species that have them and certainly across human cultures and time and space. As we see the dominance hierarchies, and males are typically created and maintained by rather overt mechanisms. And in the form of critique that would be being really direct, you know, saying very directly Actually, no, I think you're wrong. Here's why. And female dominance hierarchies, both in other species and in humans throughout time and space, are much more likely to be covert in nature. And so use more more subtlety, more nuance, sometimes going around, you know, skirting the actual person with whom you might have a critique and talking to someone else about it. And you know, on these topics, I have much, much more to say. And, you know, I'm not making value judgment, here I am observing what we know to be true. But this is part of the reason that men and women coming together into sort of professional spaces often have problems, that the nature of how we expect, on average, you know, population level differences, critique to come, and how it feels, to a woman say, if someone is very direct, or to a man, if someone is really not direct, your man is less likely to hear their critique. And that's not necessarily because he's being daft it may be because that's really not the culture that he comes from. And a woman may be more likely to feel attacked by a direct critique, even if attack was never the intention, nor the desire of the person giving it. So recognizing the many types of ways that critique occurs, even in good faith environments, I think is is valuable.

**Bret** 16:29

Yes. And there's, you know, I quite like the point you make about the difference between differences between male and female being of a fundamentally different kind than the differences between people from different cultures, right? To the extent that you're correct, and I think you are correct, that female kinds of jockeying involve more COVID covert mechanisms. At the point that we start intermingling in a space where high quality critique is extremely valuable, it may be misread. In other words, it may be understood to not be literal, but to be, you know, a subtle attempt to undermine or something like that. And that's a recipe for disaster, right? You're either in an environment where critique is understood to be highly valuable, or it's a weaponized environment where critique is used to destabilize someone, and you've got to know which one of those you're in in order to even interpret what you're hearing.

**Heather** 17:28

True. I don't so a person could hear what you just said and map on those two things to male female? And I would say that's absolutely not not correct. And I don't think that's what you meant to say that the idea that critique is weaponization is a female?

**Bret** 17:44

Well, I would say thing, that would be a covert mechanism, yes,

**Heather** 17:48

but it's one of very many rights, it's hardly true that the ways that women engage in critique is inherently weaponized? No, I'm

**Bret** 17:55

not, I'm not saying that. But what I am saying is that if you are going to avail yourself of, of covert mechanisms for jockeying, then critique that is not what it appears to be is one yeah, and, you know, in an environment in, you know, let's say, a scientific environment. You know, it's one thing between labs, but within lab, for example, you want to have very high quality critique coming from people who in the end, have an interest in you succeeding

**Heather** 18:23

and and, frankly, that is direct. And in fact, so I haven't talked about it extensively, because it's not out yet. But I've got a, you know, a scientific article coming out and exactly this, as you know, that's been sort of impressed for ever. Exactly positing that. We In fact, in you know, in some situations that have been traditionally male, like science, like business, the more male typical style of of critique, which is overt is likely to be the one that we need to default to. So that I'll just, I'll just address that and we'll come back to it once that paper is out, and I can share it and talk more about it. But we wanted. We wanted to do a tiny little compare and contrast between two pieces of criticism our book has received, right? So we've got both Ay, ay, ay ay, careful and analytical Hmm, a careful analytical review on Amazon. That's two stars. And we disagree, but it's, it's careful, and we'll talk about that second. And then we have a review a review, I'm going to put it in quotes in The Guardian, in which the reviewer appears to have no background in or interest in actual scientific thinking. And let me preface this by saying, actually being having no background in science, you know, effectively being scientifically literate is totally fine. You know, we're all born with scientific capabilities to some degree with like a, an interest in exploring what the world is. And for most of us, we don't get exposed to how to think carefully scientifically in school. Even actually, you know, kills that instinct often us. And so the fact that most people, most adults are walking around without really a sense of what science is and how it operates, isn't damning. And it's unfortunately true. I wish it weren't, but it is. But what is, what is concerning is how many people think that they're being scientific and are actually utterly resistant to any kind of scientific thinking. And, you know, part part of the blame here goes to the way that social science has evolved over the last 20 or 30 years, right, that this sort of social constructionist view of humanity has become dominant in Sociology and Anthropology and psychology and in pretty much all the social sciences. And with that has come a complete misunderstanding of what an evolutionary framework is, and would do and so people who engage in social constructionist thinking often imagine that they're doing something careful, but but but they're not. So one way that we can see that we're not engaging with with criticism of scientific in of a scientific sort is when we can see that the conclusion had a right was arrived at before the actual review was written. And when the review was not actually about the thing that it's supposedly reviewing. So here's just one quote from this Guardian review, hiring and Weinstein's advocacy of the still unproven lab like hypothesis gel nicely with the don't play God, mind, the unforeseen consequences stick to the traditional worldview that the book promotes. So I would just say two points to this before you say what you want to say about it. But the idea that, that this reviewer is bringing up last week, or anything about COVID, at all, is points to exactly what I'm saying, This isn't a book about COVID. It was in fact, the first draft was finished, you know, before COVID was a thing. And the idea that that has a place in a review that supposedly about a book tells us right away that this isn't what it appears it's not a book review. And then the stick to the idea that this is a stick to the traditional worldview that this book is promoting is the suggests either the reviewer did not in fact, read the book, which is quite possible, or that he is willfully either misunderstanding, or at least misrepresenting what he does understand to be the case, because we are quite explicitly not arguing for a traditional worldview. And we say it over and over and over again. So this is either sloppy or anti scientific or it's it, it reflects a conclusion that was arrived out long before the book was written, which means that this is not a person who should have been put in charge of reviewing such a book.

**Bret** 22:42

Well, I think actually, I read the review. And I think it implies something even more troubling, if a bit subtle, and common. what it implies is that this person is a verification just right, because what our book argues very clearly and explicitly across the entire thing is we cannot go back, we have to go forward, that is dangerous. And we must figure out what that we bring with us from the past is still relevant and useful, and what has to be replaced. Now the problem is, if you are a person, a traditionalist and a verification, as you will find conservatism in our book, if you are a progressive and an advocate for a different and better world, you will find radicalism in our book. And the idea that one has to balance these things is really what the book is about, right? But somebody who's out to, to deliver a negative review and this person, clearly is a few clicks reveal that they actually have this position. And either the Guardian knew they were sourcing somebody who would deliver a scathing review or they didn't know and should have, but either way, that's what they did. But in any case of verification as to going through the book and finding reason to dismiss it on the basis that you know, it is a it is about some sort of a conservative traditional worldview tells you that they if they read it, they you know, they got half of it. But the other thing is what a fascinating week to deploy this trope about the lab leak, right, because the lab leak as much as people had realized that it was extremely likely, as of you know, Jon Stewart's beginning to mock it, as he did took another leap. You know, the remainder of the distance was largely covered by the discovery that there have been a grant proposal to induce to introduce exactly the further insight that we find in SARS COVID, two that had been delivered by eco Health Alliance and Peter dacitic. So we know that this exact change had been proposed. Now that grant proposal was rejected but it doesn't matter. The point is, what a week to just press that button. Oh loudly conspiracy theory when in fact, all the reasonable people have realized was that it was, you know, it was never a dismissable conspiracy theory it was always viable and there's an awful lot of evidence for it.

