

Could Robots Become Conscious? | Annaka Harris (Ep. 5)

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Welcome to Conversations with Coleman. Today my guest is Annaka Harris. Annaka is an author and editor, consultant for science writers, the author of the children's book *I Wonder*, and a collaborator on Susan Kaiser Greenland's Mindful Games Activity Cards. Today we're talking about her book *Conscious: A Brief Guide to the Fundamental Mystery of Mind*. Thanks for being here.

AH: Thanks for having me.

CH: So...

AH: Nice to see you again.

CH: Yeah. Likewise. Tell me how you got interested in the subject of consciousness.

AH: Mmm. It goes back pretty far actually. I really have been interested in it as a phenomenon for as long as I can remember.

CH: Mm.

AH: I've been I've been talking more recently a little bit about my my first when when I first realized that there was something interesting and mysterious about the fact that we're having an experience and that... And this is, so this is at a very young age. This is, I was about 8 or 9 years old, um. And this first came in the context of um severe migraines that that I was suffering from. And there were a couple of times where the the migraine went on for for long enough that I was just kind of stuck in a very still position because any any little movement would cause um the migraine to be much more painful...

CH: Mm.

AH: ...um, for a long stretch of time. I actually don't know, but it was probably at least an hour if not closer to two. And and other people, I have now spoken with other people who have had a similar experience in pain and I think especially children um, there's something I think more flexible about children's minds and brains and when they're experiencing pain, um I think they're just a variety of ways that they start searching for for coping. And I *discovered*, I think I just I became curious naturally because I was stuck there about what this experience of pain actually was. And I think I I did just naturally become curious and then I *realized* that becoming curious about it *stopped* this stance that I had of resisting it, this kind of like psychological stance of resisting it, which just gave me the tiniest bit of relief. And when you're in *that* much pain, any move in either direction of more pain or less is pretty significant. And so that that *that* realization I feel like for me was the beginning of my getting curious about experience in general and how it's, how the moment-to-moment experience is different from what we generally assume...

CH: Mm.

AH: ...or there's, there's a lot missing in our day-to-day experience when...

CH: So it sounds like you *discovered* mindfulness meditation on your own as a child.

AH: Yes. And I think that's actually not so uncommon.

CH: Mm.

AH: Um.

CH: But I mean someone had to discover it.

AH: Yeah, right. (chuckles)

CH: Yeah. Yeah, and presumably people have been discovering it all over the world for thousands of years.

AH: Yes.

CH: That's very cool.

AH: Yeah, and I in my volunteer work, I teach meditation to children and that was one of the, the main reasons why I wanted to, is realizing that I couldn't have possibly been the only one who came across this this type of technique as a child and that children are really available to to learning that skill. Um.

CH: So I didn't think we were going to talk about this first but, after having that initial experience of for a moment being mindful, realizing that your pain could be attenuated by paying attention to it, did you go deeper into that? Did you did you try to replicate that other times you were in pain as a child?

AH: Yes, and actually I did I was I then realized that it was applicable to psychological pain as well. And...

CH: Mm.

AH: ...and that's that's the one place I know. I'm sure there are times that I use it that I just don't remember, but my my strong memories are of being in difficult situations where I was very anxious, where you know, something difficult was happening um in my childhood where I realized I could apply that same way of approaching it. And even I kind of had my own version of meditation...

CH: Mm.

AH: It would have been incredible to have actually been taught it (chuckles)...um as a skill by an adult, which is why I am such a big proponent of this because it was I was just kind of figuring it out on my own.

CH: Mm.

AH: But yes, no, I quickly realized that that strategy could be applied to any kind of discomfort.

CH: Yeah.

AH: Yeah.

CH: So we'll get back to how meditation links up with consciousness...

AH: Yeah.

CH: ...in general, but let's get to some basic definitions here.

AH: Yeah. Yeah.

CH: Consciousness, that word is used in a lot of different ways.

AH: Yes.

CH: It's used in the political sense sometimes, consciousness-raising...

AH: Yes.

CH: Um. Let's narrow down what we're talking about here. What is consciousness?

AH: Yeah. So the way I use the term and what I'm talking about in the book is consciousness in the most fundamental sense. So I think the best synonym is *experience*, whether there's an experience present. And it can be it doesn't have to be complex thought. It doesn't have to be, if very simple creatures like worms or flies or bees are conscious, we wouldn't, we don't expect them to be having thoughts and you know (chuckles)...plans and writing books. There's this, compared to our experience, it's very minimal. But whether there's an experience present at all. And this connects to what the mystery of consciousness is, which is really the focus of the book that under, kind of defining consciousness as the in this very fundamental sense of just *experience* and in whatever form it's present, um it's in contrast to the way we see the universe, which we assume most of which is non-conscious. So we look out at the stars and the Earth and you know, the universe is filled with this non-conscious material and these atoms. And at some point, these atoms get configured in such a way that it becomes um...There's something that it's like to be *that* collection of atoms or that system or that brain. Um, and so so I was just referencing Thomas Nagel's description of consciousness. And he says in his in his famous essay, "What is it like to be a bat?" He says a system, or sorry, an organism is conscious if there is something that it is like to be that organism.

CH: Mm.

AH: And that's that's really what what I'm talking about in the book and how I'm using the word *conscious*.

CH: Yeah. For many people, I think they'll intuitively grasp why it's mysterious that the...

AH: Mm.

CH: ...guitar hanging on the wall over there is not conscious or so we think. We'll get there.

AH: Right. (chuckles)

CH: And that / am conscious and...

AH: Right.

CH:that I assume by analogy that you're conscious.

AH: Mmhm.

CH: Many people I think will understand at a gut level why that's somewhat mysterious...

AH: Yeah.

CH: ...if we're both made of atoms we're made of the same building blocks as the guitar. But I think some people won't. They'll think, "We had something. There's something it's like to be me. There's nothing it's like to be a rock. That's just the way things are." How do you...

AH: That's how most people see it actually.

CH: Yeah.

AH: it's it takes a little bit of work for someone to get to why consciousness is so mysterious.

CH: That's right.

AH: Yeah.

CH: Um, in the book you talk about one of the problems with consciousness is that there's no outward signs of consciousness... right? Even...

AH: Well, we kind of assume there are.

CH: We assume there are.

AH: We think there are.

CH: We think there are.

AH: That's one of the things I'm questioning.

CH: Right.

CH: Mmhm. So you can, I imagine, the way you set it up in your book...

AH: Mmm.

CH: It's, it's almost as if there's sort of four categories, right? There's behaviors that *seem* conscious, behaviors that *don't* seem conscious, and then there's the reality of consciousness and the reality of not being conscious. So you can have locked-in syndrome...

AH: Mmhm.

CH: ...where you *are* having a full experience, but you can't move any part of your body.

AH: Mmhm.

CH: So you don't seem to be conscious. On the other hand, things that we assume are not conscious can, do perform basically all of the behaviors that we can.

