

Recall This Book 65
Other Minds
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Peter Godfrey-Smith (EF, JP)

John Plotz: So, have you ever met an alien intelligence? If, like me, you grew up on HG Wells, Ursula Le Guin and a lot of late-night science fiction movies, your mind probably went immediately to spaceships beaming down explorers from Alpha Centauri. But today we're going to speak with a philosopher who makes the case that we not-so-sapient humans actually share the earth with at least one intelligent lifeform whose thought works profoundly differently from our own. It has eight legs, and it swims. So, from Brandeis University. Welcome to *Recall this Book*, where we assemble scholars and writers from different disciplines to make sense of contemporary issues, problems and events. I'm John Plotz, a science fiction scholar from the Brandeis English department, and as usual, I am going to be joined, although a little bit later, by my co-host, Elizabeth Ferry. Our guest today is no, not an octopus, but in fact a writer who I think deserves at least the title of go-between to the Octopus Kingdom. This is Professor Peter Godfrey-Smith once of CUNY, and now a professor of history and philosophy of science at University of Sydney. His truly capacious career includes books such as *Theory and Reality: Darwinian Populations and Natural Selection*, and most recently, a wonderful book called *Metazoa* that I hope we'll be talking about later, but we're welcoming him here today to discuss *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*. So, Peter, thank you very much for joining us today.

Peter Godfrey-Smith: Thanks John, it's a pleasure.

John Plotz: Great, so I'm also delighted to announce today a *Recall this Book* first: we're going to welcome two first year Brandeis students who were winners of a contest open to all the students who are in fact reading *Other Minds* because it was

selected as the first year class read as part of the Helen and Phillip Brecher New Student Book Forum, so Izzy Dupré all the way from Wellesley, MA and Miriam Fish of Teaneck, NJ. Welcome to *Recall this Book*.

Izzy Dupré: Thank you.

Miriam Fish: Thank you.

John Plotz: Right, it's really great to have you guys here. It's always exciting to try something new. So, before I ask Miriam and Izzy to share their questions with you for you with us, Peter, I just wanted to invite you to begin to by speaking briefly about the book in question that is, *Other Minds*, at maybe highlighting what you think your main claims are. It's, the book is 5 years old now, I was amazed to realize. So, you know, it'd be great to hear your takeaway in terms of what it aimed for then, and you know, looking back over five years what you think it actually accomplished. So over to you.

Peter Godfrey-Smith: Sure, the the the goal of the book is to explore encounters with with minds that are not just nonhuman but as other as different as, not as possible, but as we can find on Earth. And I do think that octopuses and other cephalopods are special in their otherness, so the goal of the book is that kind of encounter. It's organized, though, very much around a feature of the evolutionary history of life on Earth and some historical relationships that link us with them. The fact that, if you go back in time looking at ancestors of any two living things in particular, any 2 animals on Earth, now you'll reach a common ancestor. So, something that was an ancestor of both of them and you have lines of evolution leading from that common ancestor to to us, and that other that other being now in the case of octopuses, the common ancestor is way, way back. It's about 600 million years ago, probably a little flattened worm in the sea. So, an octopus is unique among animals because it's so far from us that's really a long time

in the history of animal life. 600 million years. But they're so complicated and they have a mixture of features that are quite reminiscent of human intelligence and human minds, and here I would especially talk about their inquisitive, exploratory nature and they have features that are utterly different from us, features that make it very hard to imagine what it might be like to be them. Hard to imagine what kind of thing experience is for them, and part of that involves their radically different body. A body with no, almost no, hard parts at all, and part of it involves their very different nervous system where most of the neuron just spread through the body of the animal rather than being concentrated in the head between the eyes as with an animal like us. So, the goal of the book is to try to make contact and to write about attempts to make contact with octopuses and other cephalopods to try to get inside their heads to try to, well inside their bodies, to better work out what it might be like to be them, and to use that exploration to make progress on general questions about mind-body relationships, about the place of mind within nature as a whole.

John Plotz: That sounds great, Peter thanks and that's already, I mean even with that question of getting inside their *head* versus their *body*, you've already raised so many interesting questions. And, I think Izzy, if you feel ready to take it away.

