Your Questions Answered - Bret and Heather 14th DarkHorse Po...

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**SPEAKERS**

Bret, Heather

**Bret** 00:10

Hey folks, welcome back to the Dark Horse live stream podcast q&a section. I have put the potatoes in the oven for dinner, which I think technically means this is a crossover cooking show at this point.

**Heather** 00:24

Wow. Yeah. How about the stakes?

**Bret** 00:27

The stakes are they are marinating. Alright, so we have a lot of questions to get to, and we will not get to all of them. We are going to start with the questions that I solicited on Twitter and then we will get to as many of the Super Chat questions as we can. We've got a large influx. So anyway, hopefully we'll get to your question if you've asked one. And if not, our apologies. So the first question that I wanted us to answer was from a Twitter avatar. Ari. What do we think of Madagascar's announced cure for the Wuhan Enigma virus? What Madagascar has announced that they have found a cure, it is plant based, and they have turned it into a tonic. The plant is one that is used to treat malaria, but it is not used in its raw form. I'm not sure exactly how it works. But in any case, they have announced that they have a tonic that they believe is effective, because they've cured a couple of people. And there are apparently many orders from Africa for this tonic. And I think the President has famously drunk some of this tonic on the president of Madagascar. Yes, the president of Madagascar has drunk this on video demonstrating at least that it's not so toxic that it would kill a president outright. Alright, what do we think of it? Well, first thing

**Heather** 02:00

to be dubious?

**Bret** 02:02

Yeah, but let's just say look, first of all, I'm rooting for Madagascar, we have spent a lot of time in Madagascar. It is a wonderful, if very frustrating place. As I always say,

**Heather** 02:14

desperately poor. It's almost always at the bottom of lists of countries their guard to GDP and poverty level and such it's just desperately

**Bret** 02:24

poor. So let's give the chances that this cure works a strong gamma,

**Heather** 02:30

and gamma, gamma, yes, gamma, etc. Maybe yes, exactly. etc. Maybe. Because he French and

**Heather** 02:37

English all meaning, probably,

**Bret** 02:39

probably not gonna work. But here's the thing, I don't know what it means that they've cured to people with this. Because basically, if you don't die of COVID-19, you get better. So you get better, less thirsty, I guess if you've had tonic, on the other hand, maybe they've seen something. And in fact, I should, I should say, we should not joke so much about this. I believe this arises out of the Pasteur Institute, which is a place that you and I have actually spent some time we've never been in, but we spent some time in that part of tanah capital city. Yep. It's a real Institute. So anyway, we're rooting for you Madagascar, it would be wonderful if this worked, and it would be great news for the world. And it would, I don't know establish Madagascar in a realm that it is not typically thought of as the leader in medical breakthroughs. So anyway, that'd be great. That said, I highly doubtful that this is gonna work as I would say I at least am and I'm sure you are, have many of the hopeful things that have been announced, you know, I get several things a day where somebody is announcing that they're curious, just around the corner that this person or that person has come up with it and believe it when we see. Okay, second question is, how does our concept of the collective collective consciousness map onto Young's collective the collective unconscious? I shouldn't say that in English? How does our concept of collective consciousness map onto Young's collective unconscious? I would say it is almost the opposite. Certainly, when we formulated the term Young was on our mind, but what Jung means by the collective unconscious is like an inherited kind of knowledge that would exist within a lineage. That would not be a conscious thing. Right? It was

**Heather** 04:22

easy. He's almost describing what we're calling culture.

**Bret** 04:26

Yes, I agree. That's why I say it's the opposite because it does function more like culture now,

**Heather** 04:30

and I don't know enough about young to be sure that it's a it's a perfect map there. But it's at least more related to our formulation of culture than that of consciousness

**Bret** 04:40

in our schema, what he's talking about is very close to what we call culture. What we call culture is the things transmitted from one individual to another and edited by selection. Consciousness is an active exchange and parallel processing of ideas. So anyway, it is his collective unconscious is what we mean by culture approximately. And that's the inverse of what we might mean by consciousness. So anyway, great question. Thanks for asking it. All right on to Super Chat,

**Heather** 05:12

I will say that there are a ton of good questions here. We won't get through all of them. We might begin doing either now every Ents podcast, haven't gone back through and just responding on our own time, two, three or four of the questions that we never got to before yet once we wish we'd go in Wish we gotten to. For right now we've just tried to do a really quick ranking based on sort of dollar amount and first pass like Oh, is that something interesting? There's a lot of kudos and gratitude coming towards us for which we are in need grateful to you guys. Thank you,

**Bret** 05:44

which is metta, gratitude.

**Heather** 05:46

It's metta gratitude, big fan of you both. I've learned more from these live streams than I have from my public education. Thank you. Unfortunately, the bar is low. Question given the scientific lens, both of you view the world through Where do you stand on whether or not love is real?

**Bret** 06:02

Come on love is real. I mean, I I'm in pain hearing that question, because Come on,

**Heather** 06:07

I put it at the top because I thought it was I thought it was a fun. Good question.

**Bret** 06:12

It's a great question. But it implies it implies that the person asking it has not had an experience of love so powerful that they are certain of its existence?