AH: Rlight.

CH: Right? Computers can speak now. I heard a an AI simulation of Jordan Peterson's voice recently on Twitter...

AH: Oh really?

CH: ...that was *absolutely* indistinguishable from the real thing.

AH: Wow. I'd like to hear that. Yeah.

CH: And I don't presume that there was a consciousness behind the program...

AH: Right.

CH: ...that made that audio.

AH: Mmhm.

CH: So every permutation of behavior and consciousness is possible.

AH: Mhm.

CH: And once you admit that, it seems like we actually have to find a theory that tells us which objects are conscious and which objects aren't...

AH: Yes.

CH:because we can't just trust our intuitions.

AH: Right. Yeah.

CH: So do you have a candidate for that theory?

AH: (chuckles)

CH: How do you, how do you think you know if if we were to build a robot made of silicon...

AH: Yeah.

CH: ...that behaved in many ways like a human.

AH: Yeah. No, I mean we can imagine this not being that far away.

CH: How would you think about determining whether it was conscious...?

AH: So, my my, the short answer to whether I have a theory is no. (chuckles)

CH: (chuckles)

AH: Um. And I think it's it's possible we won't be able to ever know the answer to this question. However, I think there are *many* questions that we haven't been asking *enough*. And I think we haven't been creative enough in our exploration of what consciousness is and um at what level in the universe and information processing it arises. And so the main goal of my book is really, as you're pointing to, shaking up our intuitions...

CH: Mmm.

AH: ...and shaking up assumptions. And so one of the most important processes in science, one of the most important scientific pro- part of the scientific process is challenging intuitions, *especially* when we are getting evidence that is counterintuitive. And so, you know, I have often mentioned this large range of categories where we've had to do this, and we often forget because our our intuition shifts as we gain new information. And then we're able to kind of absorb something that's counterintuitive and then it actually changes our intuition.

CH: Mhm.

AH: So we have some ingrained intuitions that human beings have evolved and, but our intuitions are also shaped by ideas and by culture and so understanding that the Earth is a sphere is basically the first moment we were encountered with evidence that was extremely counterintuitive where we had to grapple with these facts that didn't seem, that didn't feel right to us for some period of time before we could really absorb the new information and realized this was in fact true. Um yhe germ theory of disease, uh the theory of evolution, or anything that happens at a significant time scale, our intuitions don't guide us well in those

areas. Um and so there seems to often be a period of time... This happens very often now in physics. We're in terms of understanding space-time and and the fundamental features of reality, physicists are just continually in the business of encountering counterintuitive facts that they then kind of have to have to check and see which intuitions are leading us towards truth and which intuitions are misleading us.

CH: Mmhm.

AH: And we're and I think we're in a similar place with regard to consciousness studies right now. So I think we *clearly* have some intuitions that are misleading us.

CH: Mmhm.

AH: I think there's there's already some neuroscience that is conclusive enough that we know certain intuitions are in fact misleading us and and those intuitions have to do with primarily conscious will and um the feeling of being a *self*. And these intuitions largely inform our intuitions about consciousness. But we also, just specifically about consciousness, we have some *very* deep intuitions and assumptions that I think we haven't spent enough time challenging and I really see that as the first step. So I think if we're going to be able to make progress, if we're going to be able to get to a point where we can start to have a working theory of consciousness and understand where where in the universe we will find it, I think it will begin with this process of challenging intuitions. And I think we're really in some ways at the beginning of that process.

CH: Mm.

AH: A lot of the intuitions that I'm asking people to challenge in the book are still, there still very controversial and they're hard for many scientists and and neuroscientists to...

CH: Yeah.

AH: ...to grapple with. But I *really* think that's the first step. I think that's...

CH: Mmhm.

AH: I I don't yet have answers. I think it's possible we may *never* have answers, but I'm actually optimistic that we can understand a lot better. I think it's just going to entail um challenging intuitions and thinking much more creatively than we have.

CH: Yeah. Ah, yeah. I also tend to think that and we'll, I think we'll get here that the problem, the *deep* mystery is unsolvable...

AH: Yeah.

CH: ...at least by minds like ours, but...

AH: Definitely possible (14:08 not sure if it's "possible" or "impossible").

CH: ...nothing I do. You know you describe in the book, in the beginning sort of as an analogy for what it feels like to think about consciousness I think...

AH: Mmm.

CH: ...lying on on the earth as as a young girl...

AH: Yeah.

CH: ...and looking up into space and realizing you weren't looking *up*...

AH: Right.

CH: *really*.

AH: Right.

CH: That no...

AH: The intuition of up and down.

CH: Yeah.

AH: Yeah.

CH: And it's easy to know that intellectually once you learn about the solar system and you realize there's no such thing as up and down except relative to where we are on the globe.

AH: Yeah.

CH: But to feel that...

AH: Yeah.

CH: ...is a different thing.

AH: Yeah.

CH: To actually feel viscerally, that...

AH: Yeah.

CH: ...what you're looking at isn't an *up* but rather into space...

AH: Yeah.

CH: ...outward. That is very much what it's like and then you can have the experience of really feeling it at a gut level and then a second later going back to just being like it's up.

AH: Yeah. Absolutely.

CH: ...because we're built, I remember *that's* the experience I had when I read Daniel Dennett's book...

AH: Mm.

CH: ...*Intuition Pumps and Other Tools for Thinking*,...

AH: Uh-huh.

CH: ...which is the first place I ever encountered in my life the claim that there was not a little Coleman...

AH: Mmhm.

CH: ...inside my head...

AH: Right. (chuckling)

CH: ...looking at, looking out at the movie of my life...

AH: Yeah.

CH: ...and making decisions.

AH: Right.

CH: He just said, "That's scientifically wrong."

AH: Right.

CH: There's no place in the brain that it *could* be.

AH: Right.

CH: And I *realized* that without knowing it, I had this belief my whole life...

AH: Yeah.

CH: ...that was completely unsupported.

AH: Yeah.

CH: And it it shook everything up for me.

AH: Yeah.

CH: Um.

AH: That's one of the central intuitions that I talk about in the book because it's so related to consciousness.

CH: Yeah.

AH: But yeah, I know that example that I give of this trick I used to play on my brain...(chuckles) when I was a kid is all about challenging intuitions, almost more than it is specifically about consciousness.

CH: Mm.

AH: And I think this is what's so exciting about science and for me, it's what's so fun about--it's the *fun* part of science is realizing that there's truth out there that we can find and seek and better understand the universe that is *different* from what we assumed. And there's something I think intrinsically interesting about letting new information *in* and actually having it shift our perspective um because often our perspective is this very *small*-minded, you know, human dealing with our our everyday experiences and kind of closed off from the larger reality...

CH: Mm.

AH: which I think for the most part really does give us joy in in contemplating and understanding that that we're kind of connected to something much bigger and more mysterious than we realize.