Izzy Dupré: Yes, sure. So, as you mentioned, you begin your book by kind of diving into the departure between people and cephalopods like 600 million years ago and we know very little about our common ancestor and that we only really know it had a nervous system. And considering how far back our connection to cephalopods extends, do you believe that, to the best of our knowledge, the octopus is nature's best example of what we could call an other mind? And if so, why should we care like what value can we find in exploring a mind most different from our own? And considering what we do on land and what octopuses do in the sea, are we

actually able to relate to each other, even amongst our otherness?

Peter Godfrey-Smith: I do think they're about as good, almost as good a candidate for a radically other kind of mind as there could be that, it's, you know, it's hard to imagine there being a better one. If we had not discovered octopuses in nature, I think it would have been quite hard to have invented them in our minds, I think would have been quite hard to come up with with with something like this so. Right, I do think they're special in that way that that that they have that combination of being so far from us on the tree, and so different and yet so complicated because of their particular history and their particular lifestyle, their importance, fundamentally, concerns what we learn about the place of mind within animal life. The fact that we have these multiple evolutionary pathways, I think tells us a lot about that. On the question of whether we we can make contact. You know, one could have imagined a situation where you began interacting with cephalopods and after a while just sort of thought, "well this is not working. You know, I can't make head or tail of anything that they're doing." I think one of the great things about the situation is it's not like that. There are these moments that at least appear to be a contact between us and them. In my own case, in my own experience, it's been the giant cuttlefish, not octopuses, but those guys that have felt particularly important from that point of view, with the octopus as my friend Matt Lawrence, the guy who discovered Octopolis, he seems to have quite a special relationship with them. A real octopus whisperer. They crawl all over him at a moment's notice, not so much with me. And I think that's partly because I'm always the guy with the tape measure and the camera and fussing with them in it. Whereas Matt just sort of lies around with them. But in the case of giant cuttlefish, where I'm not doing that, you do have these moments where it's inescapable to think that there's a kind of inquisitiveness. They're trying to make sense of you trying to make sense of how you fit in. Some are scared,

some are aggressive, some are friendly and all these things are recognizable. They all feel like making of contact between mines.

Izzy Dupré: Well, thank you so much Peter. You definitely give me a lot to think about. We started talking about how we can learn about intelligence itself from these creatures. And I started wondering how do we really measure intelligence? There's no tangible scale, as you mentioned in your book, but we can look to skills? And so, I'm wondering whether we can compare our skills as human beings to those of an octopus and whether they are, are they even comparable? Do they have the same level? Do you, do we have the same capabilities just in different environments? And how does environment really shape what we define as intelligence?

Peter Godfrey-Smith: As you say, there's no scale. There's no overall scale or ladder that's appropriately used to rank different kinds of intelligence across very different sorts of animals. And I come back to that that point over and over again in circumstances like this, because it's so hard not to come to, impose a kind of scale. I think there are some. It's not a complete mess. I mean there are some things that we can look for and that people do look for in trying to make comparisons between us and them, dealing with novelty, effective dealing with novelty, I think is a very important cluster of features that distinguishes some animals from others. To what extent can an animal move beyond a kind of routine response to circumstances? To what extent is it able to handle situations that are genuinely novel and do something that makes sense? Now, once that question is asked, I think that octopuses and some birds do appear to be special among animals with respect to that feature. They transcend routineness in a way that is important. So that's a kind of cluster of features that I think repays quite a lot of attention, quite a lot of thought. One last point about this. People sometimes in these contexts think that what's being learned is that humans aren't special, that we're not particularly unusual animals. I resist that a little

bit. I must say. I mean, I think that part of what has to be understood in this general area is how initially pretty nondescript primate lineages was eventually able to do the extraordinary things that humans can do now. I mean the use of technology of the sort that we're making. You said that the present is just an amazing thing in evolutionary terms, and I think it's important not to downplay that. I think it's important to realize just quite how weird we are in our use of technology in the unusual kinds of social life that humans engage in. The book I'm working on right now, which is a third book in the series—there's *Other Minds*, then there's *Metazoa*, which is about animals more broadly and a third one, which I'm currently at work on—grapples more with that kind of with the peculiarities of the human case, more than I do in *Other Minds*. In *Other Minds* that there's a chapter about language and its effect on thought, the internalization of language, and I think that's a very important jumping off point in trying to work out what makes us in what makes us different. So, no scale, as you say, some common currencies in thinking about comparisons between animals are possible where dealing with novelty, I think is very important, but at one at some point we have to think about what makes humans so weird. That's also part of the situation.