**Heather** 06:21

I don't I don't think we have to go there. I think there is a general understanding of those things that science can describe as separate from those things that many humans recognize as real. But science dismisses as outside the realm of that which can be described or explained by science. And part of what this evolutionary lens allows is an integration of more of the parts, the subjective, the qualitative aspects of human experience, where the scientific understanding? Yeah, so

**Bret** 06:54

I would say, from my part, these things are often more tractable than science gives them credit for that they're, you know, because it's an emergent property and not one that is easily seen. With reductionism, it tends to be understood late rather than early. And in the intervening period, it is often dismissed. But I see nothing troubling about the concept, or any Hallmark that would suggest that it's a metaphor. In fact, I think at this point, we can just simply say, you can probably see it in the brain scan, your dog definitely loves you. And the explanation for it is, I don't think in any way troubling. It's, it's honorable, and it's one of the greatest inventions that evolution will ever have devised. And I

**Heather** 07:45

guess I'll say to that there were when we were sort of blocking out what was going to go in our book, the three of the chapters in the middle, are on sex and gender, and relationship and parenting and childhood. And I was sort of describing to you what I saw is going in each of these, but I couldn't quite find I knew that they all went together, but I couldn't quite find the through line and you said, well, the three lines obvious the three line is love. That's, that's why they're together there. That's what connects them. And that's that is how we get from, from the beginning of that whole section to the end. And then

**Bret** 08:24

I believe your response was, what's love got to do with it? What's love but a second hand emotion, which I think is one of the great lyrics of all time. All right, yes. Anyway, love is awesome Turner's

**Heather** 08:35

words in my mouth. Okay, right. Very good. Okay. Next question. Traditionally, humans ate as much sugar as possible to make it through winter, then shed the fat fluctuating fat stores, but it seems healthier to have a steady weight. When we follow ancestral footsteps. What is a lot in there, when we follow ancestral footsteps is itself basically the question that we asked throughout most of this book that we are currently working on a second draft of one which will be out in about a year. There's a couple things in the formulation of the question, though, that are assumptions that I'm not sure are right. Traditionally, humans ate as much sugar as possible to make it through winter then shed the fat fluctuating fat stores. That's true in a temperate climate. But of course, intil estimates vary, but call it something between 102 100,000 years ago, all humans were in relatively tropical. I want to put a seasonal here and in scare quotes, environments where there weren't there were certainly seasonal fluctuations in food availability, but it wasn't so much temperature variation and a putting on a lot of weight at one season and losing a lot of weight. And then other than the other assumption here that I'm not sure about. It seems healthier to have a steady weight. Not at all convinced that that isn't necessarily true. I'm not sure it's not true, but I don't know that there's evidence for that. You can.

**Bret** 09:54

Yeah, I think they're, you know, within bounds. Oh,

**Heather** 09:57

I mean, why? 100 pounds, Up and down is obviously not healthy bad,

**Bret** 10:02

you know, 10 pounds is probably normal. But But yeah, I think, look, we are off the end of the evolutionary tape. In some sense, we have taken our, the genius of our ancestors wisdom and turned it into a novel world that is now making us sick. It's making us sick physically, socially, psychologically. And we have to figure out what part of the wisdom still applies, and what part is no longer relevant to us. And that's really in some sense, the modern human condition. It is a reflection of an ancestral conundrum that our, our ancestors would have faced many times, but it is a turbocharged version of it. So anyway, I think you're on the right topic. And you that question requires a highly conscious, deliberate response, which is going to involve many of us tapping into each other's consciousness in order to solve it.

**Heather** 11:10

Next question, thoughts on h 202. therapy, that's hydrogen peroxide. In relation to COVID-19 issues, you have thoughts on h 202. therapy in relation to COVID-19 issues. YouTube literally saved my sanity, thank you for the much needed honesty. So the question is about hydrogen peroxide therapy, which I think is also sometimes called oxygen oxygenation therapy. I know very I don't, just a tiny bit about it. It's been it was added it was brought up as a possible cure for cancer, the idea being the cancer cells often existed in low oxygen environments. And it was imagined that they couldn't do as well in high oxygen environments. So if you added h2o to hydrogen peroxide to those environments, and thus increased the level of oxygen, you would cause the cancer cells to thrive less well. There is a tiny bit of evidence, I think that supports the basic premise and a lot of evidence that suggests Actually, no, the low oxygen environments in which cancer cells are being found is neither causal nor universal. So that would seem to debunk it. As for therapy for COVID-19 issues, I would guess that there would be similar concerns. You know, why? Why do we imagine that we've got a low or a high oxygen concern. And when we see it, are we looking at a cause or an effect or a correlation? That's actually explained by something else?

**Bret** 12:31

Yeah, I'm not in a very different position from you. I'm aware that it exists. But I don't know whether to trust that it's highly valuable. I would say you want to be very careful about the concentration that you use. Hydrogen peroxide is one of these things, it's actually pretty safe at low concentration, because it's a molecule that our ancestors encountered. But at higher concentrations, it has caustic effects that you don't want to inflict on yourself. So

**Heather** 13:00

there's a recent concentration that you get in the brown bottles is safe for most applications. But

**Bret** 13:06

yeah, breathing it being, you know, the question, but anyway, proceed with caution. Yeah.

**Heather** 13:11

This seems like a comment rather than a question regarding confusing terms. gatekeeper linguistics, also known as spell casting. So I think he's just offerings, Jim is offering up some some terms that we can use to, you know, jargon, jargon that would appear to keep people out is gatekeeper linguistics, science, politics, every rarefied field, every specialized field has this. And then it's the users will tend to bring out the terms when they are least you're most interested in confusing who they're talking to. And maybe they're not even aware that that's what they're doing. But jargon, gatekeeper. linguistics is most useful when you kind of want to put up smoke and not have a lot of questions come your way afterwards.