CH: One obstacle I've had talking to people about this subject is the idea of consciousness being vulnerable to scientific explanation....

AH: Mmm.

CH: ...doesn't sit well with many people.

AH: Oh, interesting.

CH: Even many people who are very science-minded in most domains.

AH: Mm. Mmm.

CH: Consciousness is this *sacred* area...

AH: Mm.

CH: ...that they don't want science to impinge on.

AH: Mmhm.

CH: ...and I found, I *think* it has something to do with life after death...

AH: Mm.

CH: ...and wanting to maintain some mystery...

AH: Mmhm.

CH: *My* perspective on this has been I don't expect science to ever...

AH: Right.

CH: ...figure out *why* what it is that makes certain collections of atoms...

AH: Yeah.

CH: ...conscious and others not so I'm I'm sympathetic in the sense that I I also like there being some mystery in life.

AH: Yeah.

CH: But I just I don't think this one...

AH: There will always be...

CH: I think...

AH: mystery. We are not going to figure everything out. Yeah, I think that that's okay. But I think we do have some resistance. I mean, I think I often when I encounter resistance like that. I I notice that in myself...I think the word *science* um can mean different things...

CH: Mm.

AH: ...to different people and it can for some people conjure up um something *invasive* and *sterile* and kind of the opposite of what it means to *me*, which is simply seeking the truth...

CH: Mhm.

AH: ..and better understanding. And I think probably not everyone feels this way but for me, the idea that I could be living in ignorance of some deeper truth that is interesting or fundamentally shifts the way I think things are or they seem to me now, um I wouldn't want to be in the dark. I I want to understand it and and I think sci- scien-, you know in terms of life after death I mean, they're, someone has a very specific conception of how that works and they're attached to that idea, science is very likely to get in the way of that, but science ultimately is seeking the truth. And so if consciousness exists in plants or other forms of life that we haven't yet thought it does, if there's some way in which it you know continues on after death, I think the idea that you know in a more traditional religious sense that there's some there's some (chuckles) *me* that's that's *essentially me* that's like a soul that goes on, I think you know science is very unlikely to discover something like that is happening. But the truth is it *could* discover that consciousness does actually move beyond the brain...

CH: Yeah.

AH: ...or come from some other source.

CH: I came away from your book very...let's let's how do I put it? Very open to the idea that consciousness could be pervading everyday objects.

AH: Yeah. Yeah.

CH: And *that* sounds like a *crazy* thing to say when you say it...

AH: (chuckles)

CH: ...at face value.

AH: It really does. It sounds crazy to me *still*.

CH: Yeah, it still sounds crazy.

AH: Yeah.

CH: But if you actually trace the logical intuitions that you would use to try to refute that...

AH: Yeah.

CH: They're not as solid as they seem.

AH: Yeah.

CH: And much of the the you talk about in the book it that view is caricatured as like, "Oh so rocks are thinking?"

AH: Right.

CH: It's like, "Well, no."

AH: Right.

CH: We we we conflate thinking with...

AH: Yes.

CH: with consciousness,...

AH: Yes.

CH: ...which is a point that you make in the book and that many people I think don't totally understand...

AH: Yeah.

CH: ...because partly because it just so happens that humans think *constantly*.

AH: Right. So that's *in our consciousness*.

CH: Right. Yeah. So we assume that thinking is intrinsic- intrinsic to consciousness...

AH: Yes.

CH: ...but consciousness is a completely different thing from thinking certainly than...

AH: Absolutely.

CH: ...linguistic thought.

AH: Yes, absolutely.

CH: So you could imagine a sort of *pure* stream of consciousness just experienced, almost like just a white light with *no other sensory dimension*, just sight, for example.

AH: Yeah.

CH: Something very rudimentary.

AH: Yeah.

CH: You can imagine that *pervading* the universe or *that* being what it's like to be an atom.

AH: Heart of matter. Yeah.

CH: Per se.

AH: Well, yeah, so so we're kind of getting into this this um *category* of theories that that is termed ah panpsychism and they all in in some form or another postulate that consciousness is is a fundamental *force* or a fundamental *element* of matter. Um either, you know, all you know down to the level of atoms and electrons or existing some field, the permeations of which give *all* matter this intrinsic property. So it you know, it has all of the physical properties that we know it has and then it...um under these theories the idea is that that *all* matter everywhere in the universe has this *intrinsic* property as well.

CH: Mmm.

AH: ...and that it's something more fundamental and it, yes, as you said, it's very important that we don't confuse consciousness with complex thought.

CH: Mmhm.

AH: ...and one reason we do that and it's very interesting to think about. I think that's why it's so important to kind of break down these intuitions that are misleading us, but consciousness is the *one* thing that we can't have really any direct proof or experience of, but for our own. So we *assume* that *only* things that are like us have this thing because there's no way for us to measure it or see it or even detect it. I you know, it's I assume that your conscious (laughs) um because you're enough like me and I think that assumption makes sense...

CH: Mm.

AH: and is correct. But if someone were to tell me that you are actually this new advanced AI, and there's there's nothing that it's like to be you and "the lights are off," you know, there's there's nothing, there's no experience being had on the inside, I wouldn't expect, necessarily expect anything to be different on the outside.

CH: Mm.

AH: And as the the examples you mentioned that that I bring up in my book of *locked-in syndrome* and um anesthesia awareness is another one. We *know* that it's possible to have as a rich a conscious experience as we're having right now without *any* exterior behavior at all. Um. And so we we always assume that consciousness only exists in similar organisms or structures to our own and the further away you get from a human being, the less likely it seems just because we can't have, we can't have any knowledge or evidence from it.

CH: Yeah.

AH: ...from the outside.

CH: It. It, when I was reading your book ,it struck me that the the link between consciousness on the one hand, which is to say experience first person experience, the *fact* of experience...

AH: Mmhm.

CH: ...and any behavior is kind of the the biggest correlation without causation...

AH: Right.

CH: ...problem that humanity has ever experienced...

AH: Right.

CH: ...because we *assumed*, until we learned about locked-in syndrome and anesthesia awareness, that there's a direct link between the two...

AH: Mmhm.

CH: ...my consciousness is what is causing my hand to move.

AH: Mmhm.

CH: There's a causal link there. It's not just that my hand is moving just the way a silicon robot would would move.

AH: Right.

CH: And I am *aware* that that's happening.

AH: Right.

CH: We assume there's a causal link that *I'm* the cause of the thing.

AH: Yeah.

CH: But that could turn out to be just a *correlation*.

AH: Yes.

CH: Well, and so so there are a couple of places we can go here but, I should say in and I begin the book, in the first or second chapter that I that I pose these two questions that that are the beginning of the interrogation of these um intuitions that we have about consciousness. And the first question is: "Is there any behavior we can point to that is conclusive evidence that consciousness is present in that system?" Um and our reflexive answers to both of these questions is "yes" and this is the thing that that I'm that I'm trying to undermine a bit and the second question is related, but it's different. And the second question is: "Is consciousness having an effect? Is it doing something? Is consciousness *necessary* for certain behaviors to take place?"