John Plotz: So, Izzy thank you so much that's great and Miriam if you wanted to pivot on now.

Miriam Fish: Sure, thank you. So, given actually that perfect opening, I'd like to take another angle of Izzy's question and talk a little more about what it means to have knowledge. Throughout the course of other minds, there's a pretty clear message that comes along that octopuses are inherently living contradictions. They're both social and antisocial. They have this great ability to transform colors and yet they are colorblind. No matter what it is about them, it always seems that they are at both opposing polar extremes. But at the same time, we have their image plastered over the media, whether it's the Hydra and Marvel movies, which frankly

speaking, is just an octopus in its depiction, in the way that it's been drawn, or whether it's the Netflix movies, the John Oliver Special? For some reason we're all octopus crazy. So, what does this seem to say about us? In a different sense, as individuals who pursue an understanding of what knowledge truly means to be pursuing something which is ultimately unknowable.

Peter Godfrey-Smith: On the question of why octopuses have achieved the cultural role that they have, I think they've, I think there are several different reasons for this. There have been transitions that they've taken on roles that have made certain kinds of cultural sense in different settings. If you go back not that long ago, they were pretty universally treated as an embodiment of horror, of awfulness, of something very negative in violence. Victor Hugo, the French novelist, has a famous passage in a novel where he just vents at the octopus and there are similar sorts of things that have been done with cephalopods since then so.

John Plotz: HP Lovecraft for example.

Peter Godfrey-Smith: Yeah, right. Also, and moving to other cephalopods as well as moving to more prosaic or cultural products. The first James Bond book *Doctor No* has a giant squid as a sort of nemesis at one point. They're sort of negativity dominated for a long time. And almost imperceptively, they're changed so that they're no longer so wholly negative. Now I don't know if they have a kind of single valence now. I don't know if they if they, except for otherness, strangeness, differentness, I don't know if they've taken on a sort of definite role that's replaced the very negative role that they had for a long time. And I guess one might think about that in terms of their usability, their willingness to take on all sorts of different roles as humans see fit, I don't know. I think it'll be a little while, perhaps some years before it's possible to look back on the cultural transitions here and make sense of how they made this, how they made this shift. It might be too early to sort of to make

full sense of it. On the last with respect to the last part of your question. I'm not a very skeptical person about the idea of the unknowable things that, you know, the idea of things that we'll never know, the idea of mysteries that will remain mysteries. I tend to think that even the most puzzling questions that arise in this context concerning what it might be like to be them, concerning how they came to be so weird, with that, those contradictory combinations of features that you mentioned. And with respect to the questions about how subjective experience fits into the world as a whole. I think the track record of skepticism even in fundamental questions is not a very good track record, so I fully expect that despite the perplexities, it will become possible to work those things out.

Miriam Fish: So, based on the idea that you mentioned near the end that even what may appear now to be unknowable, may one day become knowable - would you be able to posit how that will impact how we see octopuses? Once their singular valence of intense difference and the sense that something about them is so mysterious that we just want to know. More once that veil is lifted, how do you think our understanding of them will shift?

Peter Godfrey-Smith: The picture I have is one in which there are twists and turns in the roles that different kinds of animals take in culture that are quite hard to predict. I do think if we broaden out from the octopus momentarily, I think that in the future the idea of kinship between human life and other kinds of animal life, including octopuses, including other mammals and birds, but also including to some extent other invertebrates, I think a general gestalt of kinship is likely to become stronger. And I think that would be a positive thing. I think that's the way things have been tending. I'd be surprised if there was a turning away from that tendency in the near future. And as I say, I think of that as both on factual questions and also on evaluative questions, a rather healthy development.