**Heather** 25:06

Well, it seems to me there's an analogy here, that not only is a lot of sort of, you know, this, this person who I imagine a sort of immersed in woke world and in social constructionist world, so much of that world is actually biologically essentialist in a way that an actual understanding of human evolution would not support. And similarly, this so called progressive world is actually highly reliant on authorities and institutions that are pretending to speak truth, but actually coming to conclusions behind closed doors and never showing us the analysis. And so you know, part of part of what we're we're doing and we we've we've been doing for a while now on the show is not so much in the last couple of months, we've been focused on the book. But looking at analyses, and assessing whether or not those analyses make sense. And part of the reason that we find ourselves out of step with some of what is being promoted as public health policy right now is that almost nothing that has emerged during this pandemic, from public health officials or the CDC, the who, whatever comes with a description of the analysis that was done. Sometimes there are some references to datasets, but the actual analysis is alighted. It is hidden, it is obscured, which is exactly antithetical to science. So not just the results of science need to be in public view, but the actual scientific process. And so the analyses that we've been relying on as we come to conclusions that are wildly out of step sometimes with what some public health officials would say, are exactly that they're analyses in which we can actually look at and assess the analysis done. So that's, that's what scientists do.

**Bret** 26:44

Right? That's what scientists do. And you know, you make the point that they review can't start with its conclusion. It's not a valid review. And you can say the exact same thing about science. I don't care how sophisticated your you know, measurement apparatus was I don't care how fancy the laboratory I don't care what degree you have, if you started with a conclusion, and work backwards from it. It's not only not scientists, the opposite of science right? review that starts with its conclusion isn't a review.

**Heather** 27:12

Yeah, right. Well, you know, a review, you can you can imagine a review that's written which is which did not begin the book with the conclusion. But now that they're writing it, they've come to the conclusion but so you know, a reviewer, who approaches the book that they're supposed to be reviewing already with their conclusion in their head is not capable of writing a review

**Bret** 27:32

the process of review, yeah, right, you have to be open to the possibility that there's something there before you declare that it's absent.

**Heather** 27:39

That's right. So let's just talk a little bit about this. The two star review on Amazon by guy named Ryan wants to know whose name I'm unfortunately probably butchering here. Let me see if I can pull it up. You actually show it or

**Bret** 27:57

why not? Okay, so I should just say, you can show the sack you know, we were watching the book go live and reviews show up. And someone called our attention to this review was the first negative review. And I went and read it. And I thought, actually, it's wrong. I'm think I know why it's wrong. But the person did an honest, they made an honest attempt at evaluating it, they reached a conclusion that I think is actually very much the beginning of an important discussion.

**Heather** 28:26

This is what a review of the book should look like, that is negative, right? So obviously, we disagree, because if we didn't, we wouldn't have written the book that we did. Right? So you know, we have we have lots of reviews. You know, we have many, many cats. Okay, sorry, guys. We've we've many, many reviews that are that are positive and careful and reflective of what's in the book. And there's one negative review that feels to us like what a negative review should sound like. So let's talk about so he basically he basically disagrees that you can take my screen off now, Zack, the title, the view is culture does not exist to serve the genome, which is him pushing back against the one of the theoretical concepts that we introduce in the book, right? This is not already out there in the scientific literature, this is new with us, which we introduced in the first chapter, which is the Omega principle. And, you know, you we we can understand why you might not agree with the Omega principle. But as we have argued elsewhere, if you don't you have to explain that what culture is. And if you're simply blackbox on culture and say it can't possibly be evolutionary can't possibly be serving genetic ends, then you you are taking it on faith. Yeah, that's basically a faith rich argument. So I should say what it is. Yeah,

**Bret** 29:45

so the mega principle is a two part principle. Basically, we choose omega because it's a Greek letter. It's supposed to evoke pi which specifies the precise relationship between the diameter and circumference of a circle and likewise, home Vega specifies what we say is the precise relationship, the obligate relationship between culture and other epigenetic phenomenon on the one hand phenomena on the one hand, and the genome on the other. And the relationship is epigenetic phenomena evolve more rapidly, they're more adaptable. But they are obligated to the objectives of the genome, that is they serve the genomes ends. And this is indeed a very provocative claim. Now, I will say something even more provocative here, which is that, of course, you would get some pushback on this, right? Because the implications of this principle are so profound, that they really change everything. You know, for most creatures, it doesn't change your evolutionary analysis, it doesn't have almost anything to say about, you know, well, at least as far as culture goes, obviously doesn't have anything to say about plants or fungi, or most animals. But as you get to humans, it changes everything about the meaning of what we are and how we ended up this way. And so, if we are incorrect about this, it actually renders a huge amount of the analysis that we do in the book wrong, but we are not incorrect. We show our work and actually even think that's true. I was expecting a little pushback. But the reason that it is

**Heather** 31:18

because because there's so much else in the book that is consistent with, you know, mismatch hypothesis, or scientism, as replacing science, tipic thinking or reductionism, and over reliance on metrics, all which all of which are, you know, everything that we do is consistent with one or more of those, but there's plenty, that doesn't actually rely on omega although omega is consistent with everything that we talked about in the book,

**Bret** 31:45

no, I would say differently, I would say there are many things in the book that are true irrespective of omega, but that the central idea right, is predicated on the basis that our our apparatus for generating culture The the conscious apparatus that then generates culture is consistent with an evolutionary analysis that it is not the cultural layer in conflict with a genetic layer. It may be that our ancient culture is out of step with our current environment, but it is not that our culture is out of step with our genome.

**Heather** 32:20

Yeah, no, I see that. So you know, mismatch hypothesis, which has been discussed by many, many people might be absent an understanding of omega principle, be imagined to be this is just, you know, this is just the derangement that modality brings us because, you know, culture, and we are trying to explain something more consistently more deeply by saying, Well, yes, you know, culture, but culture is itself at least that culture, which is long, long standing and expensive to maintain or create. And variable and extent, is itself inherently an adaptation, right?

**Bret** 32:52

So the, the point is, this principle is going to end up being right. And the reason that we know it's going to end up being right is that the logic that explains why it has to be right is actually not complex at all right? The fact is, a cultural brain is the product of a genome, which puts the genes in a perfect position to shut it down, if it isn't serving the genomes ends. And what people the steppe people miss, is, it's impossible for cultural stuff to be cost free, right? cultural stuff that has you doing something is wasting the time and energy of the genome, cultural stuff that forbids you from doing something is limiting opportunities. So these things are costly to the genome, and therefore, for the genome to have facilitated a mind that gets filled with this stuff. It has to have on average paid. Yeah, right. So that said, once you get to that step, right, this is something 1976 Dawkins introduces mimetic evolution, he, it's a brilliant introduction, but he makes what we claim is an error. He says, culture is a new primeval soup. It's basically a new tree of life, cultural phenomena evolve, he argues correctly, but he's arguing that they're evolving independent of the layer that they they ride on top of. And we're that true, it describes a whole, a very complex, and in fact, a landscape that can't even really be analyzed, because many things hover between layers, right? Yeah, language has both phenomena. And it has purely cultural stuff. And it has a, you know, genetic underpinning. What do you make of that evolutionarily, if these two things are independent, on the other hand, if they're both serving genetic ends, then you can analyze this and the point is, whoa, a whole bunch of stuff that is paradoxical if we treat it as independent of the genome is no longer paradoxical. It becomes tractable, if we approach these things with this, this assumption.