CH: Mm.

AH: And we have a *very* strong intuition that the answer to that is "yes," which is what you are, what you're addressing there and there's actually neuroscience...

CH: Uh-huh.

AH: ...now that *absolutely* brings this into question...

CH: Mmhm.

AH: ...on many levels. So there have now been studies. So so so I in the book I distinguish *conscious will* from *free will*...

CH: Mmhm.

AH: ...because I think you can talk about them separately. I think of *free will* as a phenomenon of a brain or any system interacting with its environment, processing new ideas, having different options and through complex processing making a decision.

CH: Mmhm.

AH: I think there's some way in which we can talk about that as being *free will*, although ultimately I would argue that there's not much freedom there, but...

CH: Mm.

AH: ...with that that's still intact and we can still kind of have the free will that that everyone is interested in...

CH: Mm.

AH: ...and *drop* this illusion of *conscious will*...

CH: Mmmm.

AH: which I think is *conclusively* false and um a false intuition. So there have been these studies that it started a long time ago with with famous studies that were slightly controversial um Libet did these motor movement studies. Uh you were talking about moving your hand. So we feel we feel that whether or not we, our brains ultimately have free will, we have this feeling that *consciousness itself* is the will.

CH: Mm.

AH: Consciousness is the will. So we have to have this conscious experience of willing the action um or the decision or whatever it is that consciousness is *behind* many of our behaviors, all the behaviors we think are important really. And that's something that we can begin to question because Neuroscience is starting to break that down a little bit for us. And there are a lot of different studies you can look at but specifically so Libet did these studies using EEG, having participants move a finger, ah I think usually or a or a hand um so he was looking at motor movement. And they were deter-, the subjects were determining when they consciously had the impulse or the made the decision to to move that finger. Um and they mark on this, it's it's a special clock that he used but it's kind of like a second hand on a clock, and they could kind of mark it in their minds. You know, "This hand was on the one when I decided to move my finger." It turns out *he* could detect that decision at the, through EEG some milliseconds *before* the person was consciously aware of making that decision.

CH: Mmhm.

AH: ...since then, there have been more recent studies. There's one in 2011 where they're actually reading from individual neurons and replicated his findings, um at the level of individual neurons when they were doing um neurosurgery for epilepsy patients and and other patients who needed brain surgery. While they were getting that surgery, they agreed to be a part of a study where they they were were studying conscious, willed, consciously willed motor movement.

CH: Yeah.

AH: ... and then there was a more recent one in 2013. They used fMRI to study something more complex, which I think is *very* interesting. And the participants, rather than studying motor movement, which was slightly controversial because it seems like very different processing than "I'm making a more complex decision." So in 2013, there was this study um in Berlin where in an fMRI machine, the subjects were given two numbers and they had to choose whether to add or subtract these numbers.

CH: Mm.

AH: Um, and they were, so a similar type of clock when they made the decision. They would decide whether to add or subtract and then they would, they would do the math. And through the fMRI, they were able *up to four seconds in advance*, know whether the subjects were going to choose to add or subtract and know the moment when they were going to make that decision.

CH: So when I hear all of these experiments,...

AH: (chuckling)

CH: ...I I feel as if I am in Westworld just discovering that in fact, I've been a robot....

AH: Right.

CH: the whole time.

AH: Right. There's a li-, there's an element of...

CH: How how is this not that? It kind of just is that.

AH: (one or two indistinguishable words)

CH: The idea that you couldn't predict, that in principle, we can only do this with very simple decisions - decisions now, left or right add or subtract, but in principle, you could tell me what I'm going to do not only before I do it,...

AH: Yeah.

CH: ...but before I've *decided*...

AH: Yes.

CH: ...to do it.

AH: Yeah.

CH: You can tell me what I'm going to decide....

AH: Well in some sense, we really don't need studies like this...

CH: Right.

AH: ...to prove the point. I mean, I think we actually, there's so much we understand about the brain, and there's so much we don't. I mean, they're we're at the very beginning stages. This is you know, neuroscience is a very young science, um but just with the little we know we understand, I mean it's the same thing you were talking about with the you know, there's no "Coleman self" (chuckles) in there somewhere.

CH: Mhm.

AH: Um. We know our experience is a product of the processing in our brains. Our brain, they're, it's it's processing. It's dynamic.

CH: Right.

AH: It's not um a single solid, you know *free self* that's making decisions. We are, not only is it dynamic and it's all brain processing, um. The brain, our brain is not in a vacuum and so...

CH: Mm.

AH: ...we are connected to the outside world in all of these ways, all the things we hear, all the things we see, the things you know that are getting in *subconsciously*, uh. Even the air we breathe, you know, there there's this interaction with the brain and its environment in a way uh that is slightly counterintuitive to us, even though we understand it.

CH: Mm.

AH: And the fact that our experience is all based on *brain* processing is something that most of us at that this point understand and intellectually accept, but it's still not...intuitive to us *at all*.

CH: Mm.

CH: There's a great Joseph Goldstein...

AH: Mmm.

CH: ...who is a meditation teacher, uh. You quote him in the book...

AH: Mmhm.

CH: ...on the topic of *free will*.

AH: Yeah.

CH: And I think he he says something like, "What would it even mean...

AH: (chuckles)

CH: ...to have free will?" What would it mean to have a *will* that stands *outside* of the cause and effect relationship..."

AH: Right.

CH: "...that governs the world?"

AH: Like I loved that answer. This is

CH: It's..

AH: an event. Yeah.

CH: I found that this is a this, I've had debates with people...

AH: Mmhm.

CH: ...in my private life where this point was not compelling to them. But...

AH: Yeah.

CH: *Either* the laws of physics are laws...

AH: Right.

CH: ...or they're not.

AH: Right.

CH: And if they *are* and if we're in the universe governed by those laws...

AH: Yeah.

CH: ... then *our brains* are every bit as Bound by those laws as a clock.

AH: Yes.

CH: And so you're right that we actually don't need the Libet experiment...

AH: Right.

CH: ...to to prove it. You can prove it just by the conceptual point...

AH: ...as long as you believe that your, brain processing *is* what's creating your experience, you kind of that you have to....

CH: Yeah.

AH: (chuckles) ...kind of have that as your...

CH: Yeah.

AH: ...as your base understanding then then yes. Your brain processing is is based on its environment and genes...and...

CH: Yeah.

AH: ...your history and every interaction it's ever had.

CH: I think the upshot of Westworld is that it's not just the robots that are robots.

AH: Mhm.

CH: It's it's everyone. (chuckles)

AH: Yeah. Well no and and...

CH: ...in some in some in some sense.

AH: that's true. Although that's a very dark version of it....

CH: Yeah. Yeah.