**Bret** 14:01

I have one fear about this, okay, because nobody's ever heard of gatekeeper linguistics. It functions as a kind of jargon, whereas jargon, this is a term of art. Fair enough. Yeah. Okay. So anyway, don't take it personally, Jim, I like where you're going. But maybe jargon is just the thing people will recognize. Okay, although spellcasting that has a nice ring to it. So really,

**Heather** 14:20

big fan, is there an evolutionary argument for informing and hypothesis that humankind's ability to perform careful abstract thought is on the decline due to being diluted by population size. That is, nobody is as dumb as all of us, so to speak.

**Bret** 14:37

You know, there's, there's something to the idea that there will certainly be diminishing returns as you plug more brains into each other. And so there's a point at which those returns might not asymptote that but would actually decline because of the cost of the confusion that would go along with it. On the other hand,

**Heather** 14:56

you also get longer tails. Yeah, you get longer tail session, the longer the tails, you have And

**Bret** 15:00

the real question is, you know, you don't have to plug in to everybody all the time, you can plug into whatever network is paying the highest dividends for the kind of question you're engaging. So anyway, the danger you're talking about is probably real if we just all do exactly what we're doing on the internet, which is plugged into some giant network that doesn't have any coherence to it. But if we edit down to productive subsets, much as possible, and that should scale indefinitely.

**Heather** 15:31

Do you have thoughts on HIV not being the real cause of AIDS? I've heard real doctors connect the fact that HIV doesn't cause aids, but actually the drugs that they use to treat HIV and influxes of toxins in the environment, particularly in Africa in the 80s.

**Bret** 15:45

Yeah, I have some thoughts here. One, Nobel laureate, Kary mullis. Back in the early days, he got his Nobel Prize for PCR and very important technique in biology. And he pointed out that the character B criteria that are used to establish that a pathology is caused by a pathogen were not met in the case of Eva, HIV. And so basically, there were people who had AIDS who didn't have detectable virus, and they were people who had the virus who didn't have detectable AIDS. Now, the problem with this is that this is a complex system, this is not a billiard table. And Acquired Immunodeficiency Syndrome is a set of things that unfolds when certain things have happened to your immune system, the most obvious of them as attacked by HIV, which attacks killer T cells, among other things, but anything that disrupts the same upstream phenomenon will cause the downstream set of symptoms. So you shouldn't even really expect that the only thing that's going to cause AIDS is HIV, because HIV basically attacks a certain set of cells, and anything else that did that would cause the same phenomenology. Likewise, you might expect that a certain number of people, for whatever reason, have endogenous resistance to HIV, and therefore could contract the virus and not ever suffer from the pathology. So in essence, what's wrong is our expectation for a one to one match between infection and pathology. That does not mean that there was not some phenomenon circulating in Africa that might have masqueraded as HIV in light of the fact that people were searching for it. But I don't, I don't know of any evidence. And it might be that I've just missed it. But I don't know of any evidence that that was a widespread problem. I would say in general, we know that HIV tends to cause aids strongly tends to cause it, and that what we had was a pandemic, arising out of the spread of HIV.

**Heather** 17:54

Good. The next is a recommendation for a book that I'm at least not familiar with, but it sounds interesting the philosophy of conspiracy theories by Matt Dennis. It's based on his PhD thesis in philosophy. And the writer says it could be useful for language to help distinguish warranted and unwarranted conspiracy theories. Thanks for the tip.

**Bret** 18:15

Yep, I would say conspiracy hypotheses. But yeah, other than that, yes.

**Heather** 18:19

Next question. From echo. You said viruses are free genes trying to get into the future horizontally by moving between hosts like gene space exploration mode, is exploration mode, a universal on living organisms? And if so, why?

**Bret** 18:33

So, Echo is referring to a concept of mine called explore modes. And the basic idea is that evolution has discovered ways to enhance its discovery of adaptive states. So consciousness would be such a, an adaptation consciousness would allow us to discover opportunities that we wouldn't find absent consciousness. I can't say that explorer modes will be universal, but I can say that the value of explorer modes is so high, that anytime one is available, it will tend to be discovered if given enough time. So yes, I think viruses are evidencing explorer modes. And I believe there will be features of their behavior that actually will cause pathology and that we will thus be able to identify which match the Explorer mode hypothesis. But that said, the devils in the details and the trick is going to be coming up with precise predictions that separate that hypothesis from other things that would explain pathologies.

**Heather** 19:39

Let me also just say that two other examples of explore modes that you didn't just mention but which are outside of the domains we've been talking about our army ants in their after they break bivouac and are looking for new things to eat, follow, follow these exploratory maps that you have these landscapes that you can map and that looks looks very much like the other thing, which is neurons in young brands, growing connections, and then afterwards, having those connections selectively cut as the brains sort of not atrophy but mature into the adult brain form.

**Bret** 20:20

Yep. Yeah. So there's a question about evolutionary explanation and other things that match it. I agree. Those are actual examples of exploration and also the way trees find the places in the canopy that are empty and therefore have disproportionate light. Yep. So there are lots of things that look like this. And it's an important topic.

**Heather** 20:43

Next question, does unconscious bias play a role with respect to keeping our economy shut down? polling shows those more left leaning wanted to keep the economy shut down, knowing that an economic downturn hurts Trump's chances for reelection? So I think there's I don't think the writer means to suggest that left leaning people necessarily that the poll doesn't show the left leaning people wanting to keep it shut down, know that that will hurt Trump's chances for re election, but it's a hypothesis. Yes, there is their unconscious bias. Here

**Bret** 21:13

we go. I believe there's unconscious bias all over this question. I have to say, I am not convinced. As much as I do think Trump has clearly erred again and again, with respect to the response to the pandemic. It is not clear to me that in a matchup with Joe Biden that this doesn't play to his strength, because to the extent that people are frightened, and I think people are frightened, and will be, you know, more frightened as winter returns. To the extent that they are, they may be looking for a strong person, rather than somebody who appears to be enfeebled by encroaching dementia, whether or not that's actually taking place with Biden, it certainly appears to be. And so anyway, I don't know how this plays out. But I must say, I think it's time to pull the emergency brake cable and find a different path because whichever side thinks they know how this plays out. I think they're wrong.