**Heather** 34:46

Yeah, I'm reminded. So we have a section at the very end recommended Further reading where we recommend a couple of books unrelated to our own work, that we have learned from and that speak to some of the issues in that chapter. And so at the very end, we say more technical texts that are nonetheless excellent include and one of the two, here is this to Blanca and lamb text. And I would have pulled up the book, but it's not in this room right now from 2014, called evolution in four dimensions, genetic, epigenetic, behavioral and symbolic variation in the history of life. This is an extraordinary book, it's super dense, you know, it's not easy going, even for us I want I want to try to just give a sort of a page long excerpt to freshmen. And it didn't, it didn't go over too well, you know, advanced advanced undergraduates would have been different, but it's just it's it's dense, I'll warn you, but it's truly a terrific book. And your but the title, genetic, epigenetic, behavioral and symbolic. Something, something in the evolution of life, suggests that they are, would seem to imply that these are different things. And so I'm sorry if I missed it. But I think one thing you didn't say in your description of omega principle this time, is that we are talking about genetic phenomenon, wood, and everyone has a pretty decent model of what that means. And then epigenetic phenomenon. And epigenetic just means above the genome. And back when we were in grad school, it actually was used in this sunsoo lotta way this broad way, to mean anything that was above the level of the genome that could impact the genome. And then in modern times, most people, including many biologists, but certainly most non biologists, when they hear epigenetically, assume that what you're talking about his molecular mechanisms, which is a very sensitive stricto, a very narrow sense of what epigenetic might mean. So things like DNA methylation. And what we argue is that we have circumscribed our understanding of epigenetics to our peril, that there are things like culture that are epigenetic sensu, lato, that are just as just as much downstream of genetics and also ultimately serving genetic animals.

**Bret** 36:59

So not only downstream, but the shocking thing, that the part that still surprises me is that actually, the analogy between something like culture and something like these molecular mechanisms that regulate gene expression, actually do belong very much in the same category, because they do the same thing. Right? So if you think about it, for those of you who are not experienced with it, these molecular mechanisms regulate which genes get expressed where and so you have in when, right where and when. So the fact that your eyes and your your eye cells and your liver cells look very different, despite having the same genome is the result of the fact that there are these molecular rehau to actually sorry, right? But anyway, it allows you to be a complex organism rather than just a puddle of like cells. Right? And so that is for most of us, it's pretty darn great. Yeah, and so joining so you know, imagine that we we recently figured out this landscape enough to begin talking about how that process works. So this is the last several decades. And you can imagine that there would be a lot of excitement about that, because, you know, a single genome doesn't an organism make but, but the separate regulation allows all sorts of things to to unfold, I mean, including two genomes that are alike, but Express one as a male and one as a female, right? These are all epigenetic Lee regulated phenomenon. But that excitement about what the epigenetic regulators of genes do obscures this other thing, which is specifically relevant to humans. And the point is culture regulates the expression of genes to write it regulates the fact that your body will be in church on Sunday morning, or, you know, not right, those sorts of things. So the point is, it's still shaping the way the genome is expressed in the world, which is why it subscribes to the same rule. Okay, good.

**Heather** 38:56

Well, slight, slight pivot. I was just, you know, I'm very interested in I'm, and we're going to talk a little bit about some of the, you know, we continue to do lots of interviews, you know, sometimes multiple ones a day, and it's going to continue on into the future, which for which we are grateful, although it's it's super fascinating to see how different the approach of a professional scientist is when they talk to us about the book as opposed to people with audiences that don't at least understand themselves to be scientific at all. And one of the one of the places where this happened to just be me was interviewed was on the Jim Wright podcast we talked about this a little bit last week, but I was particularly taken with this quote from his show notes just to reflect on this is not his description of our book, but his description of his and my conversation about the book. And this is of course, not a complete list but in his show notes for the show that united together and again, Jim is himself a scientist. Yes.

**Bret** 39:57

Alright, so complexity scientists, I mean, not by degree but by Yeah, your femoral history.

**Heather** 40:02

Yeah former head of the Santa Fe Institute etc. Quote they meaning Jim and me discuss hyper novelty and its challenges. niche switching is the human niche the naturalistic fallacy, the ancient Burundians entry into the Americas, the hubris of reductionism and Neo cornea kopien ism, humans as the blank slates metaphorical and literal campfires, scaling laws and social groups theory of mind. Social media is flattening effects including flattened effects, social media sabbaticals, the suckers folly, something we introduce in the book, human population explosion, the personal responsibility for tax, which is from an earlier TED talk of yours, Brett pro Adobe communities, the lineage view of evolution, understanding exponentials, and fat tail events, culture as evolutionary adaptation, the Omega principle against and we introduce in the book, humanity's fourth frontier, again, something we introduce in the book. So that's, you know, I just love that list. It's an accurate and yet still not complete list of the conversation that Gemini had. And it's certainly not a complete telling of what it is that we cover in this book. And so, you know, part of part of the challenge for people who would hate on us, and this book is that it's really, really hard to pigeonhole us. And the idea that the book is filled with pseudoscience, because we have ideas in it, that haven't been vetted by other people. Well, that is, of course, what science does.

**Bret** 41:29

So I noticed another kind of critique coming back at us, which I want to point to, which I think is actually in its own way, a very positive indication, in a number of different places on Twitter. And on Reddit, I encountered criticisms about all sorts of things that people claim we don't talk about. And it's a critical failure of the book like genetic drift, founder effects, genetic sweeps.

**Heather** 41:57

And like pointed out, we also didn't include Punnett squares, right, but but I would point out

**Bret** 42:01

that this is an echo of a long standing battle in evolutionary biology that you and I have been part of for decades. It's not like we're unaware of genetic drift. But the basic thing you need to understand to know what this is about is the so evolution is defined as a change in gene frequency in a population over time, that's evolution. Almost always, when people invoke evolution, they mean adaptation, which is something different, it's one of four mechanisms of evolution, right? And so what they are effectively, and the thing that you need to understand is that almost all evolutionary change, Heather is closing the window, because somebody is, I don't know, tearing up the street or something like that. Almost all evolutionary change is non adaptive, right? It is mostly the result of drift and these other lesser mechanisms, migration and mutation. Now all adaptation ultimately traces back to mutations that then got favored by selection. But the basic point is, almost all evolution is not adaptive. Almost everything that matters is in that tiny subset that is adaptive, right? And so this critique is like a lashing about, yeah,

**Heather** 43:22

well, I mean, it's a sorry, by it's, it's the same old, same old like I have, I almost have less patience for this one. Because it's, you know, the drift, just as, as some in evolutionary biology would call those who see, drift is majorly explanatory. drift being the random element in evolution, that is, if you happened to be walking into the window, when the piano fell out on the mouth, and then then that, then your death is due to drift as opposed to you were helping, like you were somehow involved there as a feature of the piano being there and you died. And then that would be selection. randomness doesn't build complexity that you know, that's that that's the argument at its base. That's all it takes, right? drift is the random element. And in evolution, mutation is the origin of all change flow. gene flow is just a movement between populations, which is utterly important, but you know, the four mechanisms of bike revolution, mutation, origin of all variation, drift, the random element flow, the movement between populations and selection. selection is that which builds complexity. And so is it more rare than drift? Sure, but it builds complexity and randomness can't

**Bret** 44:31

write it can't do it. And, you know, we could go on at length about this. But the reason that I am focused on this is that it's something at the point that multiple people are leveling this criticism, right? What it tells you is they don't have anything else right? It's pretty empty, and I had one delightful experience I have to relate. So I saw one of these criticisms somebody on Reddit specifically took us to task in the book for not dealing with genetic sweep founder effects and And drift and I pointed out in a reply that in fact though these terms are not mentioned in there, I gave an example of each phenomenon. And I basically said, Look, this is not important because it isn't relevant to the subject matter of the book. And the person responded by accusing me of not having read the book.

**Heather** 45:20

So you're not showing up as yourself. So

**Bret** 45:23

if you knew enough about us, you probably could have figured that out was me but read the basic nature of read it is that people's names aren't their names. And so anyway, yes, I thought that was lovely. And I should have screenshotted it Yes. You should have one should have gone on my wall. Yeah. But somebody then alerted him to who he was talking to it he he edited, but Okay, anyway.