AH: ...I mean it's funny because it I think you're right that ultimately that it's it's a very close description to the one I would give of the situation where actually in. Um, I see *that* reality as actually being a source of awe and wonder and I always hesitate to use the word *spirituality*...

CH: Mm.

AH: ...but there's, I think there's actually something.... It, in the end, it actually gives me some peace of mind.

CH: Mhm.

AH: ...um and I feel like for me, it's a source of well-being, and not just because it's it's a source of awe, but it actually I think gives us a sense of a deeper truth of our connection to the rest of the universe...

CH: Mmm.

AH: ...which I think is something that is part of spirituality. I think or there's a, another word. It's worse than consciousness (chuckles). People use this with you know, to mean anything they they want it to mean, but I should say when I when I use the word um, I'm speaking about a a a stance of staring into the unknown while seeking truth um and seeking a source of well-being within truth and some some kind of connection and relationship, too.

CH: Mmm.

AH: To the universe at large.

CH: Yeah.

AH: Mmhm.

CH: So let's talk about evolution.

AH: Okay.

CH: We are evolved creatures. And we, all of the parts of us, are evolved *for* something.

AH: Right.

CH: My hand is *for* grasping. We have these opposable thumbs. They were useful to our ancestors. The ones that had them had an advantage over the ones who didn't etcetera, etc. Most people know the basics.

AH: Mmhm.

CH: Every part of us was built by evolution...

AH: Mmhm.

CH: ...even the parts that we don't think have functions like, the appendix once had a function...

AH: Mmhm.

CH: What is consciousness *for*...

AH: Right.

CH: ...in the context of evolution?

AH: Right. Um, so this is one of the the avenues I take again to to challenge our intuitions a bit and this is something I was thinking about more recently. Just in the last few days actually. I was taking notes on the plane. (chuckles) So I'm glad you brought it up.

CH: Good.

AH: So this is one one thing in support of these, this this umbrella term of panpsychism. Um, if we can't find what conscious, what function consciousness serves, then it's it's, we cannot *assume* it's something that has evolved.

CH: Mmm.

AH: So we can kind of talk down, walk down a path...

CH: Mmm.

AH: If it's something that's a fundamental um ah feature of the universe that there is consciousness present in *all* matter everywhere in the universe, um then the brain processing that exists, our experience of it is simply what it's like to be this brain processing. And there would be an experience associated with *all* matter and every configuration, whether it's doing information processing or not, but there'd be some level however minimal in the most minimal systems. Um, it's something that's just a fundamental feature of matter.

CH: Mmhm.

AH: And therefore it's not something that evolved. It's something that is just present in every structure.

CH: Yeah.

AH: The the thing that's interesting is, so this *really* goes against my intuition and I always assumed um that I think like like everyone that somehow it intuitively makes sense that because it feels, we feel so strongly that consciousness is *behind* certain behaviors and behind behind behaviors that have evolved, right? So we think um you know, "I need to feel scared to run from the lion..."

CH: Mmm.

AH: ...that there's part of the processing that gets me to stay safe...

CH: Mm.

AH: ...is the experience of feeling the fear.

CH: Mm.

AH: And I think they're good reason reasons to question whether the *feeling* of it actually matters because we could um easily program a robot to you know, react in certain situations where it could be caused harm and we wouldn't expect it to need to *feel* anything to just run that program...

CH: Right.

AH: ...in that circumstance. And so if it happened to feel like something, that's kind of just something that that comes along for the ride and this this is one of the chapter titles in my book is "Along for the Ride," which is at this point largely how I, how I see consciousness. But what at the so this thing that I've been thinking about recently is, let's say we go with that intuition that consciousness somehow is useful in somehow makes our behavior bet-, bet-, more suited for survival, right?

CH: Mmhm.

AH: This this this awareness of the behavior helps us survive. I was thinking where where would we place *that* moment that that change is happening, I mean separate from the fact that you kind of encounter the hard problem and wonder how an awareness, how how consciousness ever comes into a physical system.

CH: Yeah.

AH: But let's say that, you know, that just magically happened at some point. So the way evolution works is there, there's a gene mutation that just happens and it's either useful or not. And most of them...

CH: Mmhm.

AH: ...are not and they were gene mutations happening all the time. And the ones that are incredibly successful get passed on and then, you know more and more creatures take it on. So if there's a gene mutation, so you have to imagine there's some creature or cell, you know you so you have to find where where you imagine this comes in, right?

CH: Mmhm.

AH: ...if it comes in at the level of a cell, um already, we're talking about something very counterintuitive...

CH: Mmhm.

AH: ...and something science does not support that cells, individual cells are conscious. But so you either have to go very deep to you know a moment like that in a cell or you go to a simple creature like a worm or wherever you place it, we're talking about a system that exists already and then there's a mutation that happens that make that brings a level of experience to that system.

CH: Mm.

AH: So there's some point in time and I'm (chuckling) not an evolutionary biologist. And I would love that, you know to talk to one about about this...

CH: Mmhm.

AH: Now and I've gotten very curious just about the details how this would work. And so I may be missing something, but it *seems* that at some point you have two systems that are almost identical or very similar. One, there is no experience. There's nothing it's like to be that system. And one that has some level of awareness even if it's very very minimal, even if you know, it's experience of heat or light, as you said.

CH: Mm.

AH: You had something very minimal um and so we're still, wherever we place that, we're still at a point where consciousness is not necessary for that behavior...

CH: Mm.

AH: ...for that system because it already existed. We just suddenly I mean if you're just adding consciousness, it's just adding, it's just an awareness and experience of being that system.

CH: Mm.

AH: And so I think it poses two problems for us. One is--it seems that that would have happened much earlier than we assumed. Consciousness involved, right? Most people think consciousness of, most scientists even think consciousness evolved. I mean, you get debate on whether you know, it's at the level of insects, um....

CH: Mmhm.

AH: If you you know, go to mammals if you have to, if you know fish are not counted, you know? It depends on where you put it, but then *suddenly* it seems very strange that we're talking about some fish *didn't* have consciousness. (chuckles) So, you know, there's this mutation.

CH: And any conclusion you come to is extremely strange.

AH: Right.

CH: Even the non-panpsychist ones.

AH: Yes.

CH: So you talk in the book about the ways...

AH: So it's *really* this mystery.

CH: Yeah, you talk about the ways in which *trees* communicate underground.

AH: Mm. Mmhmm.

CH: These were facts that I I didn't really know, but it it really just had the character of human communication in slow motion...

AH: (chuckles)

CH: ...and not even in *that* slow motion.

AH: Right.

CH: In terms of, you know, trees alerting their *children trees* to potential threats, like in real time...

AH: Yes.

CH: ...through the underground networks.

AH: Yes.

CH: I don't know all the details, but like, all it...Consciousness if it has an evolutionary rationale, if it if it helps us survive and reproduce in the same way that our eyes...

AH: Mmhm.

CH: ...or our brains do...

AH: Mmhm.

