

Rationally Speaking #162: Sean Carroll on, “Poetic Naturalism”

Julia: Welcome to Rationally Speaking, the podcast where we explore the borderlands between reason and nonsense. I'm your host, Julia Galef, and with me is today's guest, physicist Sean Carroll.

He's a returning guest on Rationally Speaking, and to refresh your memory, he's a theoretical physicist at The California Institute of Technology. He is a blogger at Preposterous Universe and the author of several books on physics and philosophy for a popular audience, including *From Eternity to Here* and *The Particle at the End of the Universe*, and most recently, *The Big Picture: on the Origins of Life, Meaning and the Universe Itself*. It's a big, ambitious subtitle that we're going to explore on today's episode.

Sean, welcome back to Rationally Speaking.

Sean: It's great to be here. Thanks for having me, Julia.

Julia: The core project of The Big Picture I would say, feel free to correct me, is the introduction and the exploration of this new “-ism” called poetic naturalism, which we'll delve into in the show.

But first I just want to point out, I don't know if you've noticed this, but some people on Facebook have already started calling themselves poetic naturalists as their religion. I think that's a pretty clear sign of a successful propagation of a meme.

Sean: I'm looking into some sort of uniform that I can wear with a hat and so forth, so I can be the pope of poetic naturalism. I'm looking forward to this.

Julia: You should really jump on that role before anyone else snags it. I think now's a window.

Sean: I know. There's not a good history for people founding religions and living for a long time.

Julia: So. What is poetic naturalism?

Sean: Well, I think the world needs more -isms out there, right?

Julia: Clearly.

Sean: That's what everyone is clamoring for. Naturalism, of course, is a well-known thing and I like to describe myself as a naturalist, someone who believes that there is only one world, the natural world. There is no extra, supernatural world or anything like that.

And for the most part, people who are naturalists believe also that the world that exists is the one that we discover by doing science. It obeys patterns, it obeys laws of nature, and we can learn about it through empirical investigation.

I like calling myself a naturalist because it's a positive statement about what I do believe is true, not just a rejection of someone else's belief.

Julia: Like atheist.

Sean: Like atheist, for example. And I'm very happy to call myself an atheist also. It is also true, it's just less informative than calling myself a naturalist.

I think that there are many different kinds of naturalists and I think that we should have more intra-naturalist conversations. I think that it's fine to go around bashing things that you don't believe are true, whether it's mainstream religion or supernaturalism or Bigfoot or whatever, but we also need to answer and address the hard questions that confront our own old worldviews.

Poetic is a particular flavor of naturalism where you might imagine, on one end of a spectrum, there's an ultra-hardcore reductionist naturalism that says that the only thing that really exists is the deepest, most fundamental layer of reality. The fermions and bosons, or the quantum fields that make up the world.

And I don't think that's exactly right. I think that tables and chairs also exist, even though they're made of other things. They're emergent phenomena in the world, but they're no less real for that. I think we need more than just this absolutely mad dog, eliminativist naturalism.

Then on the other hand, there are people who are self-described naturalists who can't quite resist the temptation to add things to the universe, such as extra mental properties that matter can have when it is conscious. Or such as objective moral guidelines that tell you how to behave in this natural world.

I don't think that those things are there. I don't think there's any evidence for them. I think those are also emergent, just like tables and chairs are, but they're not an extra kind of substance or an extra kind of thing in the universe.

"Poetic" says that we bring the universe to life by talking about it in different ways, by talking about all the different emergent ways we can address the reality of the universe.

Julia: Is there a disagreement between a poetic naturalist and what you call the mad dog -- was that your phrase, mad dog?

Sean: Mad dog naturalist. Alex Rosenberg is described as that by his friends. It's not an insult. I'm one of Alex's friends. We all agree that he is a cheerful mad dog naturalist, yes.

Julia: Okay, excellent. Is there a disagreement between the poetic naturalist and the mad dog naturalist that doesn't boil down to how do we want to define the word "exist"? Is it more than semantic?

Sean: Yeah, I think that's part it. But I think that the word exist, as soon as you start talking about how to define the word exist, everyone loses interest, and I think rightfully so. Most people lose interest. The word I'm worried more about is illusion. When people say that consciousness is an illusion, or time is an illusion or things like that, I think that's a little bit more pernicious misuse of the word.

I mean, what is real? Okay, ultimately I'm not sure how we answer that question affects how we live in the world, but if you start talking about things like consciousness as

illusions, then I think you're just making a mistake.

I think that you're mixing up the possibility that something is emergent, rather than fundamental, with the possibility that it just doesn't exist. I mean, illusions just don't exist. They're mistakes, right? They're not there. To say that consciousness is not there seems weird to me.