**Heather** 45:45

Well, yeah, that is that's, that's funny. Yeah, that soon we'll start seeing that critique, you haven't even read your own? Wait, who wrote it? Okay. So I guess I want to just cap cap this off by saying that if you're scientifically on interested, especially if you are also unshakable in what turns out to be a scientifically incoherent ideology, such as wokeness, or trust, the authorities, are books going to be a threat to you. And it's not meant to be a threat to anyone. It's meant to be a, you know, a way, you know, to some degree, a guide book, although it also does dive deep and introduces several new evolutionary concepts, while also bringing people up to speed on several things that we know to be true and evolution that were, you know, other people's contributions. It's meant to bring everyone in on the conversation about what it is to be human, and how best to move forward. It's not a threat to actual scientists. Nor is it a threat to those without scientific background who are eager to learn. So again, it's not that if you're if you happen to be scientifically illiterate, you don't you can't go here with us, of course you can. So I'm reminded of an interaction we had with our wonderful editor shortly after we signed the book. And we really didn't know her at all. We signed the contract for the book a couple years ago, and she said, Who was your intended audience? And I said, everyone, and I think she thought I was kidding. But I don't I actually haven't asked Ellen less. But I doubt she does now because what I said to her was, look, certainly, you know, US teaching at a not prestigious college still didn't get us access to all of what humanity has, although we've also traveled widely enough and interacted with so many, so many types of people. But in our classrooms, we reached across differences that were far greater than you would expect to see in most college classrooms. And we found our common humanity there. And we found that people who came in even people who came in as creationists who came in specifically seeking to be armed against our kinds of ways of approaching the world, found things to, to embrace, and to honor and to speak to, in an evolutionary worldview. So you know, this is, this is exactly what we found ourselves doing for for 15 years in classrooms. And it's not, you know, it's the evolutionary worldview and an understanding of humanity and other organisms. That is what you and I are driven by much more deeply. But because we had this what turns out to have been an interlude of 15 years really learning how to educate and how to to reach people who don't look or sound like us, or believe the same things we do or have the same developmental histories. We feel like not only does do all people deserve this kind of evolutionary toolkit, but they are capable of receiving it.

**Bret** 48:39

So I was thinking a little bit about the taxonomy of people who don't accept things like the Omega principle. And you know, the point is, it has to be proposed, and you have to decide whether to accept it. But we get several different kinds of resistance, right? I see three kinds that we've encountered. One has to do with people who believe that you shouldn't analyze human behavior and culture with these tools. Not that it doesn't work, but that it's too dangerous, right? I am stunned by this documents when I met with him in October of 2018. In Chicago, I think it was 2018. In any case, whenever whenever that may have been espouse this perspective, that he thought there was something dangerous about looking at human history through the lens of evolution, which shocked me, right? It seemed to me that he had switched positions from where he would have been in his previous incarnation. But nonetheless, there's an awful lot

**Heather** 49:40

now that that's that's common among actually smart evolutionary biologists. I've heard I'm not going to name other names here, but I've heard it a lot, right. But

**Bret** 49:47

it's also it was the motivating force. It appears behind Gould and lewontin and all sorts of people who were on the other side of the question. adaptation or as that is dismissed adaptation ism, right, so there was effectively a group of scientists who sought to and were successful in many regards in derailing the evolutionary analysis of people. So in the aftermath of sociobiology, being coined as a term, there was this pushback, right? And it was disguised in many regards as this doesn't work. But really what it was, is that's not a good idea.

**Heather** 50:30

There are some questions you should not ask, right?

**Bret** 50:34

The second group, I would say, are a group of people who are confused about whether or not this is true ration stops at the neck people? Well, I don't want to dismiss them that way. I think you shouldn't accept omega until you see why it has to be right. At which point, you know, the burden of proof is on those of us who believe in something like omega, yes, until you've met that burden, you shouldn't accept it. And then once you see it, hopefully the burden shifts. But anyway, I respect this group. And I see it as our obligation to convince them of why this is an important thing to understand and what it does to the understanding of people downstream of it. But the third group, the one that troubles me, most are people who are threatened in a career sense, by the exploration of human beings as an evolutionary phenomenon. So for example, people in the humanities,

**Heather** 51:26

right, more likely people in social sciences, I would

**Bret** 51:30

say, actually, we see it in both. But you know, if you look at for example, despite

**Heather** 51:35

these modern bastardization of fields that actually should have a tremendous amount to offer? Well, I

**Bret** 51:41

think they do potentially have a tremendous amount to offer. The problem is what the nominal field has to offer. And the incentives of the individuals in it are quite different. And so if you look at something like the reaction that historians had to guns, germs and steel, right, it was very, very negative. But when you look at the quality of the critique, it's not about the fact that it doesn't work. It's about its territoriality, right? And so the idea that, you know, it if you're going to do cultural anthropology, right, and you don't want to have to do an analysis that deals with adaptation as a phenomenon, you just simply want to, you know, zoom in and look at cultures and compare them. And imagine that you're not looking at a biological phenomenon, right? Then you need omega not to be right,

**Heather** 52:34

right? It's stay in your lane ism as a form of social territoriality.

**Bret** 52:38

It's in a in an environment in which the market causes this to emerge, because people who are not going to be able to participate in that discussion nonetheless, want to hold their position within the fields. And so these fields pretend that what they're doing is not impacted by evolutionary dynamics, as a matter of, you know, which means

**Heather** 53:00

you have to build all sorts of epicycles, you know, like the evolutionary view is clarifying. And once you know what you can also figure out better, you have a better chance of figuring out how to avoid and evade the reprehensible parts of what our evolution has made us prone to. Right. That's, that's the best way to make ourselves better is to know what it is that we have inherited from the past,

**Bret** 53:21

right? And, you know, to the extent that you believe that something like cultural evolution, or a study of cultures has a lot to offer, right, you want the most powerful tools with which to analyze it, so you understand what it means rather than just just being a purely descriptive phenomenon. Yeah. And so, you know, and you know, we the public pay for fields to study things, right, we subsidize this work. And so the question is, are we getting what we have paid for, and we will get it much more successfully if we accept that there are simplifying rubrics that actually unite this into one story, rather than making all of these things separate?

**Heather** 54:01

Okay. I guess I would finish by saying and recognize that we are like almost supposedly done. And we have only gotten to a tiny bit of what we were hoping to get to today. I would say that our book is an invitation to think deeply about what we are and how to live better with live better lives about the individual on the societal level, like quite explicitly, that's what it is. So if you reject that goal out of hand, I wonder what your goal is like, what is it that you are serving and what is it that you are trying to achieve? You know, you may disagree with us as the one review that we discuss does and I think your your taxonomy of the three the three types of ways that you come to disagreement with something like the maker principle, is apt. I like that. So I wanted also to say here before we move on to talking about this new was new research out of New Mexico Really, with regard to the peopling of the Americas is that we? Most of this stuff isn't out yet. But we did some more interviews this week that were so varied in how they came across that. It's just worth mentioning. So we were on Coast to Coast AM, which is is apparently the longest running radio show out there. And it's very much not a science show. Yeah, we got we got pushback on on religion. We talked about the realignment. No, not we talked about we were on the realignment I was trying to understand you send me a message. We were on the realignment with host saga and jetty and Marshall kozloff. I hope I'm pronouncing Marshall's last name correctly, which was largely a political discussion. But we had in there a really nice dive actually into some of what many people who I think have been trained in social sciences and humanities, even just at the at the college level. Imagine a Darwinian approach that human behavior would provide us and so we're in that conversation we talk about why it is that this is not an invitation to social Darwinism, this is not an invitation to go backwards. And it's not an invitation to pursue our worst angels at all, quite the opposite. We talked with Bryan Keating with into the impossible, which he describes as a podcast of stories, ideas and speculations from the Arthur C. Clarke center for premium human imagination. He's an astrophysicist and the distinguished professor of physics at UC San Diego so that in that conversation, we got to finally talk a little bit about aliens to which I thought was fun. And then sounds of film with Tom Needham, different feel entirely he's, the show has been on the air for 30 years, and you've been on it before. But we we were able to talk in just such a very different way. So I, I'm just thrilled to be able to be having the diversity of conversations we're having. It's not just with scientists, and it's not just not with scientists, and it's not just with people who come from a religious perspective or not. It's it's across the board. And so in service of that, before we talk about the evidence of humans in North America during the last Glacial Maximum, did you want to say a few things about the anomalies that we've been seeing with regard to the availability of the book before we sort of move on, beyond talking about this? Yeah, here's our one copy. Here's the copy we've