CH: ...would seem equally useful to a tree.

AH: Right.

CH: I mean it...

AH: Yeah.

CH: ...if it's useful it would be useful kind of across the board.

AH: Yeah.

CH: And you're right. I think you're very right to say that it is it is a very, it's very favorable for the theory of panspsychism that it's not clear that that that consciousness would have a evolutionary purpose for us.

AH: Right?

CH: I bought, I brought up this plant behavior in my book actually not because I think it's likely that plants are conscious...

CH: Mmhm.

AH: Although you can go down that path as well...

CH: Mmhm.

AH: Um but I brought it up actually because the behavior is so complex. I think it's very interesting when we're looking at human and animal and mammalian behavior that we *assume* requires consciousness.

CH: Mmhm.

AH: We look at these plant behaviors, which we assume are *not* conscious and they're so much more complex than we, you know understood previously.

CH: Mmhm.

AH: And they actually are *very* similar in in relevant ways to human and and and other animal behavior that it gets you to question whether those behaviors are actually evidence of consciousness.

CH: Yeah.

AH: So that was kind of why I was...

CH: Right.

AH: ...I was using those behaviors but yes, so Suzanne Simard has done this work and there are other people who have done work, um uh David (it's actually Daniel) Chamowitz has also done work on on plant behavior and the mechanisms *behind* plant behavior. But the the work where you were referring to which I think is so fascinating and I didn't know much about until I did research for this book are underground mycorrhizal networks, which are networks that are facilitated by fungi. Um, there is vast elaborate in forest underground networks that that help different tree species um coexist that show that they're actually interdependent on each other, that they share carbon underground through...

CH: Mm.

AH: ...these vast networks with different species of trees, depending on what time of year it is and which species *need* more carbon at that time. They're constantly kind of sharing it in this regulated way. Um, but the the thing you mentioned I think is kind of the most interesting and the most closely related to human behavior, which is that the trees that dropped seedlings, Susan and her work talks about she calls them the mother trees, the trees that drop the seedlings they could recognize their kin in the forest when they were, you know, planted amongst other trees that that were not directly related in this way, and they treat their kin, they send more carbon to their kin. They make more room for their roots underground. They send more defense signals. Um, there's this way in which which they're behaving and treating their kin so similarly to the way we do. And we assume we need consciousness for...

CH: Mm.

AH: ...all of that. We assume we need love and fear and all of these driving conscious experiences. And if we *assume* plants are not conscious, it really does get us to question whether consciousness is the thing that's making those behaviors possible.

CH: Right.

AH: Yeah.

CH: So let's talk about split-brain.

AH: Okay.

CH: Patients. These are patients who get their corpus callosum cut either fully or partially so...

AH: Yes.

CH: ...their left hemisphere is no longer connected with their right hemisphere.

AH: Yes.

CH: Can you *describe* to me what are some of the *findings* in patients like that?

AH: Mmhm. Mmhm. So this is mostly the go- work the work of Michael Gazzaniga and Roger Sperry. They were the first to do research on split-brain patients. So yes, there were these patients for, who underwent these surgeries for epilepsy. And then Michael Gazzaniga and Roger Sperry did research on them after the fact to see what was different about their behavior if anything after after this surgery. And it was interesting that for the most part, there wasn't much of a change noticed at all in the patient's friends and family and the doctors. You know in day-to-day life and interactions, there was very little to notice. They seemed very normal...

CH: Mmhm.

AH: ...and acting very much the way they they had prior to the surgery. But when they started studying them, they noticed that because the communication wasn't being shared, they could actually ask questions of the right hemisphere or left hemisphere separately. There were a variety of ways this was done, but they're they're some systems in the brain in our visual field for example, the right visual field gets projected to the left hemisphere and vice versa. And that information gets shared via the cor- corpus callosum. And so when that is severed, the information doesn't get shared.

CH: Mm.

AH: So they were able to *ask* split-brain patients different questions through *writing* by projecting to one hemisphere or the other. Also the hand, each hand is controlled by the opposite hemisphere. Um... And language for the *most* part is controlled by the left hemisphere. And they could decipher this ahead of time. There, every once in a while, there's a patient that has a communication language center in right hemisphere...

CH: Mm.

AH: ...but for the most part it's in the left. So they could *ask* a patient a question. They would give an answer and their spoken answer would be the answer from the left hemisphere because that's the speaking hemisphere. But if they would ask, have the question answered by the right hemisphere, so that often this is

done by the left hand either through writing, through grabbing an object, through pointing pointing to an answer on a screen, they would get a a very different answer to questions...

CH: Mhm.

AH: ...that entail our our conscious experience. So I don't know if you want me to give an example. It's...

CH: Yeah...

AH: It's hard to describe.

CH: Yeah, please give an example.

AH: And if you have show notes, I can actually give some visuals to to help...

CH: Yeah.

AH: ...with this. But the example I give in the book, um, they flash the word "key" to sorry, on the right the right visual field,...

CH: Mhm.

AH: ...which goes no, I'm sorry. It's the other way around they flash the word "key"...

CH: Mhm.

AH: ...to the left visual field...

CH: Mhm. Which goes to your right hemisphere.

AH: Goes to the right hemisphere.

CH: Mhm.

AH: So the right hemisphere is aware that it has seen the word "key."

CH: ...but it can't speak.

AH: And the left hemisphere has seen nothing.

CH: Mm.

AH: And that information has not been shared. Right?

CH: Mhm.

AH: So when they asked the subject, what word did you see, they will say, "I didn't see anything. I I didn't see a word." And then when they say, "Will you reach out with your right hand, sorry left hand um and grab the object of the word you just saw. And there're a variety of objects there--a coin, a key, a rubber band, and different things. They'll immediately go out and grab the key with their left hand, which is being controlled by the right hemisphere. So there's obviously a way in which, um their consciousness has actually been split. It's almost like there are now two people...."

CH: Yeah.

AH: It's more like conjoined twins...

CH: Yeah.

AH: ...than like a a single person.

CH: I mean the way I picture this is almost like the human body is a Pacific-Rim-style robot.

AH: Mmhm. (chuckles)

CH: And there are two people in the robot each controlling different parts.

AH: Yeah.

CH: Only one of them can make the robot speak.

AH: Right.

CH: And they can't talk to each other, these two people.

AH: Yes.

CH: So you show, but only one of them can see out of half the visual field. So if you show person one "key," they'll want to tell person two, "We're seeing a key right now." But they can't talk. And so the but but that that is a pretty freaky picture of what's happening there...

AH: Yes.

CH: ...because...

AH: Yes.

CH: ...it *does* suggest that in some deep sense, there are two consciousnesses that are separate...

AH: Yeah.

CH: ...that just happen to be inhabiting the same body.

AH: Yes.

CH: And there are, you describe in the book as well, there're experiments where or there're situations in which a split-brain patient is actually working at cross-purposes...

AH: Yes.