Julia: Right -- surely at that point, you've got to look back and figure you made a misstep somewhere.

Sean: Yeah!

Julia: That should be a *reductio ad absurdum* of whatever argument you were making.

Sean: I think so, but I think that the same thing would go for something like free will. And once you say that, there's a lot of people who would get off the train and say, "No, obviously free will doesn't exist," even though they themselves, talk about making choices all the time.

Julia: Yeah. I guess this phenomenon reminds me a little bit of the people who are really resistant to the idea of science studying or explaining, to some degree, things like love. Because the underlying theory there is if science can explain it, then it will no longer be magical and wonderful and awe-inspiring, et cetera.

Sean: Well that's right. I mean that is a common worry, that if you really explain something, especially if you explain it in a reductionist way in terms of underlying things, then some of the romance, some of the mystery, some of the novelty and depth and sincerity is leached out of it.

But of course I think that we just say, "No it isn't." Everyone from Richard Dawkins to Richard Feynman and Carl Sagan have gone on about how you increase your depth of understanding and your passion about a subject by understanding it better. You do not understand the rainbow less because you understand why light refracts when it has different wavelengths by different amounts.

I think that's sort of not even a sufficiently sophisticated worry that I spend too much time on it. But it's good because this is the kind of conversation that I think that people should be having and respecting a little bit more. I mean, maybe I'm not right about some of these things. These are hard questions, and philosophers have certainly thought about them very seriously for a long time. How best should we attach notions of reality to the different ways we talk about the world?

And so in the book, in poetic naturalism, I put forward one way. And there's nothing novel about it. The charm here is not the newness of the idea. My friend Barry Loewer who is a very well-respected philosopher at Rutgers wrote to me and said, "Thank you for finally giving a label to what I have believed all my life about how these things work."

Really I'm just trying to take the question seriously by people who are naturalists. It's too tempting to think that once you don't believe in God and you believe in just the natural world, the hard work is done. But I think the hard work is just beginning.

Julia: Right, yeah.

Let's take an example of some concept that a mad dog naturalist might be tempted to wave away as being an illusion... or, an issue where there's really no more hard work left to be done to understand it. Where a poetic naturalist would say, "No, there's actually something real there."

Sean: Yeah, I mean I think we've touched on sort of the big hitters there. Consciousness is always the best one. Consciousness, free will, and morality are basically the things that an eliminativist would like to eliminate very often. And there are very few eliminativists who -- I think even someone like Alex Rosenberg does not really eliminate the existence of tables and chairs, right?

Julia: Mm-hmm.

Sean: Alex Rosenberg wrote a wonderful book, *The Atheist's Guide to Reality*, that I encourage everyone to read. It's a wonderful book because he pushes this point of view as far as it can go, which is always extremely useful when you're trying to learn what the implications are of these difficult ideas.

He says that you're not conscious, there's no such thing as morality, you don't have free will. He really is just very wonderfully consistent about everything. And so his coinage is, "Nice nihilism." He thinks that you should be a nihilist, you shouldn't really care about anything in the world, but you should also be nice to each other. And we could debate how consistent that is, and so forth, but ...

Julia: Yeah, the "should" there is doing a lot of work.

Sean: Yeah, exactly. Or, I don't know whether he even says "should," he's probably too careful for that. But I think that Alex would not deny the existence of tables and chairs. He would not think that those are really illusions.

But so my argument would be that you really ... If you want to say that there are tables and chairs, even though the world is made out of fermions and bosons and quantum wave functions at the deepest level, there's no real conceptual difference between saying that tables and chairs are real and saying that consciousness and free will are real. They're all higher-level ways of talking about reality in an emergent way, organizing the world at a higher level than the fundamental stuff.

Julia: Right.

Sean: Now morality I think is different, aesthetic judgments and so forth. I think there the reality is a little bit trickier because it's not objective. When you're talking about consciousness or free will, you're talking about ways to describe what happens in the world and there's sort of very clear-cut criteria for what makes a good description or a bad one, success as science and so forth, but the criteria for moral principles is very different.

I try to take a somewhat nuanced point of view in saying that I think that moral principles are real, but they're not objective. Maybe they're not real. It depends how you want to

slice that particular definition, but I think there's no problem in individual people having moral individual principles and obeying them, so whatever that means. They might not be the same and if someone else's moral principles are different than mine, then I can't say they're wrong in the same sense I would say they're wrong if they didn't believe in evolution or the big bang.

Julia: It certainly seems to me that people who have moral principles, which is most people, feel like their moral principles are real in an objective sense, even if they've never heard of the phrase moral realism. They feel like they're doing something more than just strongly preferring things or experiencing moral outrage at certain things. It feels like their intuitions are pointing at something real that exists in the world that they are correct about.