**Bret** 57:35

got, I just want to i, we don't know what to make of the weird. There's obviously a supply chain issue. But we also know that 10s of 1000s of books have been printed, and, and presumably delivered to retailers. And we see Amazon, oscillating, for example, between

**Heather** 58:00

temporarily out of stock, and briefly it said in stock soon, with a delivery date in November, and now it's back to temporarily out of stock,

**Bret** 58:06

right? So we don't know what to make of it. But we would ask people to just if you are looking for it, either order it, and it will come hopefully sooner than those projections, or it's available on Barnes and Noble still,

**Heather** 58:21

I'm sure as you know, we forgot to say at the very start, like we made the New York Times bestseller list. This is true. Yeah. And it just feels amazing. And you know, we're the second highest selling book and nonfiction on Amazon last week. That sure not to be the case this way, because they literally haven't had any copies to sell right the entire week, they haven't had any copies since the third day after publication, which is you know, it, it feels good. But it also feels frustrating. And so if you want if you want the book, and you don't have it, Barnes and Noble does still have it. Alright. We have this paper this year that came out, Zachary, if you would show my screen evidence, this is Bennett at all in science evidence of humans in North America during the last Glacial Maximum. And actually take my screen off for a moment because I'm not logged in there. But I'm going to pull up the PDF so we can show the amazing pictures, some of the amazing pictures and some of what I've seen. So here you can show my screen again. This is again published in Science this week evidence of humans North America during the last Glacial Maximum, they are finding because what they've done is they found footprints in modern day New Mexico that they can date to 23,000 years ago ish. And as they say here, what I've got highlighted. Fossil human footprints provide an alternative source of evidence for human presence. Unlike cultural artifacts, modified bones or other more conventional fossils, footprints of a primary depositional context are fixed on the imprinted surface. All of that is science speak for actually we can date footprints with greater accuracy. See and precision, then we can date many other types of evidence.

**Bret** 1:00:05

So I must say this is a million miles from either of our specialty. I do wonder, right? So that the history is that we have a earliest date on which we all agree for the presence of humans in North America, right, the Clovis people.

**Heather** 1:00:24

And then you don't mean early, we have

**Bret** 1:00:27

a farthest back in time date on which we all agree it goes back at least this far, no, at least this far. And then there are all of these claims about evidence that go farther back. And these claims are very contentious. Some of them are stronger than others. Some of them are clearly nonsense.

**Heather** 1:00:44

Well, we we actually open the book, like the very first chapter, right? It goes into the brain genes and the people in the Americas. And we, you know, we say that we tend towards this, these earlier dates. But a conservative estimate is sometime between 10 and 30,000 years, that's a huge span, sometime between 10 and 30,000 years ago, the Americas were people for the first time, but we have the evidence to our eyes has looked even before this, like more than 20,000 years ago seems much more likely,

**Bret** 1:01:16

right. And I should say there are some other contingencies which we should get rid of, like there's the possibility that human beings landed in, in the Americas went extinct. And so that could be true and have no implication whatsoever for the peopling of the Americas that matters from the point of view of all of the native cultures that were here. So anyway, that's a possibility does also

**Heather** 1:01:40

some, some people are still arguing for crossing the Pacific. Alright, as opposed to going through what is now submerged under the Bering Strait. But Beringia is a landmass that was that was a landmass for several 1000 years,

**Bret** 1:01:53

right. Nonetheless, that so I do wonder about the security of the evidence here, right. So it's possible that it's as secure as they're claiming. But it's also true that there are various processes that can confuse you, right? So these, there's a process for example, called reworking, right, there are certain things like clams that will actually take material and in their excavation for their clan burrows will move it around. And so they can put things in the strata that it doesn't belong in, right. But having

**Heather** 1:02:24

a 2d having a widow is effectively parietal. And that that is not itself disrupted by such possible working reworking seems to provide good evidence this, this rational side has not been reworked. But

**Bret** 1:02:37

what I want to know what again,

**Heather** 1:02:39

maybe we are outside of our

**Bret** 1:02:40

it may be that these folks know exactly what they're doing. And they've ruled out every possibility. But imagine, for example, that footprints had been very, very shallow, and that they had caused a difference in water to accumulate in versus outside of In other words, water would run off the substrate where there was no footprint and where there was a footprint, you would get extra erosion. Because of a positive feedback, could it work kind of footprint work its way down into strata that weren't where it was, where it was made? I don't know. Hopefully, these people have ruled that out, but

**Heather** 1:03:15

really far outside anything that we have done directly, but sort of, I think you are proposing a process a little bit like the fossilization of wood, or, you know, fossilization at all, well, just, you know, replacement of the original, the original material,

**Bret** 1:03:33

just that a physical process could move, you know, these are not going to be carbon dated, right? These are going to be dated by the strata in which the footprint is made, which seems to be unambiguous, but

**Heather** 1:03:44

I read it, but I don't remember what exactly the methods are here. I don't remember.

**Bret** 1:03:49

But anyway, there's what you want it This was, first of all, if this is true, for there to have been footprints 23,000 years ago, in the Americas nails down even if you've never found another shred of evidence for it. The point is, if those footprints really are that old, then it says there were people to make those footprints then so the point is, you want to be really sure that there is nothing that could conceivably have misled you about how old those footprints were, before you decide, well, they were here 23,000 years ago, and that's just a simple fact. So anyway, we'll see whether the result holds up, but if it does, it has many many implications right?

**Heather** 1:04:27

One of which is let me just read another little tiny bit from the paper. acknow fossils of extinct late Pleistocene fauna occur widely on the margins of the playa and include tracks of proba Cydia mammoth, for libera ground sloth kartanegara, both Canada and felid and set RTO dactyl bovid and committed most of which are associated with human footprints. So we've got mammoths, grand slots, wild dogs and cats of unspecified species and both couch things and Kamil IDs present in the same place as As the footprints, which charismatic megafauna. All this puts humans there at the same time as they were abundant, which provides further evidence potentially for the idea that we helped hasten their extinctions.

**Bret** 1:05:13

Well, actually, I was wondering about whether it doesn't do exactly the opposite. Because so if 23,000 years is a good date, then human beings were not facing the retreating ice sheets. They skirted under them, or came across by ship.

**Heather** 1:05:33

Well, and this well, not you're not arguing across by ship, you're talking about coastal route down by skin? Well, I

**Bret** 1:05:38

think that's No, no, I'm leaving open the remote possibility of some other introductory mechanism from Asia ship

**Heather** 1:05:46

seems like a strange word here.