John Plotz: So Izzy, Miriam, thank you guys both so much for being here and you know, we'll say goodbye now. But see you later for sure. So, thanks, thanks.

Elizabeth Ferry: Yes, thanks to both of you.

Izzy Dupré: Thank you so much John, Elizabeth, for having us and thank you so much Peter. I've loved hearing your answers.

Peter Godfrey-Smith: Thank you. Very nice to meet you and I enjoyed this conversation.

Miriam Fish: Thank you, it's an honor.

John Plotz: Wonderful bye bye you guys. So, Peter, I might if you don't mind, I just maybe pick up on a thread that Izzy and Miriam got started, I think it was easy who asked about the sort of land and sea question, and I thought that's actually a good way to think about, first of all, just to ask you to say more about the distinctiveness of the distributed cognition of like the consciousness that exists in the arms.

Peter Godfrey-Smith: The case I'm thinking a lot about at the moment is birds and the comparison. If we're thinking about land and sea questions, the comparison between the kinds of lives that sea animals have and the kinds of lives that birds have on land. The different kind of organization. In some ways, a lot more centralized so that that they've got the vertebrate centralized, you know, neurally centralized organization, unlike the octopus, in some ways not. There are these perplexing left brain/right brain relationships. In the case of birds, they have a partially disconnected relationship between left and right in the upper parts of their brain, and there's considerable specialization it turns out, with respect to the sort of styles of cognition associated with left and right in the case of birds. Does that, combined with in some respects given the demands of the kinds of action that they engage in, you know, enormous cohesion and and unity. You know, given the way, the way a bird lives, it has to be able to

act as a very coherent, coordinated, single thing. It can't have its parts doing the weird things that octopus parts do. So, I've been extrapolating, trying to think about some just, some first thoughts about the land and sea relationships, from comparing a case like the octopus with a case like the birds.

John Plotz: Hey Peter, can I just? Jump into to understand, yeah, yeah, make sure I understand the triangulation. There do you want, do birds then get located in the air as a third realm? Or are you thinking about birds primarily like as another kind of land, animal or?

Peter Godfrey-Smith: I'm thinking of them as as a land animal who.

John Plotz: OK.

Peter Godfrey-Smith: I mean, obviously they, in one sense they spend their time, part of their time, in in yet another kind of milieu, but something that they have in common with other and animal land animals is the difficulty of life on land. The difficulty of action, the difficulty of dealing with the extremes of various kinds that animals on land have long confronted. The way I think I talk about this a bit in the book *Metazoa* is life on land is harder for animals in some ways than life in the sea, but if you can make a living on land, there are vast opportunities. There's a lot more, there's a higher intensity energy flux, there's more energy in the system, there's the scope for actions that would be very difficult to achieve in the sea, but that can be achieved on land. There's a scope that animals have for different kinds of behavior on land as compared to the sea. So that's one thing I've been thinking about recently, using birds as a case.

Elizabeth Ferry: So maybe I'll pick up on a question from something from Miriam's questions and kind of explore another aspect of the book. I just wanted to start with one comment because what you mentioned about the kind of formerly threatening valance of the octopus and other cephalopods kind of now

shifting to a more mixed and maybe sort of friendly and accepting, it does kind of interestingly map on to what you were saying about a trend towards a sense of kinship with the other right? So, if they, you know, in the past for Victor Hugo octopuses represented the other, but the other was menacing and monstrous, right? So yeah, that's just, that's just to kind of set the stage, but I was really interested in the way in which you handled a question that other books have also handled that talk about octopuses, or, say, the film *My Octopus Teacher*. With this kind of tension between wanting to understand octopuses in ways in which they're like us or could be kind of analogized, which you see in things like the octopus teacher, but not so much in your book. I really appreciated the way you kind of handled the question of anthropomorphism, or sort of kept it at bay, even though it's sort of an impulse in a sense, so I'm just curious how you grapple with that question, right? How do you deal with the issue of understanding without only understanding through ways of being human?