Sean: That's right, they absolutely do feel that, and I think they're wrong.

Julia: Right, okay. That's what I was going to ask, yeah.

Sean: Right, and I think that ... It's good to highlight it because it is the single thing that I think that the average naturalist on the street is going to disagree with me about most, with the highest probability.

Julia: Yeah, I mean I used to disagree with Massimo about this all the time. I don't know, his opinions may have shifted in the years since we had these debates. In fact, I've heard a rumor that they may have, but..

Sean: I'm sorry, which side are you on?

Julia: I'm on the side, "No, it doesn't make sense to talk about there being objectively true moral principles that exist in the world that we can perceive."

Sean: Right. I mean, certainly there's a push to make not only moral principles objectively true, but practically scientific, which I think is just a non-starter right away.

Julia: Are you referring to Sam Harris?

Sean: Well I think that Sam popularized it in recent years, but it's an old impulse. I mean it's hardly novel, so I mean I kind of don't want to either blame him or give him credit. I think that he is doing a good job at bringing a certain existing point of view out into the light and making people think about it, but I also think it's obviously wrong. There's also other ways to try to claim that moral principles are objective and I think they're all obviously wrong, some more obvious than others.

I think you're exactly right that this is a point where people can pat themselves on the back really hard about being hardcore rationalists and naturalists and empiricists and so forth, but they kind of give in to this, they really want morality to be objective and they almost inevitably admit it. If you talk to them, they almost inevitably say, "If you don't believe morality is objective, then bad consequences follow," and instead of saying, "Therefore I have a cognitive bias and should be suspicious of it," they say, "Therefore it's true."

Julia: Right.

Sean: I think that's a little bit inconsistent with other ways that they would talk.

Julia: Yeah, well I think they're also probably overstating the bad consequences that follow if morality isn't an objectively true thing, right? Like if you look at ...

Sean: I totally agree with that because it's not an objectively true thing, and yet the world goes on fine.

Julia: Well to be fair, the claim there is more like, I think they are overstating the bad consequences that would follow *if people universally agreed that* morality wasn't a real thing.

Sean: Right.

Julia: And that is different from the current situation.

Sean: That is certainly true, yes definitely.

Julia: But if I just look at the people I know who are not moral realists -- of course there's confounding factors, because they tend to be much more educated and from certain countries or regions, et cetera, but still, they don't behave like sociopaths. They have preferences about reducing suffering, and they have discomfort around breaking promises, et cetera, et cetera. So there's plenty of things constraining their actions even in the absence of a belief in objective morality.

Sean: Yeah, that's right and you can point that out and they will say ... Somehow, there's this feeling despite all that, despite the fact that they themselves would not say that they would turn into monsters if a good philosophical argument came along that disproved objective morality... They still think that everyone *else* would turn into a monster. And I think that's just sort of empirically false.

Julia: Yeah, that's interesting. Well, so I was curious in reading your book, I couldn't quite tell if you and I believe the same thing about morality. It seems from my conversation with you so far that we do, but I just want to check.

I would not have said that moral rules are "real, they're just constructed." I would've said they're not ... Well, they're clearly real in the sense that people follow moral rules, but that seems like a trivial and not that interesting way to define real in this context.

I would've said that we can have individual preferences and urges and reactions, and we can also have contracts that we agree on with each other, and we can have social disapproval of people for breaking those contracts... and all of that is sort of my attempt to formalize what in practice morality looks like, but beyond that, I don't think I'd be willing to say that there's something real there.

Sean: Yeah, and I mean maybe the fact that you read the book and couldn't quite tell is a reflection of the fact that I kind of don't care.

Julia: Interesting!

Sean: I think that ... This is a question about which I'm much more operational. How do you actually behave in the universe? This is why maybe I'm not really a philosopher at heart because I'm not sure that it matters, the answer to the question of whether or not these constructed moral guidelines are real or false.

Well, I think exactly the truth is what you said. In some sense, they're obviously real. We constructed them, we have them, and we use them. They're real, they're exactly as real as the rules of chess are real. You cannot derive the rules of chess from the laws of physics or the laws of biology or anything like that, but we wrote them down and we agree on them and they're there. They're kind of real so they're not objective, but they're real. That is the way that I would probably put it, but if you wanted to really insist, "No, that's not what I mean by real," I'm not going to argue with you.

Julia: Right. Well, okay so let's talk then about, are there any rules to constructing a set of morality, or is it ...? Is there any way that someone could construct a set of morals that a poetic naturalist would say is just clearly wrong, even if the poetic naturalist can't define what the correct way is to define morality?

Sean: I think there are, but they're pretty darn weak. I think it basically just comes down to logical coherence, right? I mean I think that you couldn't claim to have a set of rules that was mutually inconsistent, but... one of the wonderful people or schools of thought that I discovered while doing research for the book is Sharon Street, who is a philosopher at NYU, an ethical moral philosopher.