**Heather** 22:21

Okay, I I'm not sure that really addresses the question, but I guess we can we started with you started there and said, Yes, unconscious biases, clearly playing a role. It's not clear. It's not clear, maybe I would just finish by saying it's not clear how much conscious bias there is in this direction. But is there unconscious bias in which people are playing to their usual roles? Yes, I think so. Okay, next question. Thank you. This globalization and social connectivity via technology or consciousness, derive a more homogeneous culture across humankind over time, is cultural singularity, possible, inevitable, dangerous.

**Bret** 23:02

All other questions, all of the above. But I think we're stuck. We're caught between two failure modes. One is the homogeneous failure mode. And the other is the inability to get along to comprehend each other and to properly governed planet Earth. And I realized that I have a dedicated group of antagonists who if I say things like govern the earth, they imagine that I'm calling for some kind of global dictatorship and the black helicopters are about to descend, which is not what I'm saying. But we do have to govern the earth because we are employing processes that have global scale consequences, we have to govern it, right? We are we are left with no choice or we will destroy the place. So to the extent that that's necessary, it may be time for us to recognize that our individuality as cultures is being eroded, whether we like it or not by all sorts of phenomena. And that doing this in a conscious careful way is better than just allowing the internet to do it to us and suffering the consequences of not having proper governance of all the scales that require it.

**Heather** 24:09

I'll just add with regard to the last part of the question is cultural singularity possible, comma inevitable, common dangerous? I fear that it's possible I fear even more that it's inevitable and I'm certain that it's dangerous.

**Bret** 24:20

Very well said.

**Heather** 24:22

Next question thoughts on apparent irony with regard to heights that's Jonathan heights contagion analogy of the rights push to reopen it is risking infection by mixing and the left's push to stay at home that is accepting stagnation by isolating question marks so this is I'm not actually totally familiar. I don't remember heights contagion analogy, but I assume from the question that this is bringing up the you know, well replicated result from personality has like the big five that show the conservatives are more likely to have a very strong disgust response and things like disgust and response to disease. And dirt are a stronger response typically in people on the right. Whereas people on the left tend to have more openness. And that's just the clinical term openness to experience and such. And therefore, to some degree openness to disease, and this seems to be seems to have flipped those roles. So there's a thoughts on the apparent irony, yes, it has flipped the roles. There's actually a pretty interesting paper that I don't know that it adds much to this, but it points out the same apparent flipping the roles actually in heterodox Academy's site, which of course, Jonathan Hite was one of the founders of this week, I could probably find that and link to it. I'm not sure I have much more to say right now about this, though.

**Bret** 25:39

Yeah. It's interesting. But again, I think in some sense, we're all being led by the nose, and we would be wise to resist the politicization which is causing the flip and the irony that you're talking about, you know, there's something just very difficult to swallow about the fact that yes, the right is being inflamed by the authoritarian nature of the response to the pandemic. They are, to the extent that they want to open back up, they're incorrect. It's very dangerous. On the other hand, there are features of the lockdown that are so absurd, that it's easy to see how you could suspect that the whole thing was garbage. Yep. So in any case, we got to level up. Yeah.

**Heather** 26:32

What's your take on the virus first hypothesis stating that some viruses predate cellular life? Could those have fostered cellular life complexity? Is it a chicken or egg dilemma? wishful attribution of intent question mark this again, from echo. Lots of questions. Yeah, Echo manages to get a lot into one question.

**Bret** 26:50

I'd say the chicken and egg question is easy. So it can't be that. The question of could viruses proceed? All I've I don't think the viruses that we have could proceed the life that we have, they cannot be the origin, what they've done require a host. Yes. I mean, you get could be so many steps down the trail that you can't tell what they were. But I think it's there's no reason to suspect this, the much more parsimonious hypothesis is that they have jettisoned cellular machinery in order to be more effective at moving horizontally. And

**Heather** 27:27

so actually, the next question also from eco sort of continues this. Do you agree that stating asteroids could carry virus remains capable of affecting Earth life comes back to stating that life forms similar to ours, have emerged before elsewhere in the universe? Thanks. So yes, I do think that those two things are the same thing. And they both seem totally implausible.

**Bret** 27:47

To wait. One thing is viruses carry virus

**Heather** 27:50

remnants capable affecting Earth life, and life form similar to ours have emerged before or elsewhere in the universe? So if if asteroids have shown up Yep. With truly alien life, and yes, that is consistent with the only the only thing that's consistent with this, then life have evolved elsewhere. But the idea that anything that evolved elsewhere is actually capable in affecting us, you know, if, if life if, if life was evolved elsewhere, which is almost certainly has, the chances that it uses DNA as its information molecule is basically zero. And you don't ever want to say it's zero, but it's basically zero. So there's going to be some other information molecule that is used to carry information between generations, but it may well have, you know, it might even have nitrogenous bases, but still not be DNA or RNA. And it might be silicon based Instead, it might, you know, it might be any number of things,

**Bret** 28:44

even if it was DNA or RNA, which is conceivable, it would not have the same code. And so it wouldn't, it would be meaningless,

**Heather** 28:53

I actually think that the much less likely thing is that it was that the molecule was DNA. Oh, I

**Bret** 28:58

think it's very unlikely, but I'm saying you could imagine that the chemical structure would be analogous, but even that doesn't get you to infection, because the code on structure would be wrong. Yeah.