Peter Godfrey-Smith: On the 1st I'll, I'll pick up the first thread a little bit before moving to that one. I haven't actually thought about this, the particular contours of this, enough so it's good to sort of be prompted to think through it. So right, octopuses have acquired a more mixed, less wholly negative violence. And I mentioned earlier, the idea that there's a tendency towards a sense of kinship with more different kinds of animals. I guess those features must be connected. If you had a situation where the octopus was replaced by something else in the culture as the animal embodying horror, then you might think right, this is not a general shift towards a sense of kinship. It's just the octopus has changed roles that switch roles with something else. And it doesn't look like that. I mean, John may have thoughts about this. He knows this side of things much better than I do. There's not an obvious candidate there. I suppose it might be said that artificial systems have taken on a role that was perhaps formerly occupied more by the octopus, as threatening, as other in a bad sense of

other. And that with artificial systems in that place, octopuses have been freed up to just become interesting cousins.

John Plotz: That's the hypothesis known as the "Open the Pod Bay Doors Hal" hypothesis.

Peter Godfrey-Smith: Right? Right, we and the octopus confronting, uh, confronting how as organic beings having to deal with this even more disturbing, you know, than any animal, artificial being. Yeah, right? I mean that makes some sense as a narrative, I guess, I bet there are twists and turns.

Elizabeth Ferry: Yeah, I don't think you need to take it too, you know, completely literally, but I think there's and there's interesting ways in which in popular culture, like a film that John and I saw together *District 9*. Which is sort of exactly about the recuperation –

Peter Godfrey-Smith: I love that film.

Elizabeth Ferry: I – Of a frightening other, yeah.

Peter Godfrey-Smith: I love that yeah, right.

Elizabeth Ferry: Yeah.

Peter Godfrey-Smith: How does *District 9* fit in here? It's could you just finish the thought about District moments?

Elizabeth Ferry: Sure, yeah. So, *District 9* is about this horribly frightening other right, the Prawns, that are kind of subjected to all these kinds of othering, you know, ways in which they're made into monsters, and obviously there's a metaphor there going on about other kinds of othering. But very well done. But you know through the course of the movie –

John Plotz: Hey sorry Elizabeth, just to jump in on that, some people might not have gotten that it was set in South Africa. So, the

other thing you're talking about is that it's an analogy of apartheid, but apartheid applied to this alien scenario.

Elizabeth Ferry: Yeah, yeah apartheid and but also any kind of refugee, other kinds of situations, right? There's all sorts of some you know signposting, for that, but through the course of the movie the Prawns kind of become recuperated in, you know their otherness shifts from being menacing and monstrous to being, you know, very different, yet approachable, or yet somehow that some kind of a connection can be made mostly through the transformation of the guy whose name I've now forgotten the name of the actor.

Peter Godfrey-Smith: Wikus van der Merve was his name.

Elizabeth Ferry: So that's kind of where I was going.

John Plotz: Oh, wow yeah.

Elizabeth Ferry: But you see what I mean? So, there's this sort of the it's a like microcosm of the travel of the octopus innocence. Through the course of the movie.

Peter Godfrey-Smith: Yeah, right.

Elizabeth Ferry: But I was sort of picking, just sort of wondering if you just to bring us back about this question about anthropomorphism, how to understand how to understand without anthropomorphizing, and how you dealt with that.

Peter Godfrey-Smith: OK right yes. What one response I have is that in some contexts, I think a person should not be too worried or fearful of the anthropomorphic tendency. I think it's a natural human response to do this projection, and if you know what you're doing as you do it and and take it for what it is, I don't think it's something to sort of feel guilty about. And I think the mistake comes from conflating that kind of projection that we make given all the quirks of our own human psychology and the way in which we see the

world, the problem comes from mistaking that projection for a kind of a science. I think, you know scientifically, well founded piece of hypothesizing. I think it's a natural thing to do, and it can be very suggestive. It can lead you to ask questions about what might be going on in the animal. So, the idea of anthropomorphizing as a bogey of sorts, as something to sort of always be guarded against. I have about a mixed feeling about. I think it's, that the kind of projection it's, if all that's involved is a natural human response and can be informative. One just has to know what one is doing. And try to think about the ways in which what might seem a very salient looking feature of the situation from the human point of view might be very much other than that from the animal's point of view so.