And she has coined the term "Humean constructivism" for what it is that she believes and I both believe. Constructivism, meaning that morals are constructed, they're not out there in the world. And Humean as opposed to Kantian. A Kantian would believe that we construct our moral guidelines, but every rational person would construct the same ones. A Humean just goes all the way and admits we construct our moral guidelines and different people might construct different ones.

She actually says that there actually could be a morally coherent Caligula. There could be someone who takes joy in the suffering of others and they wouldn't be making a mistake in the same sense as sort of a logical or an empirical mistake. We would disagree with them.

I think that the set of guidelines that ... The word coherent is doing work there, right? I mean, could you be coherent and yet end up with a set of moral principles that are utterly different than the conventional ones? I think the answer is yes.

Julia: Right. What I tend to do personally is: I conceive of my, what I often call my morality just as shorthand, as just an expression of in a sense what I want for the world, so I'm just constructing it as my preferences. But they're kind of a deeper preference than my superficial preference for vanilla ice cream over chocolate. And they're deeper in the sense that I'm trying to act in the way that I think my more reflective, more informed self would prefer.

Maybe like right now, I want the burger. I want to eat that cheeseburger, it looks really good. I don't detect any similarly strong preference for reducing the suffering for some abstract animal that I can't see and it's probably just a statistical animal anyway and not a real animal. But I do sort of believe that my reflective self -- if she were able to really think about it and really investigate her preferences without the bias of the current moment, her hunger i.e., -- that she would prefer not eating the burger and reducing the suffering of the animal, to eating the burger and causing the suffering of the animal. Or allowing the suffering.

I've just simplified there, I don't want people to anchor too much on the details of that example of the burger. But that's just one case of many where I think I'm acting in a way that is just based on my own preference, but it's sort of my extrapolated preference, or my best attempt at it.

Sean: That's right. I think that even you are a moral constructivist -- or forget about even, but as a moral constructivist, someone who thinks that we're constructing our own individual moral principles, there's an enormous amount of work to be done. It's not like I just act on my impulses and I kind of don't think about it.

Julia: That's what I'm trying to say.

Sean: This is one of the things in the book, if you look at The Big Picture -- what do you mean "your" impulses? You're complicated, your brain is not just this nice, unified, logical machine. You have a whole bunch of different modules fighting against each other even at the level of the highest cognitive powers.

You're not always self-consistent, you're not always rational, you haven't always thought things through. So there's a enormous amount of work to be done under the label of moral philosophy, even if you're a moral constructivist, to sort of take these base impulses that you start with and fit them together, talk to other people, see what they think, learn about the world in both direct and indirect ways, and make our moral systems better and better given our own criteria.

Yeah, there's an enormous amount of effort to be put in to thinking hard and being rational and sensible, even if you just start just by saying that, "What I'm trying to do is systematize my existing impulses."

Julia: Right, yeah, well put. While we're in the domain of the concepts that you think are less straightforwardly real than consciousness or free will, I wanted to talk about the idea of "meaning" in the universe or "purpose" or "mattering."

Because that is one of the main things that nihilists or some kinds of naturalists will say do not exist, that they're an illusion or a pipe dream or something like that. I think the stance of your book is that, "No, there is meaning in the universe. It's not necessarily the kind of objectively existing meaning that non-naturalists think is there, but it is still real in some sense."

Can you sort of explain your position on that a little more?

Sean: Yeah, I mean I think that this is why I labeled section six, the last section of my book, "Caring" rather than meaning or mattering. Because I mean it's a little ... The danger, which in some cases came true, is that people would think it's a little bit too touchy-feely, caring like you care for a sick puppy or something like that.

But really it's just referring to the fact that maybe you think you can deny the existence of meaning in the world, but you can't deny the fact that people care about stuff that happens in the world. I mean, that's just an empirical fact, right? In fact, for most people, you can't deny the fact that you care about stuff that happens in the world.

I think that that's the point. You say, "How can there be meaning? How can anything matter in the cosmos, which is just governed by impersonal, objective laws of physics pushing matter and energy around?" The answer is well, do you care about what happens in the world? Because most people do. And once you admit that you care, then things matter because you care about them. Why is there meaning in the world? Because things *mean something to me*, right? That's why.

And you can say, "Well no, but that doesn't really count," and I want to say to that, "Yes it does."

There can be, there's more than one issue in this book, the nature of consciousness is one of them, this nature of meaning and mattering is another one, where there are ... You can reach an impasse in terms of productive conversation. Because people just... I personally haven't figured out a way to get over a certain kind of barrier of disagreement and this is one of them. People say, "No, there can't be true meaning if it's just matter obeying the laws of physics," and I say, "Yes there can, because that's the kind of meaning that is true." I'm not quite sure how to give an actual argument that would convince someone who was not already on my side.