**Bret** 1:05:48

Okay. But the point is, the model, the easiest model is there were people living in Burundi, I wish there were and that that population as the waters rose, moved, right, and that some of them ended up in North America. If 23,000 years is the date, then it may be that

**Heather** 1:06:07

earlier because New Mexico isn't, you know, Olympia,

**Bret** 1:06:11

right. But it could be, you know, could take 50 years to go that distance, there's not inherently a reason for people to move that fast. But, but the point is moving during the glaciated period is certainly possible. It suggests certain routes and not others, right? it narrows down the likely mode of passage. And it puts people in North America, not at exactly the moment of the elimination of many of these megafauna, if I understand it correctly, and so one of the pieces of evidence that people point to with respect to the human over hunting hypothesis, which to me is very plausible, because these animals would have had no experience with human hunting, and therefore would have behaved the way we see creatures behave in the Galapagos where they don't run away from you, for example, right? They would have been easy prey and therefore easily hunted out. But I believe this would interface with that, and suggest that it isn't such a tight correlation and time. I'd like to know better whether or not that's

**Heather** 1:07:14

Yeah, I think I'm the strongest evidence that I've seen against the extinction of the North American megafauna. charismatic megafauna not being due to humans, has been that at least Clovis first suggested if I've got my dates, right, that humans basically showed up after the extinctions, after at least some of the extensions that already happened, or were already clearly on the decline. So it was sort of like, you know, Pizarro and company arrived on Mayan shores, and yes, killed them off. But but the Maya were already on decline and decline at that point. Yeah. And so this has people present well before we have any evidence that the charismatic megafauna populations were already in decline, suggesting that is possibly our existence here as possibly causal.

**Bret** 1:08:02

Alright, interesting. Well, we should talk to some of our paleo friends and see how this actually plays out.

**Heather** 1:08:08

Indeed. Now, did you want me to show some of these images?

**Bret** 1:08:10

Yes, we're seeing I was pretty impressed,

**Heather** 1:08:13

Zachary. So we're talking about modern modern New Mexico, of course, and here we have these images for this only listening of some of the footprints that these authors are, are finding and they really aren't, you know, as tends to be the way with footprints as opposed to a lot of other kinds of archaeological and paleo anthropological evidence. footprints tend to look like footprints. Yeah, they're really compelling in a way like parietal art is often very compelling. That is to say things like cave drawings. But a lot of you know, pop charts and such often is not compelling unless you already know what you're looking for. But footprints, footprints do something for the for the sort of the visceral brain and body of the person of the modern observer.

**Bret** 1:08:57

Yes, I was when I went to look at the paper. And I was expecting not to be terribly convinced by the pictures, which doesn't mean that they're not footprints, but I was expecting to have to take their word for it, that that's what they were. And I was like, Oh, I'm compelled to look like footprints.

**Heather** 1:09:10

Yeah, very much. So. Okay, so this, this is amazing. This is amazing discovery on the part of the researchers. And it also represents discovery of a geographic frontier on the part of the people who lay down those footprints. And we in the book, and we've talked about this previously on on this podcast and elsewhere, and it's in the book talk about these three types of frontiers that humans have historically encountered geographic frontiers, technological frontiers, and transfer of resource frontiers, the latter of which is a form of theft and is and is immoral. human history, though, is full of these moments of geographic discovery of however it is and whenever it was, that the first Americans arrived on the shores of America. You know, be it 10,000 years ago seems not 20,000 years ago, probably not 25 30,000 years ago, maybe, whenever that was, that was discovery that was, you know, there was a moment at which people first set foot on this landmass that offered two continents worth of opportunity. And because geographic discovery tends to come so early in human history, it doesn't tend to come with texts. You know, these aren't people who are writing things down by and large. We have later people showing up and thinking they've discovered things who have right anyone who write about those things, but those are transfer of resource frontiers right you know, the the Spaniards coming to the new world, were not engaged in geographic frontiers ism. They weren't engaged in transfer of resource frontiers ism, whether or not they knew that or not, some of them presumably, quickly did come to know that on many of them, presumably did not

**Bret** 1:10:57

Columbus discovered Americans.

**Heather** 1:10:59

That's That's right. Yeah, exactly. So because history, the way that history is taught, and history, even I was shocked when I learned this. And I was well into adulthood, when I learned that actually, history understands itself to be the study of the written texts of what humans have left behind. And anything before that is called prehistory. Well, because history is biased in this way, and a bias it is, it's going to vastly underrepresented geographic frontiers, and what happens when humans come upon them and how they explore in that space. And of course, it's part of it's what paleoanthropologists do, and archaeologists and it's part of what we are doing in the book, and in our thinking is trying to figure out how it is that humans have engaged in discovery. Even as you know, at this point in time, there was there was almost nothing left to be discovered, at least on this planet with regard to geographic frontiers. So that bias in history, because of its bias on texts, will steer us from away from deep history. It'll steer us away from stories of non literate people. And as has often been noted, it's going to be more likely to reflect the tales of the victors of wars, or the otherwise privileged, for whatever reason that they were the ones able to tell to tell their stories, not just tell their stories, but write down their stories and have those written archives make it into the, into the future, to say the now I would just

**Bret** 1:12:20

point out that this interfaces with the guns, germs and steel analysis, because the idea is the cultures that are likely to win when two cultures come into conflict are the ones that have slight advantage by being a few 100 years ahead, technologically speaking. And those are likely to be ones that do have also the capacity to write a description of what took place

**Heather** 1:12:39

precisely. And you know, it's one of the reasons it's one of the reasons that we've that what happened to the Maya is so it's always going to be tragic, but it's particularly tragic, because they did have written language. And they did have libraries. And it's just extreme, we can imagine that they had extraordinary histories and scientific textbooks. And I don't know if they wouldn't call them textbooks. But you know, they had astronomy, they had the concept of zero, they had roads, and city states and politics and just extraordinary stuff. And one of the things that the Spaniards did is they destroyed it. So we're left basically with a tiny bit of those things that were inscribed on pyramids, and we're not left with the light,

**Bret** 1:13:20

but we have one text that was written on some other material, but the rest of it was burned that wood was flammable, was burned. Yeah. So

**Heather** 1:13:29

and that's, you know, that's, that's a transfer resource frontier right there, you know, part of what you do is you destroy the history that comes before so that so as to obscure it?

**Bret** 1:13:39

Well, I would, I would just in passing point out that whatever that instinct is, that causes a population to actually instead of preserving the relics of populations that they have, run across to destroy them, right? That is some sort of an evolutionary lineage against lineage instinct. And we are seeing it. We are watching right, the destruction of one of the reprehensible evolutionary instincts. It's a reprehensible evolutionary instinct that we are seeing within our own culture, right, the tearing down of statues, the fact that the elk statue in Portland, you know, was successfully removed by crazy people who, you know, obviously couldn't possibly have had a complaint about, you know, the abhorrent views of elk because they don't presumably have any abhorrent views.

**Heather** 1:14:29

You may underestimate the people and their views on the importance of elk.