CH: ...with him or herself. One...

AH: Yes, it's called hemispheric rivalry.

CH: Yeah.

AH: Sorry go ahead.

CH: That's a great, that's a great way to put it.

AH (chuckling)

CH: A good term for it. But you you have you know, like one hand buttoning up a shirt and the other hand unbuttoning a shirt.

AH: Yes, they have different desires. They have different, they have different wills and intentions and...

CH: Yeah.

AH: ...um and different conscious experiences.

CH: That raises the question... So if you got your corpus callosum cut right now, who would I be talking to?

AH: (chuckling) Right.

CH: Like, who do you become in that situation?

AH: So I actually think that question doesn't really make sense.

CH: Yeah.

AH: But of course it's a fascinating question. So in my thinking as I've gone down more of a path of consciousness being something that is *probably* more pervasive than we have assumed... But even separate from that, knowing that the idea that we are a single, unified self that's doing the experiencing, knowing that *that's* an illusion...

CH: Mhm.

AH: ...that a very deep and strong um intuition is actually an illusion, I think we, it's more correct to talk about consciousness as having content.

CH: Mm.

AH: And content can come and go, I mean even in our normal experience content comes and goes. So if I go to sleep and start dreaming, you know that I can fly, that's a very different experience from the one I'm having now. And so the content can actually change pretty dramatically even in a normal healthy brain. Um and I think it's similar to what would happen, even just being asleep and awake, right? We go through these very different states. And so I think there is no "who would you be talking to?" because there's no *who* to begin with...

CH: Mmm.

AH: (chuckling) Right?

CH: Yeah.

AH: There's brain processing and there's experience and there's consciousness and there're whatever contents come into consciousness in *that* area of space-time in that collection of matter. And so...

CH: I'm trying to wrap my head around this though...

AH: Yeah.

CH: ...because, you know, I have and I I (chuckles) am sure that this is this is kind of you know, the same as realizing that there is no "up" but then...

AH: Yeah.

CH ...forgetting a second later. I think that's perpetually happening to me...

AH: Yes.

CH: ...when I think about split-brain patients, split split-brain patients.

AH: Yeah.

CH: So my my my mind is telling me, once the corpus callosum gets cut,...

AH: Yeah.

CH: it's almost as if you were watching one movie and now there are *two* movies, that the screen is split in half.

AH: Well, my guess is...

CH: And they're...

AH: ...at the experiential level, there's an experience of, a a seamless experience in the same way that your experience is seamless when a new sound comes in the room or when you go...

CH: Uh-huh.

AH: ...to sleep and wake up, right?

CH: Uh-huh.

AH: That's just, your experience is kind of just the stream of experience. Um, but there's no, there's no *you* to it, right? (chuckles) There's *literally* just a stream of experience. So there'd be an experience associated with the right hemisphere and there'd be an experience associated with the left hemisphere and there...

CH: Mmhm.

AH: And it's not like there's one person who has to go one place or the other.

CH: Mm. Mm.

AH: That that's that's the illusion.

CH: Right.

AH: And so experience, there could be this continuous experience in in branching in both directions.

CH: So if you were to take a split split-brain patient and you ask them to do two things--one is you ask them to tell you what it was like before and after...

AH: Mm.

CH: ...the experiment...

AH: Mm.

CH: ...ah sorry, before and after the surgery, you ask them to tell you verbally,

AH: Mmhm.

CH: ...so there you're talking to...

AH: The left hemisphere.

CH: ...the left hemisphere.

AH: Mmhm.

CH: And then you ask them to also write with their left hand a narrative--What, how did you know? What was it like to go from before the surgery to after the surgery? What do you think would happen?

AH: Yeah, I think...

CH: Would they be the same?

AH: I mean I could be wrong, but I actually think this is *not* a possible experiment because I think communication through language even written language, I don't think that can be done by the hemisphere that is that is not controlling...

CH: Mmmm.

AH: ..um. I know you can give options to choose from.

CH: Yeah.

AH: I'm not sure that the right hemisphere alone could write a narrative...

CH: Mm.

AH: ...in that way and it's, I mean I've thought about this. It's possible and actually I should find out for sure whether someone has done something like that.

CH: Yeah.

AH: I'm pretty sure they're, that's not, that wasn't part of the any experiment that was done.

CH: Mmhm.

AH: But I've thought about whether the right hemisphere actually *has* an experience of self associated with it.

CH: Mm.

AH: I think it's possible that...

CH: That it doesn't.

AH: ...that illusion of self kind of resides in the left hemisphere...

CH: Because of language?

AH: Yeah.

CH: Yeah.

AH: Well no, not necessarily because of language. I mean, I think they're related but not necessarily.

CH: Mm.

AH: I think you can absolutely have an experience of self without without language.

CH: Mmhm.

AH: But yes, I so so also, when you spoke about the right hemisphere having an *experience* of wanting to give the answer, but you know not being able to communicate with the left hemisphere,...

CH: Mmhm.

AH: ...I don't know that *that's* a good representation of what the experience is?

CH: Mmhm.

AH: it ma-, I I don't know. I mean...

CH: Yeah.

AH: ...this is not something we know but, I think we can't *assume* that that *that's* the experience. It could be. Um, it could even be a more accurate representation of the processing that's going on. So it's simply just an experience of coming up with the answer...

CH: Mmm.

AH: ...you know "key" and....

CH: Yeah.

AH: ...not having further contemplations about you know...being able to control or communicate with. But I don't, I don't know.

CH: Yeah, so...we all sometimes have the experience of *conflicting* feelings...

AH: Mm.

CH: On the one hand, I feel "X." On the other hand, I feel "Y."

AH: Mmm. Mmhm.

CH: *Even* to the point where I might feel one way for 10 seconds, and then I feel the other way.

AH: Yeah.

CH: Like just.

AH: Sure.

CH: So, in in the context of the split-brain patient, this becomes stark because one feeling is originating in a part of the brain that can't talk to the other part. So there's *no* even *attempt* at integrating, really?

AH: Yeah.

CH: So you get the buttoning up and buttoning down at the same time...

AH: Yeah.

CH: But when we can communicate with each other in some sense, it's it might still be valid to picture us as, picture it as really two different *desires*...

AH: Mhm.

CH: ...like almost...

AH: Yeah.

CH: ...two different, not to different people, but *kind* of two different people...

AH: Almost two different *wills*.

CH: Two different *wills*. That's right.

AH: Mhm.

CH: That's the best way to say it.

AH: Uh-huh.

CH: Two different wills that are both operating at the same time. And the reason you feel conflicted,...

AH: Mm.

CH: ...it's not because your one will is deciding, it's because there are two completely confident wills that know what they want, that are *battling*.

AH: Yeah. I think that makes sense. Although I think you're you're still imagining the wills as *sel/ves*.

CH: Yeah, I am. I am.

AH: I think...

CH: I can't I can't...