Julia: Yeah, so I don't think that there is an objectively existing meaning or purpose in the universe beyond the purposes of individuals, and beyond the things that mean something to individuals...

Sean: Right, yeah.

Julia: ... But I am sympathetic to the feeling that that isn't what people mean by meaning. Or that doesn't fully satisfy the thing that they were hoping to find by looking for meaning in the universe.

Tell me if this metaphor resonates with you at all: It feels a little bit to me like, an author's writing a fictional series of novels or short stories. And they haven't finished the series. And some fans start writing their version of what happens next in the series. It's fun to read those fan fiction extensions of the series, but what you really want to know is, "Yeah, but what *really* happens?"

Of course there's no really. It's a made-up universe. There's no fact of the matter, but somehow the story is less satisfying if you feel like you just made it up or you could've made up anything. You want the meaning to be legitimized.

Sean: Yeah, I just 100 percent agree on both sides. I mean yes, it does feel like less, and of course this is especially acute with Game of Thrones right now because we have the TV show as well as the novels that are going to take another 20 years to write.

It's not real. It is, which story are we ...? The idea of canon in fiction.

Julia: Canon, yes. Is it canon?

Sean: Right, yes. Is it canon or not? Well we just make that up, right?

You know, that's okay because we're telling these stories to each other for a certain purpose. Because we do care about this narrative that is entirely fictional, and maybe we care a little bit more about the narrative that was told by the person who started it.

There's a tradition in music of symphonies getting started and the composer dying and then someone else finishes them, right? This is just much more accepted in music than in literature, but I can see both sides of this. I don't think there's a right and wrong here. I totally get the fact that yes, anyone can continue the story -- and also the fact that, "But it means something extra special when it's the person who started it."

Julia: Right. To try to steel man this position a little further (meaning the opposite of strong man; to try to see the charitable side of it), I think it does feel like a little bit glib to say, "Well if you care about things, then there is meaning there, because they mean something to you."

Because a lot of what people are trying to do in philosophy -- or even in the just sort of folk philosophy that people do when they're just thinking about their lives and the universe, even if they've never read a philosophy book in their life-- is ask themselves, "Well should I care about this thing? Do you I have reason to care?" Indeed, sometimes upon reflection, you decide, "No it doesn't make sense to care about that thing," and that reduces your caring. It's not that meaningless to say, "Should I care about X or Y? Is there a reason to care about it?"

I have a friend -- we were talking about what we value, comparing utility functions basically, and I was talking about happiness and suffering. And he said, "Well yeah that's well and good, but really what I care about is complexity. I want there to be more and varied things in the universe, whether they're conscious or not doesn't matter." Although conscious things are more complex. But the reason he cares about anything, he says, is by how much complexity it adds to the universe.

I thought this was a very weird thing to care about. The only extent to which that makes sense to me is the extent to which it overlaps with things like suffering, and consciousness, and life that seem to make sense to me to care about.

Sean: Right.

Julia: I kind of feel like if we really hashed it out, and he really spent a long time honestly examining his preferences, and holding his preferences up against real-world examples and case studies, that he would end up deciding it doesn't make sense to care about this

thing to the exclusion of all other things. But I can't say that for sure.

I'm just trying to make the point here that I think a lot of what people are doing when they're asking about meaning or mattering is asking, "Well are the things that I care about the things that I *should* be caring about?"

And that's a real philosophical question.

Sean: Right, but I would say that it's exactly like morality. I mean, in fact it is exactly the same thing. It's a source of morality, what we care about, in my view, and it's the same game that we play. We do come in to the question with certain pre-existing attitudes about what we care about and so forth, and then we sort of try to make sense of them.

And this idea that what we really care about is complexity, this idea that your friend put forward -- I mean I'm on your side in that that sounds like a weird thing to say that you care about. But you can see how it would come about because you clearly don't start with that idea. Your six year-old self doesn't say that. But you examine what it is you do care about and you try to sort of abstract that into a set of principles and you realize that the common denominator, what you care about, is that it is complex. And so you don't really like Mark Rothko because it's just too simple. You like Jackson Pollock.

And you maybe have gone too far in saying that because you've become unmoored from the underlying starting points.

I think this is actually, it's even more evident and straightforward in questions of morality. I think that there's this very strong temptation to take some moral principles you start with, some moral beliefs that you have -- don't even call them principles, but some foundational beliefs -- and you try to systematize them. You try to make them rational. So you invent a system of morality, right? An ethical code or whatever. And it turns out that once you carefully look at the implications of your ethical code, there are implications of that that go directly and manifestly against one or more of your moral inclinations.