**Bret** 1:14:33

They've Yes, but in any case, the point is the instinct to be tearing down statues of Lincoln and whatever El Cap and to be memorialized in your city and all of that. Is this ancient instinct to destroy something as you take power and overwrite the prior history. So we should be aware it's unfolding and we guess you know, you can zoom in too close and think it's about something that it really isn't

**Heather** 1:14:58

Yes, absolutely. So, you know, so many places we could go here. But I guess one of one of the things that I wanted to get to was to say that actually Zachary, our producer, here, our older son, has had several extraordinary history teachers. And I want to point out that, that what I'm about to say is not true of all of the ways that history is being taught now, but but we also know of more than one high school history class, for instance, we've heard tell where the focus is entirely on that third type of frontier that we just talked about. So not on geographic frontiers for this sort of reason, this bias that's built into history where it doesn't talk about those things which haven't been written down, but also not on technological frontiers, wherein humans with their ingenuity make more of some resource in the what was possible before the technological innovation. But instead of focus entirely on these transfer of resource frontiers, which are not a legitimate form of frontier, they are theft. And certainly it has happened a lot, there has been a lot of land theft, for instance, in in human history. But rather than exploring the diversity of types of frontiers that humans have engaged in or, or talking about how technological innovation, for instance, has allowed people to make, to make systems that are functional for some period of time. Instead, we have increasingly with the ideology that is spreading in modern history classrooms, many of them not all of them, a focus entirely on on theft. And I know you want to talk a little bit about exactly a form of theft that seems to be happening right now, but be Atlanta after resource after people theft in the form of slavery. It's a real part of human history to be sure, but it's it's not the only part. And also, this excuses, nothing but very often the people who were being robbed of their land, had themselves dispatched to whoever came before them. And so you know, we have this, this sort of noble savage view of people who came before and who had their land stolen from them. And the people who were doing the stealing, or supervillains, and the people who had the land stolen from them are somehow were somehow perfect. And frankly, that's a fairly racist view of those people as well. Every civilization that has left a mark, has engaged in some combination of cooperation and competition. This, again, is a theme of the book, right? Every single one of us and every single civilization has left any sort of Mark has engaged in both of these things, cooperation and competition, are some civilizations more brutal than others, for sure. Some last, pretending that land theft or resource theft, or people theft is the only thing worth talking about in human history. That's, that is both a sign of your own privilege to be able to talk about that to the exclusion of all of the wondrous things that humans have done. But it also creates children, the children who are receiving these lessons, a sense of futility, you know, it's actually a kind of, I'm just gonna say like, it's a kind of child abuse, to teach children over and over and over again, that land theft is the thing that has been what has happened in human history, and to not talk about the glorious things and the technological frontiers and the geographic frontiers and the ways that we have learned to get along with one another, and to merge and to flourish.

**Bret** 1:18:16

But also, I think most troublingly, creates no path forward progress. So if you were to say, well, that's what I'm what we should do is we should restore everything to the people from whom it was stolen, you can't, right, the point is, you will have to stop arbitrarily the people who are present or not the people from whom something was stolen, there's just no mechanism where you could operationalize anything useful. And I think it is important to say, first time I heard a declaration about stolen land, I was actually favorable to it. I thought, you know what, this is an important recognition, right? This is a historical recognition and a useful one. But the obligation to it, the motivation has become so pathological. And what it doesn't do is focus on the one answer that addresses all of that theft, right? The one answer is to take what we've got, stabilize it make what we're doing sustainable and democratize it. So everyone has access, and people will make different amounts of it. But the point is, the really abhorrent thing is that opportunity is so far from equal, right, that's the place to focus should be. The way we ended up here is some story that is going to be arbitrary, depending upon how far back you want to look. And so anyway, while we are dicking around with this stupid guilt driven of noxious mechanism, we are, you know, allowing the destruction to continue. And we are avoiding we are running out the clock, while we really have a lot to do with respect to making the place continually viable for the next 500 or 1000 years.

**Heather** 1:19:58

That's right. I mean, there were It looks like there were people in modern New Mexico 23,000 years ago. how glorious? How amazing. How did they get there? What decisions can we imagine they made that got them there, what technological innovations that they make While they were there that allowed them to persist? These are the sorts of questions that I want. I want to be exploring, and I want my children to be exploring, and I want everyone who's interested in the human condition, and both history and future to be exploring, not just were they displaced at some point later with their descendants displaced wrongfully. Yeah, yeah, they were. That's one piece of their story. It's one piece.

**Bret** 1:20:37

Yeah. And, you know, our book talks about the mechanism by which people figure out how to switch niches. I would recommend though, and we recommend in the book 1491, which describes the world and the Americas, just before Columbus arrived in the New World, right? And this, I've called it the greatest story, never told. And the idea is, all of that niche switching, produced this incredible diversity of cultures and insights and innovations. And if there's one thing we can say about them, we know that they happened completely independently of the correlated stuff that happened in the old world, because there was no contact between the old and the new world, right?

**Heather** 1:21:21

The Mayan enlightenment happened well before many hundreds of years before the European enlightenment.

**Bret** 1:21:27

And it really is, you know, it's not an exact match. But it's a rough match for essentially the the Greeks and you can make an argument that the Inca were similar in their own way to the Romans, that you have this parallelism. And these discoveries, which are very human in their nature, the way they come about is part of this process. And most of us don't know anything about it. Right? So anyway, 1491 is a great way to dive in and have some sense of what the Americas looked like before Europeans came, and it isn't what you've been taught, right? It's it's an amazing diversity and highly recommend it.

**Heather** 1:22:02

That's right. Yeah. And that book 1491, Charles c man, I believe it says name, wrote a shorter piece in a camera if it was Harper's or the Atlantic. That is a great starting point to if you don't want to, if you don't want to do the whole book, it's a big book. Did you want to talk briefly about the Chinese? Yes. And I think it actually fits this discussion. Yeah. And then we'll do a little bit from Roger Scruton before signing off.

**Bret** 1:22:25

All right, so the story, which I came to through an AP report that was circulating on Twitter, I saw it this morning, is about an absolutely impossibly gigantic Chinese fleet of fishing vessels that are fishing currently off of South America off of Galapagos. In fact, they have also done a bunch of fishing off of Argentina, and Chile. Zach, do you want to show that little video so this fishing fleet is apparently currently fishing for Humboldt squid. And what you'll see here is a video. These are actual lights, this is taken from space. So this giant fleet of 500 ships uses these giant lights to attract squid up to the surface which they're harvesting at an incredible rate. Now these animals are very common, but of course many very common creatures have been hunted to extinction by humans it's something that we do and the point that needs to be made is

**Heather** 1:23:28

this is resource theft at some level

**Bret** 1:23:30

this is resource theft but from home right right right now there are in theory, you know, maritime laws, but these this fleet appears to be in violation of many of them these ships turn off the transponders they're required to have on nobody knows why but it is something that is done when somebody is going to violate maritime rules this you know if you have the sense of like a fishing fleet is boats that go out and they do fishing and they bring back their catch No, no, no, no no, this is a permanently at Sea Fleet.

**Heather** 1:24:01

How are they getting their catch back?

**Bret** 1:24:02

Well, that's the thing is there are ships that are presumably transporting things from them and refueling them at sea. And it's incredible there's there's an Indonesian crew there that says they've been trapped at sea for years on these boats. Right? So this is not like anything we have a good model for this is some impossibly intense, world altering kind of behavior. I'm not arguing the Chinese Chinese invented this right? There are fleets harvesting from the world's oceans and and wrecking them, but we on land don't have a good sense for what's taking place, and what its long term implications are and we don't have the structures necessary to say hey, actually, that behavior can't go on because you'll wreck you know, you'll you'll wreck this population and it won't exist for for future humans. Like there was something else I wanted to show but I can't remember I can't remember what it was. So I just Oh, yeah, I know what it was. Would you show That, I just want to by analogy, point out that the idea that this is somehow fishing in the sense that we intuitively understand fishing and therefore intuitively have some sense of how destructive it might be, is about like the idea of loggers. You know, cutting down trees, right? Take a look at what you want to play that deck.

**Bret** 1:25:27

Okay, here we go. This is what logging can now look like, right? This is a guy, one guy in a, like an excavator. operating this object that just liquidates trees, I mean, look at how quickly this tree is limbed and turned into identically sized logs that are ready to go off to the lumberyard

**Heather** 1:25:55

ran a log of factory farming.