John Plotz: So, can I take that? I'm going to take that as a person trying to write about science fiction, now I'm going to take that in a completely self-interested direction and just sort of ask, you know, noticing that from Jules Verne, forward, we've mentioned a lot of sort of science fiction or speculative fiction works in this conversation. And I wanted to ask you, you know Peter, maybe on this point, about pathetic fallacy or empathic projection, but just more generally, whether science fiction and speculative fiction and other kinds of aesthetic experiment, you know, how you respond to them in terms of your own work and your own thinking about this problem of the distance between human consciousness and that alien that's out there. Like, I can see an objection that would be to say, you know that the problem with literature is that it's just guesswork. It isn't scientific. All it does is kind of parasitically, you know, run out any possibility without any kind of objectivity or rigor or something like that, and then I could see another point of view that would say, well, no, these are actually, you know, kind of like that Thomas Nagel, *What is it like to be a bat* question, like these are, these can be keys that unlock a new way of looking at a problem? So yeah.

Peter Godfrey-Smith: That they could be keys of that sort. I wouldn't want

to make the value of speculative fiction too dependent upon that kind of ancillary role in relation to scientific understanding. I mean, one can imagine telling a story if a person challenges the value of that kind of work by saying, oh no, it's really valuable because it gives us ideas that can turn out downstream to have scientific importance. They might, but I wouldn't want to tie too much of the justification of the practice and the activity to something like that. I think it has its own, I think it has its own cultural importance. It can be a kind of arena for a fairly, constant, concerted thinking through of some of these themes. Adrian Tchaikovsky, who's a science fiction writer has a book.....

John Plotz: I just yeah, I just read it actually.

Peter Godfrey-Smith: *Children of Eden*.

John Plotz: Yeah.

Peter Godfrey-Smith: OK yeah he where he explores octopus experience in quite a detailed way. I mean it, it's not a sort of passing or impressionistic treatment, it's quite a detailed, thoughtful treatment where he tries to imagine octopus life as a kind of in some ways a dialogue, in some ways, almost a three-way conversation between the central brain, between the distributed nervous systems in the arms and in a more uncertain role, the color changing skin itself. In the book that follows up other minds, the book *Metazoa*, at one point I make use of Tchaikovsky's thought experiment a little bit explicitly and say right this is a working through of some of those themes in the, in some ways, very unconstrained medium or speculative speculative fiction. But he made the choice of trying to stay fairly faithful to the biology and to try to do so in a way that combined a pure imagination with a degree of rigor, and I think that wound up being a particularly valuable exercise, so it's a good book generally, but it also I found it very thought provoking with respect to questions about octopus experience. Right, so there's, there

is. the genuine feeding backwards and forwards between more scientifically oriented discussions and fiction. I wouldn't want that to dominate our response to fiction, though, that to speculative fiction, that I keep coming back to that.

John Plotz: Can I ask you about how you connect that to, this may not be an issue you want to touch, but how you connect that to the notion that we may be approaching real artificial intelligence? Silicon-based consciousness? Because it strikes me again to invoke the triangle. You could see AI as a different form of distributed cognition or a different form of embodied mentation and does that seem too speculative a thought experiment at this point, because we're too far from actual consciousness? Or do you actually want to go there and say what you think we might learn from that sort of consciousness or experience?

Peter Godfrey-Smith: What one thing that bears on this, that informs my response, is the fact that I'm a little skeptical about some claims in the area of strong AI, more so than some naturalistic philosophers and people in this area. I suspect we aren't that close to building an experiencing artificial system. And I think that because I've become convinced of the importance of some physical peculiarities of nervous systems, some things that are hard to build into an artificial system that I, well, rather hard to build into artificial systems using the kinds of technologies and the kinds of platforms that people make use of now. I think of those some peculiarities of nervous systems as very important in understanding experience, and I think the brain is less well understood as just a big switching network, a big computational device. That I thought, you know, 10, 20 years or so ago. It is then possible to re ask your question in a setting where we imagine the changes on the hardware. The computer hardware side that I that I had in mind.