Julia: Right.

Sean: Then the question is, do you say, "Well this is my initial moral inclination and this was wrong because it violates my code," or do you say, "Well no, that wasn't a very good code?"

I think that both are possible. I think that this is something to which there isn't a final correct answer. If someone truly believes that complexity is what they care about, more power to them. I mean, I suspect that maybe they don't really believe that, and like you say, further reflection would change their mind once again, but it's completely consistent and possible to believe that.

Julia: Right.

Sean: What is one of the most important things here -- we're human beings. Not only are we not blank slates who just don't have any cares to start, but we're all human beings. There are some commonalities. There's an enormous amount of commonality. This is what make

social life possible. It's not that we're randomly assigned things that we care about. There's a huge amount of overlap. And that is more than enough to take to the palace, to the agora, and sort of make progress talking to each other about how to live together in the world.

Julia: Yeah, and even though I think I'm closer to you and -- what was the name of the philosopher who said Caligula could be consistent?

Sean: Sharon Street.

Julia: Sharon Street, yeah. I mean I'm definitely closer to you than I am to Kant, say. But I also suspect -- and maybe you had also endorsed this -- that a lot of the apparent differences between moralities in different cultures or between individuals, that a lot of that would start to converge if people were honestly trying to ascertain what their extrapolated values or principles are, in conjunction with each other.

Sean: Yes!

Julia: And a lot of that's people just sort of being wrong about what they truly care about.

Sean: That's right and this is why ... I think this is what I would say to Sam Harris if he were here, because I think that a lot of his motivation is that he wants to be able to sort of find that common ground. That he wants to be able to disagree with someone who is in favor of something terrible like female genital mutilation. By saying not only, "That's horrible," but by saying, "You're making a mistake. You are not maximizing the flourishing of conscious creatures," or something like that.

I don't know about that. I mean, they might not be making a mistake by their own lights, but I think that their own lights include a highly dubious ontology.

I think that ontology matters when you are constructing your moral principles ...

Julia: Meaning that if they had a more empirically correct model of how the world works, they would have different preferences?

Sean: Yes, that's right. I mean I think that I know plenty of good-hearted people who have certain beliefs about the world, religious beliefs most obvious among them, that lead them to take moral stances that I think are not the ones that I would like them to be taking. And I think that learning more about what the world really is and how it really works does affect your ... The way that you mix in your initial moral inclinations with this attempt to systematize them into a set of principles.

That's why most of the book is not about morality and so forth. It's about what the world is made of and how it works and we got to agree on that first.

Julia: Right. Sean, before this episode we were briefly chatting about the reception that your book has had. And you noted that it hasn't been popular among some die hard religious people, which is maybe understandable, but also that there's been kind of a negative reaction among some atheists. And I stopped you because I said I wanted to hear more

about that on the show. So, now I'm asking!

Sean: Good, yeah! I mean I do like to point out that in fact most of the reaction has been quite positive. I've been quite happy.

Julia: Yes, sorry. I took that for granted because I knew that to be true, but let's make that clear for our listeners!

Sean: Yes, well I don't get tired of pointing it out! That's okay.

Yeah, the point I made was that on Amazon, which is the simplest way to see a little quantitative measure of the reception your book is getting, for a long time I had a lot of five-star reviews, but also a good number of one-star reviews and literally no three-star reviews. So people were either loving the book or they were hating it.

The one-star reviews, they were coming from all sides like you just said. I mean, yeah there were a few religious people, but actually I'm kind of ... The point of the book is not to be confrontational about religion. I really want it to be the case that people who have disagreements about fundamental ontology can sit down and talk about those disagreements. I don't make any statements about whether or not religion is a force for good or bad in the world. I just say that it's false, and I think that we can ... That's something that we should be able to talk about.

Julia: I mean, I completely agree with that, but also my experience is that you're sort of in a class of public atheists, naturalists, et cetera, and I think there are a bunch of religious people who will just automatically pan a book from one of those people in that set. Unless it's an apostasy saying, "Actually no, religion is true."

Sean: Yeah, in future that's my retirement plan. If things get really desperate, I'm just going to convert and I'm sure I'll have no trouble racking in the cash.

But my point was that even a lot of religious people have respected the book quite a bit for exactly that reason. A lot of non-religious people, not a lot, some, a good number, have really not liked the book for this or that reason.

One reason is exactly because of what I just said, that I don't bash religion loudly or longly enough and they think that it's sort of a failure of courage. Because I talk about science and philosophy and ontology and I don't talk about how religion is a terrible delusion that is running the world and things like that.