**Bret** 1:25:58

It's even beyond that. It's so it's it's industrial logging, right? Like you can imagine an industrial lumber mill, but this is just the liquidation of a forest

**Heather** 1:26:07

surely safer for the people involved,

**Bret** 1:26:10

no doubt. And to the extent that there's some overarching plan about, you know, how much lumber you can harvest, right? Why not be efficient about it. But on the other hand, you can imagine that if you have the same perverse incentives you have in every other industry, dictating you know that you'll make your money, liquidating resources and some regionally take that off. Yeah, that makes

**Heather** 1:26:33

me very sad. Yeah, video is terrible. It's really terrible. And, and yet, we are consumers. We are consumers of wood. Yeah, right. So you know it, the solution isn't no efficient, wood harvesting, please. Right? That is not the solution.

**Bret** 1:26:49

But but at some level, you're looking at a world that does not have the mechanisms necessary to regulate this kind of power. Whether we're talking about the fishing of humbled squid, or the harvesting of lumber, we need to be aware that the rules that we inherited from 18th century visionaries for regulating how we would interact with each other just aren't up to the challenge of dealing with this kind of technology. Which means this is why the last chapter of the book is the fourth frontier. The idea is we need to figure out a way that doesn't look like us liquidating the planet out from under us, or we won't survive because that's what we will continue to do. You know, the the ocean issue is classic tragedy of the commons where, you know, if the Chinese didn't limit didn't liquidate the Humboldt squid out of the Southern Pacific, someone else would write and obviously, it has to be addressed.

**Heather** 1:27:47

Yes, absolutely. Let me read the final two paragraphs of this Roger Scruton essay, it is called dying and time, if I can find it on this site here. Here we go. You can show my screen if you want sec, I'm just going to be reading it. As I scroll. I recommend the entire essay, and I'll link in the in the video description in the show notes. Courage, therefore, is the senoko non of any attempt to deal with the threat of senility, courage to face the truth and to live fully in the face of it. with courage a person can go about living in another way, a way that will give maximum chance of dying with his faculties intact. This other way is not the way of the welfare culture in which we are all immersed. It does not involve the constant search for comfort to the obsessive pursuit of health. On the contrary, it is a way of benign shabbiness and self neglect of risky enjoyments and bold adventures. It involves constant exercise, but not of the body, rather exercise of the person through relationships with others through sacrifice through the search for opportunities to be involved and exposed. Such at least as my intuition. The life of benign shabbiness is not a life of excess. Of course, you should drink smoke, eat fatty foods, but not to the point of gluttony. The purpose is to weaken the body while strengthening the mind. The risks you take should not damage your will or your relationships, but only your chances of survival, officious doctors and health fascists will assail you, telling you to correct your diet to take better forms of exercise to drink more water and less wine. If you pursue a life of risk taking in defiance of thought police will track you down and your lifestyle will be held up to ridicule and contempt. It is not that anyone intends you to live beyond your time. Rather to use Adam Smith's famous image. The old people's gulag arises by an invisible hand from a false conception of human life. A conception that is not see death as a part of life and timely death as the fruit of it. Each of us must decide for himself with the life of benign shabbiness requires of him. Obviously dangerous pursuits like hunting and mountaineering have a part to play equally important as the forthright expression of opinion so as to with grateful friends and implacable enemies, a process that enhances both the constellations of social life and the tensions of day to day living. I'm not sure that I could live with my friend. No, I'm not sure that I could live like my friend, the writer and campaigner, Ayaan Hirsi Ali. But there was an adorable recklessness in her truth directed way of life that makes each moment of it worthwhile going out to help others in ways that involve danger. And the threat of disease is also a useful form of exposure. The main point, it seems to me is to maintain a life of active risk and affection, while helping the body along the path of decay. Remembering always at the value of life is not consistent its length, but its depth. I love this essay, I don't agree with all of it. I love reading things which strike me as I get into the heart of an issue in a way that I had not thought to. And coming to conclusions, not all of which I agree with, either for simply differences in values to some slight degree, but differences in perspective. But being able to stand in Scruton shoes, and read this and think I'm still going to advise our audience at the end of this show to eat good food. And I don't think of myself as a health fascist. And this is not about eating well, so that you can live to the absolute extension of your possible life, but to eat good food, so that you can do more with the body and the life that you have.

**Bret** 1:31:19

Yeah, it strikes me this resonance on a bunch of different levels, various things that we talk about. This is the opposite of reductionism. Right? I agree with you, there's some things in there that strike me as not, I wouldn't say they're not right. But I would say that they're not universal. And he's making an argument that makes them sound as if they are. But really, the point is, look, the length of life is one factor in an equation of some thing that doesn't have a name that you should be maximizing, right. And so the point is, yes, if you're living well, then living longer gives you more of that well living, which is good. If you are living pointlessly, then lengthening it does very little to increase the amount of whatever it is that you might do, let's call it meaning for lack of a better term. So the point is, you should be monitoring that thing. And you should be balancing How much do I want to just stick around on this planet as long as possible? against? How much do I want to have, you know, pushed the outside of the envelope? Before I go, you're right, how much would I have liked to have integrated into my model? How much would I have liked to have contributed to our understanding of ourselves or something like that. And so you know, it isn't very easy to specify what it is we should be maximizing. But the point is, we should be maximizing something synthetic, which does not, which is antithetical to trying to maximize length of life. That's right. And, and lots of lots of things are like this, you know, you know, we the even the approach to punishment, for example, if you're raising children or pets, right, you can say, Well, I don't I don't want to punish, well, yeah, you shouldn't want to punish. But how do you punish so as to minimize the amount of punishment? It's going to involve punishing? Well, so that you don't have to do it very often? Yeah.

**Heather** 1:33:15

If If because you don't like the thing that needs to be done, you do it poorly, you increase the likelihood that you will have to do more of it in the future. And if you continue to do it poorly, you will create this positive feedback loop where you create more and more requirement that you do it. And the more poorly you do it, the more requirement there is for the thing, right?

**Bret** 1:33:33

And we don't you know, this, I think this also goes to what we talked about with respect to the importance of interacting with systems that are not socially defined as you are educated, or as you educate yourself, because those systems will, will continue to tell you that if you try to maximize a single parameter, you'll accomplish nothing, right? Whereas a thority figure might tell you Oh, that's wonderful. You've accomplished so much. And so if you want to learn these lessons, it might be that you have to step outside the, the social in order to even see them which we do less and less.

**Heather** 1:34:13

That's right. All right. I think we're there. I think we are I think we're there. So we thank you for being here with us this week. If you are watching live, stick around. We'll take a break as we get the q&a set up and then we'll be back to answer the questions that you have posed at Dark Horse submissions.com. You can also join us tomorrow at my patreon at 11am. Pacific for our monthly private q&a. The questions have already been asked but we are able to engage with people in real time in the chat there. We you may have heard, we have this this book out a hunter gatherers guide to the 21st century and it will soon again be available everywhere books are sold but it is sold out so many places. But we know that at least the beginning of this podcast. It was still Available at Barnes and Noble. So, if you're looking for a copy and you want it soon, try there hopefully, all the supply chain blockages will will resolve themselves soon. Anything else you want to say?

**Bret** 1:35:13

No except so many of you have bought it and thank you. It has it has been very important to us to see how well received it has been and how eager people are to read it. That's extremely rewarding and we are grateful.

**Heather** 1:35:27

Yes, we're hoping to start a conversation that goes across many, many borders. And that continues to resonate for many years to come. So until next time, be good to the ones you love the Good Food thinking outside

**Bret** 1:35:40

the well everyone