**Heather** 29:10

I mean, there's, there's so many steps to get to the molecule that looks anything like DNA or RNA that Yeah,

**Bret** 29:17

well, I agree with you. 100%. If it didn't evolve on Earth, it's not going to be very effective at infecting us. It's not to say, you know, in light of prion diseases or something, you couldn't get some sort of, you know, phenomenon where some thing caused a pathology that didn't interact with our physiology and servation directly, but it's so unlikely and you know, what I mean this

**Heather** 29:41

The question is specifically about viruses, yes. But some other kind of pathogen that could cause like a mechanical damage of some sort or a toxin? Sure. Absolutely. Yeah. Okay, let's do let's try to get a few more of these before we switch to the other live chat questions. Super Questions. Your conversations are insightful and have been an important navigation for me. Thank you. How do you square astonishing now? How do you square admonishing listeners to subscribe like notified to help the channel? When merely driving algorithmic support? Isn't the explicit intention of those functions

**Bret** 30:21

a requirement that we fight in a game theoretic paradigm that we did not invent. So basically, I would say, here's the thing, you, our viewers, and we have an aligned interest in creating a substrate that this podcast can function on. This is very cheap to you, and it's cheaper for us to ask it. And to the extent that people do it, it creates more content of a kind you want to see. So I don't feel too bad about it. Who does it cost? Well, it might cost Google, but I'm not too concerned.

**Heather** 31:04

Okay, thoughts on the PCR testing use for COVID and how the creator of it said that it should never be used for identifying a germ and how the RNA RNA snips being used to identify COVID aren't necessarily what live up to Koch's postulates. I wonder if the creator of it is not referring to the creator of PCR here and exactly referring to Kary mullis already talked about a bit. And I'm not sure that he said should never be used for identifying a juror, I think that you actually already kind of addressed this question. As so far as I can understand exactly what's being said. Do you want to add anything there?

**Bret** 31:39

Well, just that Koch's postulates are actually a predecessor of the current standard for establishing a causal relationship between a virus and a disease. And so we you know, we did address it earlier, I'd be very surprised if Kary mullis or anybody else said it could never be used to identify a germ. But if he did say that, or anybody credible said, I'd like to know what the reasoning was.

**Heather** 32:07

Good. What do you think it's safe to run on an outdoor trail if other runners passing by aren't observing social distancing, or wearing masks? Signed? apprehensive? in Austin? Yeah, you know, we've, we've talked about this a bit before. And I think it's really a question of decreasing your risks, and that you decrease them to zero, and you never leave the bubble that you built around yourself. And you increase them with every interaction that you have if you're outside, and you're running behind other runners who aren't wearing masks is like the dangerous you're in there, the plume of breath, and they're exerting themselves and they're likely, they're likely releasing viral particles if they're sick, but passing them and you know, maybe even doing simple things like to some degree working to blow out when you know, as, as you pass people, as opposed to inhaling. I. It's not fully safe, but it's safer than being in an enclosed space with people. In fact, we were for the first time in an enclosed space. We were actually got some tests yesterday. And you said to me, Well, we're waiting, everyone's masked up and it just the three of us and the nurse or the PA in the room. And you said I think this is the most dangerous thing we've done since lockdown. Yep. Right. So being outside being out in nature, running, biking, electric unicycle and passing other people during the same except for electric unicycle in which only three of you do. It's much safer than a vast majority of things that you might be doing.

**Bret** 33:44

Yeah, the evidence really suggests this is very hard to catch outdoors. And on a slightly related note, as you pass the other runner, try to make it look effortless, you'll feel good.

**Heather** 33:59

So we're gonna do just three more here and then we're gonna switch to the Super Chat questions from the current live stream. Hello, doctors? Do we have any idea when metacognition came onto the scene for humans or genius, etc. I can't wait for your book. Hopefully, it finds you in Vancouver, Canada. I'd love to find us in Vancouver, Canada. It's a gorgeous city. metacognition, I guess it depends a little bit on what exactly is meant by metacognition. To understand your, what we describe as consciousness and look at those species that there's other species that have some form of consciousness. You look at traits, like sociality, and long developmental periods, which in humans, we call childhoods and multiple generations, you know, three or more living together. And, oh, there's something else I'm forgetting there. Oh, no, by parental care, of course. It will, not inherently by parental care, but like, social social parenting by at least more than one member. Even if it's By parental care, so the other great apes have that. All the other apes have that many other monkeys have that. So what else is included in metacognition? They've got a theory of mind. baboons have theory of mind, and they're not all that closely related to us. So there's there's a lot of ways to look at it. And we'd need a little bit more specificity on what's meant by metacognition.

**Bret** 35:21

Yeah, I think the problem is that a, you have to set a threshold, when you're ready to call it metacognition. And if you set the threshold sufficiently low, then it will be super ancient. If you threaten to set the threshold sufficiently high to mirror what we have that you would call metacognition, then it's going to be tied up with the evolution of language, which is still debated, but almost certainly goes back. Let's see half a million years, at least

**Heather** 35:53

language you said, yeah. Yeah, super, super variable in terms of the but you

**Bret** 35:57

know, again, it doesn't start instantaneously either. So there's, you know, proto language and all of that. So anyway, the question is really tied up in where you set the threshold, and then we could take a course guess, but it probably wouldn't be too, too useful.