John Plotz: Let's just posit it could happen. Let's say it's not 50 years is 500 years, but yeah,

Peter Godfrey-Smith: Yeah, or something between it would be my, would be my guess yeah,

John Plotz: OK, good even better, alright?

Peter Godfrey-Smith: Then there'll be the question. I mean if if we take nervous systems as the starting point, there are both very centralized and much less centralized nervous systems, and if we're building artificial ones, there will be the option of building either more centralized or less centralized ones. In the case of the Octopus, I think we've learned, it's not that they're utterly and radically decentralized. They're not like a sort of Internet object. There's a lot of cohesion mixed with some surprising absences of cohesion. It's very much a mixed story, and I don't think we yet know enough about the balance or the relationship between the more cohesive and the less cohesive sides of that case to know what to build and what we'd get if we built particular sorts of things on the artificial side. Right, so my response is, I don't think that the present-day Internet or things like it, or present day, decentralized artificial systems are particularly close to being a new kind of experiencing being. I think that future artificial systems may well be, I think they'll they'll look more neural. They'll look more nervous system-like than the ones that people typically have in mind. And when we build those things, we'll then have to think about the relationships between more cohesive, centralized, more quasi-autonomous with respect to parts organizations. Just as we're currently grappling with in the case of the octopus.

John Plotz: Well, Peter, really appreciate your time. You've given us so much to think about and can we just sort of, wrap it up. There's a signature question we we like to ask people at the end and I'm just bringing it on you so feel free to take a pass if you want to, but we ask people about a recallable book which basically means, if you enjoyed this conversation, like if you like thinking along these lines, is there a book that you would look back at , that you would

point to. And you've already given us that Adrian Tchaikovsky science fiction book so, you know, we'd be asking you for a bonus in a way, but I mean if it so, for example, I was going to pull out Darwin's *Expression of Emotion in Man and Animals*, because I love the way that that book, you know at the end of his trilogy of evolution books, you know that he talks about human and animal emotions, kind of aligned with one another. So that'll be my recallable book for today, and I if I wondered if you had one.

Peter Godfrey-Smith: Yes, I'm gonna go into a more speculative place. I had forgotten about this book for years until I did a radio show on the BBC. It was also about the literary side of this, and it just came suddenly back into my mind that when I was a little kid one of the books that most, like I read sort of, probably five or six times, came back to over and over again was a book by the, you know, fairly high-end kids writer Eric Linklater. He wrote a book called *The Pirates in the Deep Green Sea* that featured an octopus who saved the world, and the octopus, this and this was written a long time ago, but it has a kind of the, one of the central ideas in the book, has a kind of almost sort of a deft postmodern element to it. It turns out that the world is physically held together by the lines of latitude and longitude. Those things on the map correspond to cables that are physically real and without which the earth would fall apart. And I won't give away all the plot, but there is a threat to the integrity of the cables and the day is saved by an octopus.

John Plotz: Peter, we should just thank you and I'll just say that *Recall this Book* is sponsored by Brandeis and by the Mandel Humanities Center and this year by the new student Book forum. This episode sound editing is by Naomi Cohen, website design and social media by Miranda Peery. Those two contest-winning first years we heard from at the show as the show began were Miriam Fisch and Izzy Dupré. Elizabeth and I are, as always, eager to hear your comments, your criticism, and your thoughts on today's

discussion and on the problem and promise of nonhuman intelligence and sentience. And if any of you wants to write, telling us, you're never again going to eat octopus, we would definitely like to get that email. So please write a review or rate us on iTunes, or stitcher, or wherever you get your podcasts. And if you enjoyed today's show, keep listening for related material or even better, head over to our website for additional goodies that we're going to be releasing during our month of the octopus. So, Peter, thank you so much for the conversation.

Peter Godfrey-Smith: It was a great pleasure. Thank you.

John Plotz: And from all of us here at *Recall this Book*, thanks for listening.