AH: ...I think those impulses and desire to go one direction over another uh don't necessarily feel like a *self*, in the way that you feel like yourself.

CH: Mm. Mm.

AH: That makes sense?

CH: Yeah. so...

AH: (chuckling) And it's all very hard. It's very hard to think about it. And um...

CH: We can do split-brain.

AH: Yes.

CH: And we have. We can't do *merged* brain.

AH: No.

CH: But we can think about merged brain...

AH: Yeah.

CH:in light of what we know about split-brain.

AH: Right.

CH: What do you think it would be like to merge brains with someone?

AH: Mm. Yeah, so I guess I gave an example of this in my book. And and I I think this is kind of endlessly interesting to contemplate. Um, I think it's similar to uh, the examples that I've I've given so far in that I think there would be a seamless, I I think the i-, the illusion we have of being separate *selves* gets in the way of our being able to contemplate questions like this.

CH: Mm.

AH: And I think if we, to the best of our ability, drop that illusion, again, it's it's consciousness and content. So it *truly* is an experience of more information coming into this island or sphere of consciousness, right? So, um if you just brought a new sound into the room, that would be the same as being connected to someone else's brain,...

CH: Mm.

AH: ...who you know with headphones on where a sound was delivered to *that* person's ear and that information could be shared with my brain, right?

CH: Mmhm.

AH: So it's just *suddenly* that there's new content that is *in* this experience of consciousness that is coming from the other person's brain. And so I think there'd kind of be this seamless, on on both sides, ..

CH: Mm.

AH: ...of more and more content.

CH: Mm. And do they *become* the same stream? Or is that the wrong question? Am I still, have I still smuggling...

AH: I don't know.

CH: ...in the assumption of...

AH: I mean, I think there, *there* we just get to the limit of of knowing how *that* would function as a system. So,...

CH: Yeah.

AH: I mean, I think there are all the answers are are possible...

CH: Mhm.

AH: ...so it could, depending on how truly integrated the systems were... I mean, I think if there were a way to integrate them as well as our two hemispheres are integrated, I think they're likely would be an experience, a new experience of self.

CH: Mm.

AH: ...Um, but it could be more like a sprit, split-brain...

CH: Yeah.

AH: ...experience where the the infra-, there's *information* shared, but there's still separate experiences of selves. Um... Yeah, I think I think there's kind of a wide range of possibilities. I also think it's possible that there are *many* other conscious experiences happening *already*...

CH: Mhm.

AH: ...in my brain...

CH: Mm.

AH: ...that are separate from *this* experience that that I'm having.

CH: We're, I think in the book you talk about the *cerebellum*, I think at one point which is not the locus of consciousness as we normally conceive of it...

AH: Right.

CH: ...but kind of...Could you talk about that a little bit?

AH: Yes. So um I I think, part of this I was actually just going to mention him--Iain McGil- Mcgilchrist. Um...He wrote a book called *The Master and His Emissary*, which is a fantastic book. And he talks about the possibility...he he actually, I think ,feels strongly that the two hemispheres of the brain are are have very different *personalities*...

CH: Mhm.

AH: and that there's some sense in which the phenomenon, the phenomena we see in split-brain patients is actually present...

CH: Mm.

AH:to some degree in in healthy brains.

CH: Yeah.

AH: ...and I'm forgetting your last question, but it was related to that..

CH: Mm.

AH: So yeah...

CH: Yeah.

AH: ...so there are parts of the brain, so there's there's a lot of subconscious processing that happens in the brain. Um, *most* of it is subconscious. And then some of it rises to the level of consciousness.

CH: Which, which right away is very perplexing.

AH: Yes.

CH: Why? Why is some of it conscious but not all?

AH: Yeah. Um and so I...I obviously don't know the answer, but I I tend more to now think that these processes are not *non*-conscious.

CH: Mhm.

AH: They're not integrated into the system that I'm experiencing right now, the part of me that's communicating with you. This is this is a very specific system in the brain that has this experience. But that there're, it's possible there are like overlapping experiences...

CH: Mhm.

AH: ...even within a single brain. And so the systems that we *assume* are non-conscious because um they don't rise to the level of *this* experience um could could have consciousness associated with them.

CH: Yeah. You know, I think you say in the book, something like, if it's possible to imagine a worm that, let's posit is conscious...

AH: Yes.

CH: ...*inside* of you...

AH: Right.

CH: In in principle, it's no harder to imagine that your body parts...

AH: Right.

CH: ...could be conscious and even other bardy body parts in principle, but it's easier to imagine brain, parts of your brain...

AH: Yes.

CH: ...working synergistically. There's there's, it's just that...

AH: But even without an experience of self or will just um...

CH: Right...

AH: you know, very very much more *basic* level experience, just there's *something* it's like to be that processing. There's some experience associated with it. It's not that it's completely "lights out" on the inside, that there's it's a totally dead, you know process in terms of of consciousness.

CH: Mmhm.

AH: So not that it's like there's all these different people. (chuckling)

CH: Yeah.

AH: (chuckling) You know, I mean..Um...but that there's...yeah.

CH: This connects that and will end on this note, but this connects to panpsychism...

AH: Yeah.

CH: ...because if it is *true* that consciousness goes all the way down to atoms or below...

AH: Mmhm.

CH: ...to say, which is to say that it's an intrinsic property of matter,...

AH: Yes.

CH: ...which the more and more you think about it, the more and more, it it would make, frankly *more* sense than the alternatives...

AH: Which is so strange, but yes., but that's where which is....

CH: We have to admit that we're choosing among *only* strange alternatives.

AH: (chuckling) Right.

CH: That's all that's on the menu.

AH: (still chuckling :-)

CH: And the question is to choose the the the one that's most plausible.

AH: Logical. Yeah.

CH: Yeah. And it could turn out that panpsychism is *that*, but then that would imply that *every* atom in your brain, in your body could *itself* have a very rudimentary form of consciousness.

AH: Yes.

CH: Yet what quote-unquote *you* feel like is something like the whole system. *You* might be simila-, unaware of the other points of view so to speak...

AH: Mmhm.

CH: ...in your own body...

AH: Mhm.

CH: ...just like you're unaware of *my* point of view.

AH: Sure.

CH: As distant.

AH: Right.

CH: Which is a very I don't know if that's alienating... It's there's something alienating about about...

AH: It is. It's also...Even even simple facts that we know like I have, I always forget the the ratio but you know, whatever human cells to...

CH: Yeah.

AH: ...um you know other (chuckles)

CH: That's true. There already *are* other organisms...

AH: That idea every time I think of it is *creepy*, but...

CH: Yes.

AH: ...it is it is a fact and if you're not thinking about it, it doesn't really, it's not relevant.

CH: Right.

AH: But yeah, I know it's similar to that.

CH: Yeah.

AH: Yeah.

CH: Well...Annaka Harris...on that note...thanks for coming on the podcast.

AH: Yeah, thanks for having me on.

CH: All right.