**Heather** 36:10

Okay. Hi, guys. My question is, do you think it's, do you think it's that the human race will slowly become less naturally attractive due to artificial ways of increasing one's attractiveness? Like makeup and plastic surgery? Yeah.

**Bret** 36:25

Yes, I mean, yeah, for, for two reasons. One, it takes the burden off of attractiveness. And so you know, you will, over evolutionary time, potentially lose something. But then there's also this question about creating an artificial glut of a very pre packaged kind of beauty, which then suggests a kind of inauthenticity. And then what becomes beautiful is authenticity, which is more synonymous with ugliness or something. So it does get very confused. I do think our superficial obsessions are not healthy. And to the extent that they're being amplified by multibillion dollar industries, which seed our insecurities in order to sell us stuff that it's, it's time to call it quits.

**Heather** 37:19

Yeah, that's a it's a good question. Yep. Final question here. Do you know any COVID-19 study telling us something more about what happens to a person with asthma getting COVID? love the show both of you guys. Though, we got a I think it's a radio emoji. So Oh, cool. might be it might be a battery. I can't tell from her.

**Bret** 37:38

any case, there is definitely some irony there.

**Heather** 37:40

Yeah. Boy, I have not seen anything specifically on asthma. we've, we've looked at some of the stuff on smoking. You know, looks like smoking is not the comorbidity people were expecting it to be it may not be productive and may be productive. It may actually be a comorbidity, it's confusing. Yeah. So I, I suspect that asthma is not as much of a risk factor as people would think it should be for an acute respiratory syndrome. But I don't I don't actually have my fingers on any of that. You have to know do we have? Right below? I already did that one. Yep. Yep. So where is the Google? There we go. I put a line. There we go. Okay. Do you have a link to your probability diagram and or supporting evidence. So I don't know if you can put a link up or not,

**Bret** 38:46

I can find a way to do it. I'm a little concerned that, you know, it's a demonstration of what such a thing should look like. But as I said, I don't want to be synonymous with that belief. Because the whole point of doing things by percentage is the hope that as information emerges, that one's position is flexible. Anyway, I've thought about generating a blank one for people to fill in their own percentages. And unfortunately, the program I made it in makes that a little harder than it should be, but I will I will think about either regenerating it or finding a way to clear the percentage numbers and giving a link to that for sure.

**Heather** 39:26

I think there aren't that many here so we may be able to get back to a few more, some more coming in now. The next one just seems to be

**Heather** 39:34

not a question. Women and I don't know what to make of this. I just read this it just seems like a list of words.

**Heather** 39:47

Sure, women in science like Rosalind Franklin, DNA, which is to say she was the she's the unusually unnamed co discoverer of DNA along with Nobel Laurel Nobel recipients Watson Crick, a Coronavirus of the type first identified by Dr. Joon on majda in 1964. As for math, one of the most beautiful women ever was Hedy Lamarr. Actually, I do remember that, that great women of mathematics account has done a heavy llamar thread in the past, which I also did not know until then, that she was a mathematician. Yes, amazing.

**Bret** 40:24

I have missed that we had not seen it. But it wasn't a great Hetty Lamarr documentary in the last several years now. So anyway, it was something I wanted us to see. But I don't think we ended up doing it. You claimed

**Heather** 40:37

that creating subjective experience was evolution simplest mechanism for allowing an individual to compare two perspectives. What kind of mechanism could create experience from scratch?

**Bret** 40:47

What kind of mechanism could create experience from scratch? Well, it depends where you're asking the question from, right. In other words, let's just take our visual cortex for a second, our visual cortex creates a representation of the outside world. And actually there are elements of it that can be understood from the outside. In other words, basically, it's like a computer program that has declared an array of variables that then mirrors the position of objects in the world. So it's a physical representation of an outside space that has an analogy to it, I don't find anything particularly troubling about the idea that you can take neuronal wetware. And you could create a data structure that would allow a representation of another person's cognitive process to be represented inside of it. I think, at some level, the more we learn about how the neuronal processes actually function, and the more we understand about the complexities of the brain, the less this will seem like something that is incompatible with what we know of neurons, I mean, neuron, each individual neuron is interesting, at a level that should cause us to model it distinctly from let's say, a binary computer. But I believe we will get there if we live long enough.

**Heather** 42:22

Is there an evolutionary basis for men flu, maybe men trade frequency for severity? Maybe we're just babies. So I think this man flu in quotes in the original question, is a reference to the fact that COVID-19 is killing more men than women. It's like 5545, or even 6040. Like it's, it's quite substantial. And of course, this isn't a flu, but it's like a flu in some ways. But what, what might be the reason behind it affecting men more severely? Because actually, let me say, first, I just saw some numbers. I think it might have been Oregon actually, just just the Oregon numbers that show that actually, a larger number of women have tested positive, and it doesn't say what the background testing rates are. So it may just be that women are getting tested more. And therefore more women are getting being found to be more of the people who are positive, or women as opposed to more of the people. I suppose the alternative, I'm going to confuse myself by saying over again. So even though more women have tested positive in Oregon than men, still more men have died than women. So yeah, even when the background expectation should be well, if it's if it's scaling, then more women should have died. They haven't.