Or that I don't understand ... There's a million different things. In the book, I talk about a lot of things, right? It's The Big Picture, The Origin of Life, Meaning, and The Universe Itself. There is a very standard response saying, "Your discussion of X is not sophisticated because you don't understand it." I say, "Well so good, tell me!" By itself, that could be said about anything in any situation. Tell me exactly the way it's not sophisticated.

And you dig into what they mean and I'm like, "No I just disagree with you. And it's nothing to do with level of sophistication. I just think you're wrong."

Julia: Right. I hate that move.

Sean: I know.

Julia: To say that someone's being unsophisticated or misunderstanding something, when what you mean is, "I disagree."

Sean: Yeah exactly, and it's perfectly obvious in a book like this that I am not an expert on most of the things I'm talking about. There are no people alive on earth that are experts in everything I talk about in this book. And I've never been one to say that people should only talk about things they're experts about.

I don't try to, as a physicist, go in and tell the biologists or the philosophers how to do their jobs. That was never my intention. I'm not one of these hegemonic physicists who think that I can waltz in and do it better than anybody else.

But I think that there are implications of all the different fields for each other. It's very interesting that one of my favorite parts of the book, that no one ever talks about, is the part where I'm talking about chemistry and molecular biology and thermodynamics and the way that the energy gets from the sun into your ATP molecules. I think that is just a wonderful illustration of how the big picture actually does fit together, that the energy you get to go out and start your day can be described in this story of thermodynamics and entropy and free energy, and how it all comes from the sun and eventually gets breathed back to the universe.

Yeah, people are going to disagree because they want me to say this or that thing and I'm not saying it in the right way, but I'm happy to have a conversation if people want to have substantive points of disagreement.

Julia: Sure. I believe I also read in some interview with you that in the process of writing this book, you gained some sympathy for the anti-naturalist point of view. Can you expand on that?

Sean: Well, I think it's not sympathy. It's not quite the right word. But appreciation would be a better word.

Julia: Appreciation.

Sean: Yeah.

Julia: Sure, yeah.

Sean: Because we have a way of going through the world ... Look, we can't sit and understand everything everyone who disagrees with us has ever said. That is not a practical way of going through life. At some point, you know -- I talk about this concept of planets of belief, we take a set of beliefs that we think are true, for reasons good or bad, and we build upon them. And try to fit them together, and make a coherent system for understanding reality.

We will naturally give more credence and attention to certain kinds of claims than others.

And it goes into the strongmanning impulse that we all have, that once you disagree with something, you sort of claim that you understand it and you think you know why it's wrong, but you never pay that point of view quite as much attention as the one that you ... As what you pay to what you actually believe.

My friend Jenann Ismael, who is a philosopher in Arizona and wrote a wonderful book -- that I don't completely agree with, but I think is very very valuable -- on physics and free will, for example. I recommended this on Twitter and you wouldn't believe how many people said ... I just recommended that you read the book, right? People on Twitter were like, "Yes, but what does she say? Is she going to agree with me, before I read the book? Otherwise, why would I read it? Does she get it right?"

Yes, to finally get around to answering your question, I just tried really hard to be sympathetic to the people I'm disagreeing with in the book. Whether it's people who think that there are intrinsic mental properties to matter over and above physical ones, or people who think that morality is in some sense objective, even in a naturalist world, or to people who think the naturalist world does sort of suck meaning and mattering from life.

I don't think that I have succeeded in all of those ways, but I tried. And in doing so, I really, I do think that I appreciated why they would think that, in a better and better way, even though I think they're completely wrong. I at least appreciate why ...

Julia: You say that with appreciation and respect.

Sean: Exactly! That's right. I mean, and I have been wrong, right? I think that one of my biggest fears in life is that I'm going to stop changing my mind as much as I used to. Because the planets of belief that we live on develop better and better defense systems as we grow older. And it just becomes harder and harder to make major phase transitions in our views of the world.

I used to believe that morality was objective and scientific. That's just an obvious example. I was a fun scientific atheist who thought that we could just use principles of rationality and evolutionary biology and so forth to find the correct moral principles. I made a big change in my mind about that. So who knows what I'll change my mind about next year?

Julia: Yeah, well my solution to the problem of this gradual tapering off of major mind changes as you get older, and learn more, and your views kind of solidifies -- which I think to some extent is just what should be expected, and it is not a failing on the part of the individual -- my solution to that is just that I start seeing little differences between viewpoints as much bigger and more important than I used to.

Sean: Right.

Julia: Maybe I never heard of utilitarianism and used to think that that sort of natural, intuitive deontology was the correct morality. And then I find out about utilitarianism and boom, that's a big mind change.

So maybe I don't have mind changes that big anymore -- but I can get really worked up about, "Well, is this particular thought experiment a successful challenge to this particular

brand of utilitarianism or not?" and that becomes a big deal when I change my mind about that.