**Bret** 43:46

So I don't I don't think this is so surprising. I think that there is a an A an element of the way selection plays with trade offs that people have not spent time thinking about. So the analogy I would use is tropical organisms. Tropical organisms are spectacularly effective competitors in general compared to their temperate counterparts, but they are much less tolerant of variation in their environment. So they are simultaneously strong competitively and fragile physiologically. That is to say they require narrow tolerances to do the amazing stuff they do. men seem to suffer from something analogous to this. And this is probably the result of the fact that historically speaking, there's been an awful lot of polygyny in the human species. And that polygyny means that sexual competition between men has been very strong and that basically you didn't want to be a male loser because a male loser wouldn't reproduce. So what that has resulted in is selection for Strong competitive abilities in men, which has made them fragile over time. In other words, in cultures where highly successful men reproduce with multiple women, then winning the position of successful man would be more evolutionarily desirable. And that would cause the borrowing of future vitality, basically of longevity in the pursuit of greater strength at peak. And so, men are physically stronger, but they age faster and aging faster is a proxy for how vulnerable you are to any pathogen.

**Heather** 45:46

Great. Ah, I mean, not great conclusion. Nice explanation.

**Bret** 45:54

I'm glad I learned to see the end of it.

**Heather** 45:57

How does the next question How does the pandemic simulation exercise parentheses event 201 that took place shortly before this outbreak influenced your understanding of how likely the virus is to have been intentionally released. I know of an event to one I know very little about it. Particularly, I would say that pandemic simulation exercises should be expected to be being run by governments frequently, given what has been understood about the risk of pandemic outbreaks for decades on two centuries at this point, that it would actually be shocking if pandemic simulation exercises weren't being run. And just like the idea that it was clearly the fish market and with a seafood market and Wu Han, that released this thing. Like that there's there's something about putting two things together. That seem unlikely. Were actually if there was if this was planned, wouldn't they not have done a pandemic simulation? Right before they actually released a pandemic? Right?

**Bret** 47:04

Yeah, I don't know. I it's a rabbit hole. I haven't been down. So I can't say very much about whether this is going to be easily dismissed. Or it's one of these things that seems crazy and is more troubling when you get there. But I guess I should look into it.

**Heather** 47:24

What do you get dinesh d'souza to do his next documentary about you, Brent? No. Okay, good. Shouldn't geopolitical stability be part of the opening calculus? For example, a breadbasket of the world, US China and Brazil are disrupted. scarcity leads to hunger leads to war.

**Bret** 47:41

Now you're talking? Yeah, this is absolutely This is a major concern. And when we talk about the problem of game theory, at every scale, in the way, we come off lockdown and face this, the point is, unfortunately, you can't have a yahoo nation decide to opt out of dealing with its pandemic and not have the world suffer consequences from the opt out this is, this is one of the things that to the extent that you look into the game theory is really frightening is that we have to come to terms or we're going to default to lowest common denominator kind of response. So anyway, yes, I, I have to say, I am concerned about something like a D stabilized world sliding into armed conflict of a massive scale as one of the possible end states here. Yep.

**Heather** 48:41

There is a document in response to your answer on subjective experience, Why call your new construct consciousness? If subjective experience existed much earlier? Love

**Bret** 48:55

Yeah. Why call it consciousness? Okay, I've The problem is I don't know, how informed that question is, with respect to what we mean about consciousness and why what I would say is a great many people are interested in the question of how consciousness arose and how it functions. We think they are making an error, and that the question is not so difficult if you define terms in a natural fashion. And so why wouldn't we be interested in pointing out that this question, which is, according to many intractable actually has a relatively simple solution? If we're right, then that's a, at least a big savings in terms of time that might otherwise be wasted pursuing, you know, a non answer. So I don't know seems like the thing to do. We I believe we're defining terms naturally and I hope it works and we'll see.

**Heather** 50:07

Good Okay, just going back to the Super Chat questions and comments from the first, the first live stream you respect for your audiences made clear by the level of personal integrity you display. Many thanks for the gorgeously articulate and balanced responses wishing you all the best from Berlin. Thank you must be really late where you are. Hi there. Thanks for referencing that science article. Love you guys. This clears a lot of things up. You're welcome. With the prevalence of politicized, disingenuous and dishonest news would you and the ITW be willing to partner on a new trustworthy media platform?

**Bret** 50:47

We get pitched this kind of thing all the time. And I would say what we've got is onyx, unacceptable platforms that obviously have a desire to infantilize us and to tell us what's true, do not have the perspective to do it honorably or well. And no, we have no ability to figure out where to go next. In other words, if we somehow collectively decided that the the the censorious instincts of the major platforms were unacceptable, and there was a place to go or that there was a project that held the promise of doing this that really wasn't going to just take the efforts and squander them. I think we'd be all in you know, I can't speak for anybody else. But because we all need a platform that doesn't censor us. There would be a great deal of enthusiasm. But we've heard great proposals, and all of them suffer from the question of what are the chances that they are going to rise above all of the other great proposals? And so anyway, it's a lot of a lot of very little fish, and no ability to distinguish which ones might have a potential?

**Heather** 52:10

Yeah, the short answer is yes, for sure. But separating the wheat from the chaff Sure, turns out to be more than a full time job, and not one that either of us is particularly good at. Yeah, I think

**Bret** 52:23

that said, I will say there is a project with whom we have spent a great deal of time talking about how the future might look. And maybe it's time to bring them on the podcast and to talk to the world about it.

**Heather** 52:39

That's a good idea. Okay, I'm going to pull one more from here first, does physical contact, that is handshakes and hugs have any evolutionary benefit? If so, does this benefit surpass the contagion risk of such contact? Of course, it has evolutionary benefit. Touch is a big part of how we communicate with one another. And it it conveys meaning and connection in a way that words and even facial expressions can't. handshakes can probably drop off the list of things that we do without really almost anyone losing too much sleep over what's been lost to nonverbal communication. Hugs. You know, like in Europe, there are a lot of different ways Look, a lot of different numbers of pecs on the cheek, that are used to introduce yourself to each other. These seem to be very important to the cultures where they are, and they're certainly high risk of spreading certain kinds of disease. hugs are hugely wonderful and important. So, you know, is there an evolutionary benefit? Yes. Are some of those benefits worth dropping? For some of for some safety reasons? Yes. Well, I'm

**Bret** 54:02

done. Now, here's the problem. You're living in a world in which instead of being in a small population that's insulated from almost all of the pathologies circulating in other populations, you're exposed to almost all of them by virtue of airplanes and other such things. And so yeah, it's a terrible loss that normal human contact is now dangerous at a level that we have to think about these things. But I would ask you to consider how much we are losing. People are losing family members who go to the hospital and predictably die and nobody can be there with the cost of what we are suffering is so high that we really have to think about how to stop it in its tracks and how to prevent the maximum number with people from getting it because the horrors that occur in places where this is happening to lots of people are almost unimaginable.

**Heather** 55:14

Next question, many University grads overvalue the normal distribution and undervalue Black Swan events. How do I convince colleagues that outliers that exist are important? Wow, this? That's a great, an astute question. This is this is one of the problems of having a little bit of knowledge, right? That you get a little bit of statistics and you see a bell curve, more theoretically known as normal distribution. And you think, and you'll maybe you even hear about regression to the mean. And and you think everything is normal distribution, and rare things, because they're rare can't be important. You know, obviously, to lab who you reference here with black swan events, has written a tremendous amount on this is writing can be dense to put it lightly. How do you convince you know, you can't you don't want to hand that much. collab books, two colleagues, keep them as friends, mostly? How do you do this in a simple conversation? I think it's going to be so context dependent. And it's going to be hard to give any sort of rubric of how

**Bret** 56:27

I would come out in a different way. Okay. I think the problem is, we are economically incentivized into this wrong thinking. Right now, you reference people who have college education. And this may be one of the ways that we are economically incentivized to this wrong conclusion. But the basic point is, if you are properly concerned about Black Swan events, you are less competitively effective under normal circumstances, because bell curves are common. And that means that these rare tail events which are on a bell curve, or a power law, distribution, whichever but the point is, if you play the game, as if the the Black Swan events aren't going to happen, you may win the game for your entire life and never see the Black Swan event. So you came out ahead for gambling on the likely outcomes. And only in the very rare circumstance of the Black Swan. Does the person's wisdom, the person who was trying to call your attention to the danger show itself and they may not survive to see their win? Much less? are they likely to be able to capitalize on it? Since it's very hard to time it? So in any case, the point is, look, this is actually a strategy that is unfolding. And those of us who get the Black Swan problem are losing. So I think pointing out that in some sense, this is a free rider problem issue, that a disbelief in black swans is a competitive strategy. And it's an unkind one, because it's putting all of us in danger. That's the way to reach them. So anyway, try it out.

**Heather** 58:06

I think accusing people who believe too strongly normal distributions of being freeriders is going to be a tough sell. But I love it as

**Bret** 58:14

well, it also it means that you won't be spending so much time on the phone because you'll start losing friends and the Oh, yeah.

**Heather** 58:22

Okay. The way you open up the last live stream was great. Make America civil again. Thank you.

**Heather** 58:30

Okay, what what are

**Heather** 58:31

we at timewise? We have time for one more question. Yeah, like, two minutes. Let's do one more question. All right. All right. is so there's one here, that's going to be a much longer answer about laying out the evidence that makes you think a lab is the most likely source, although I would say again, just that you did a lot of that in a few livestreams ago, and maybe you'll come back to it.

**Bret** 58:57

I would just say, okay, at some point, I think it would be worth going through the branches of the diagram. Maybe there are branches that aren't on there. But I've tried to be complete, I probably need a garbage branch for anything not contemplated here. But it would be worth explaining the rationale for each of the percentages, so that people could basically take on a model for what it is that dictates why you would expect a particular outcome. And I should think about whether or not there's a way to do that, that wouldn't bore a large fraction of the audience to tears.

**Heather** 59:37

Okay. And finally, is civilizations tendency to engage directly with this one? Now? Is civilizations tendency to engage in behaviors that are productive in the short term and parallelism, the long term a kind of antagonistic pleiotropy? Does this mean the society is doomed to senescence in quotes, or it's analog?

**Bret** 59:57

Yeah. So one of There's been a large number of people who have participated in the Patreon discussions that I've been running now for several years. And one of the longtime folks in the evolutionary discussion posed the question, is there a cultural analog to senescence, and I thought it was so good that I made a little video about it. And basically, my point was,

**Heather** 1:00:27

you have it up on your channel, on my channel.

**Bret** 1:00:31

Basically, civilization has an absolute analog to senescence. And what we are living is the incoherence at the end of civilization is life. And basically, the short version is that because things that are profitable early and have costs late tend to accumulate, that those behaviors that are economically productive, but have environmental consequences that are dangerous, tend to make people politically powerful, which tends to make those properties irreversible. And what that means is that we are doing many, many things that are ultimately destructive of civilization. And this is what's an essence looks like. So yes, it's more than an analogy, we have the exact phenomenon that causes a body to degrade with age, causing civilization to degrade with age. And if there's one thing you should be most frightened of, it's this of civilization that cannot go in reverse when it has to is doomed.

**Heather** 1:01:39

Alright, thanks, Ben.

**Bret** 1:01:40

On that happy note. Have we reached the end of the q&a? I think we have. All right. Well, those are some excellent questions. We look forward to the next one. Please don't forget to LIKE subscribe, hit notify. And if you really love us comment, it's just good for you. It's good for us. And we don't read them all but we do read many of them. All right. Be well stay safe.