Sean: Yeah, and I think actually that's not only natural and maybe inevitable, but that's good also. The story along those lines that made a big impression on me, when I wrote my first book, *From Eternity to Here* about the arrow of time and so forth: Ludwig Boltzmann, who was one of the great physicists of the 19th century, and he was pushing what at the time was a controversial way of thinking about atoms and thermodynamics and so forth, and because it was a sort of ... There was not quite the communication network that we have in the world now at the time. It really mattered where you were in terms of what physics you believed.

Julia: Wow, that's so weird.

Sean: I know, it's so weird. So in England in particular at the time -- or in Great Britain, because there's a lot of Scottish people who played a big role here -- they loved statistical mechanics and the Boltzmannian way of looking at things. And people like Maxwell and Thomson and Gibbs played a big role in that.

He actually had a trip in the 1890s where he spent a substantial amount of time in England. Boltzmann had always struggled with a kind of depression, and so he would have good and bad moments, and he had a wonderful time because he was talking with people who already accepted the basics of the idea about all of the details, right? About how to get it exactly right, how to apply it to different things.

He thought, "Yeah, science is great. I love my job," and so forth. And then he went back to Berlin where he was a professor in Prussia -- and no one believed him. They wanted to argue with him, but they wanted to argue about like, "Are there atoms?"

He was like, "Come on! This is so depressing. I don't want to argue about whether there are atoms. We should be beyond that by now." And I think that's very very natural. Those discussions just become less interesting once you've made up your mind and move on.

It's kind of okay, I get that, and at the same time, I do want to be open to updating my credences even about big things. It's a very very difficult balance to maintain.

Julia: Yeah, and I respect that desire immensely, as I'm sure will be no surprise to you or to my listeners given how much I harp on changing our minds.

Sean: That's right.

Julia: Well thank you so much, Sean. We'll have a link to the excellent, *The Big Picture* on our site and I encourage everyone to read it as well as checking out your blog Preposterous Universe -- but for now, we will move on to the Rationally Speaking pick.

[interlude]

Welcome back. Every episode, we invite our guest to introduce the Rationally Speaking pick of the episode. That's a book or website or organization or movie or something that

has influenced their thinking in some interesting way. Sean, what's your pick for today's episode?

Sean: Well one of the things I talk about in *The Big Picture* is the story of Princess Elizabeth of Bohemia. I want to make Princess Elizabeth a lot more famous than she is.

She was a Princess -- an exiled, ex-Princess really -- who entered into a long correspondence with Rene Descartes about dualism, mind body dualism. And Descartes of course famously advocated mind body dualism, and Princess Elizabeth back here in the 1600s really took him to task about that.

She was a believing Calvinist. She became an Abbess eventually. But she just didn't accept the argument. She just didn't think that what he was saying made any sense. And her primary point was, "How can something immaterial, without position or location in space like your purported mind, interact with the physical embodied body that certainly does have a location in space?"

Julia: That is an excellent point, Princess!

Sean: It's an excellent point, yes, and he never came up with a good explanation. And of course, I try to make the point that our modern version of that is, "How would some non-material soul interact with electrons and protons and neutrons that make up your body?" So I think it's a very topical question even right now.

The pick is a book called *The Princess and The Philosopher*. It's by Andrea Nye. And she basically looked up all those letters that Descartes and Elizabeth passed back and forth and she wrote a wonderful, short readable book that has long quotes from the letters, and is both a biography of Elizabeth and a discussion of the philosophical issues that they talk about.

She led a very interesting life. She was an Abbess, but she was a politically active one. She was essentially the mayor of the town for all intents and purposes, where the abbey was located, and she interacted with people like William Penn and a lot of the social movements of the time. And yeah, I think that she should be much more famous than she is, and everyone should read *The Princess and The Philosopher* by Andrea Nye.

Julia: Excellent -- you know, I saw a reference to their correspondence in your book, and I made a mental note, "I've got to find out more about this Princess. She seems so interesting." This is a perfect pick.

Sean: Yeah, and it's also, it goes without saying, but -- it was the 1600s and she was a woman, and every indication is that she was absolutely brilliant. When she was very young, she spoke many languages and she had mastered astronomy and geometry and all things like that. And so you have to read the book with a little bit of regret that someone like that didn't get the chance to really put all their intellectual powers to work in the world.

Julia: Yeah, although I'm glad she's getting more play now.

Sean: I hope so.

Julia: Well Sean, thank you so much for returning to Rationally Speaking. It's been a pleasure chatting with you and a true pleasure reading your book.

Sean: Thanks. This is one of my favorite places to return.

Julia: Excellent! I love hearing that. All right, well this concludes another episode of Rationally Speaking. Join us next time for more explorations on the borderlands between reason and nonsense.