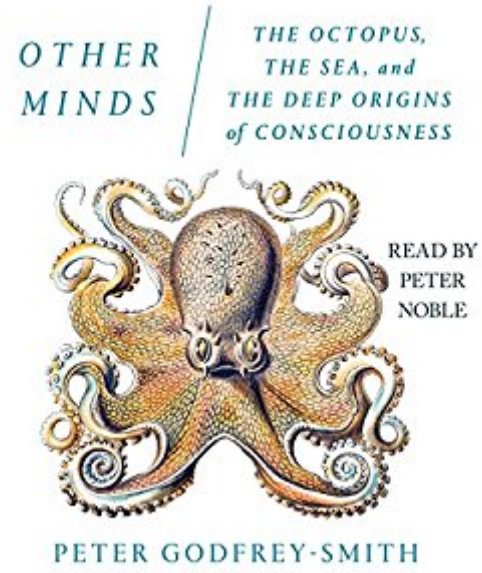
Other Minds: The Octopus, The Sea, And The Deep Origins Of Consciousness



Synopsis

Although mammals and birds are widely regarded as the smartest creatures on earth, it has lately become clear that a very distant branch of the tree of life has also sprouted higher intelligence: the cephalopods, consisting of the squid, the cuttlefish, and above all the octopus. In captivity, octopuses have been known to identify individual human keepers, raid neighboring tanks for food, turn off lightbulbs by spouting jets of water, plug drains, and make daring escapes. How is it that a creature with such gifts evolved through an evolutionary lineage so radically distant from our own? What does it mean that evolution built minds not once but at least twice? The octopus is the closest we will come to meeting an intelligent alien. What can we learn from the encounter? In Other Minds, Peter Godfrey-Smith, a distinguished philosopher of science and a skilled scuba diver, tells a bold new story of how subjective experience crept into being - how nature became aware of itself. As Godfrey-Smith stresses, it is a story that largely occurs in the ocean, where animals first appeared. Tracking the mind’s fitful development, Godfrey-Smith shows how unruly clumps of seaborne cells began living together and became capable of sensing, acting, and signaling. As these primitive organisms became more entangled with others, they grew more complicated. The first nervous systems evolved, probably in ancient relatives of jellyfish; later on the cephalopods, which began as inconspicuous mollusks, abandoned their shells and rose above the ocean floor, searching for prey and acquiring the greater intelligence needed to do so. Taking an independent route, mammals and birds later began their own evolutionary journeys. But what kind of intelligence do cephalopods possess? Drawing on the latest scientific research and his own scuba-diving adventures, Godfrey-Smith probes the many mysteries that surround the lineage. How did the octopus, a solitary creature with little social life, become so smart? What is it like to have eight tentacles that are so packed with neurons that they virtually think for themselves? What happens when some octopuses abandon their hermit-like ways and congregate, as they do in a unique location off the coast of Australia? By tracing the question of inner life back to its roots and comparing human beings with our most remarkable animal relatives, Godfrey-Smith casts crucial new light on the octopus mind - and on our own.

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Customer Reviews

Pete Godfrey-Smith shares an important trait with the octopuses he loves to study---he is full of curiosity about his world, especially the marine world. Fortunately for us, Godfrey-SmithÃƒÂ¢Ã â ¬Ã â„¢s life has lasted a lot longer than the 1-2 years common to octupuses, so he has had enough time to tell us about the things he has seen and learned.Other Minds is really a set of loosely connected essays about the evolution of life forms, especially cephalopods, of which octopuses are one example, with an emphasis on brains, minds, and, to a certain degree, consciousness. There is a great deal of straight science here but also first-hand stories from the authorÃƒÂ¢Ã â ¬Ã â„¢s own scuba-dives in Octopolis, a site off Australia. I was especially moved by his experience of having an octopus reach out to touch him and lead him around his home turf.The book is beautifully told and extremely informative; I learned a tremendous amount about evolution and was especially impressed at how the same traits and design seem to have evolved completely independently several times. On one level, though, I was disappointed, because both the title and the book jacket implied that the book is about subjective experience and consciousness and how it has developed in other beings than humans. This is a leading topic in the book but not the only one, e.g., the closing section is about the precarious state of our marine environment and how we need to protect it. The book does not explore consciousness nearly as much as I had expected, especially since the author is a philosophy professor. I would classify it as Science and Nature; if that is what you are looking for, it is well worth your time.

This was a profoundly interesting book to read. I became intrigued after seeing a review of it and had never come across the author before. It was intriguing primarily for the subject matter which I had a minor level of curiosity about. It was however, the first book I have read about cephalopods. My other experiences have been by reading articles and lately watching YouTube videos.It is not

simply about octopuses and squids though. It is about using those life forms to explore bigger things like intelligence, consciousness and how animals including humans understand their environment. The author explores evolutionary possibilities about how animals come to relate to conspecifics, predators and prey. There are others which do not fit any of those categories.As a book written for a popular audience it is not replete with scientific jargon and when new words or concepts are introduced, they are explained in understandable language with very good examples to provide perspective. Maybe the thing I appreciated the most was that it was written using a lot of questions and humble suggestions rather than offering grand new theories. It made for a far more thought provoking read than some others in the genre. Those questions and suggestions are too many for a book review but below a few will be presented.It is nearly an aside here, but a philosopher who does field research by scuba diving off the coast of Australia with scientists and whose research reveals not raw data for laboratory testing but philosophical insight, makes the author himself a very interesting character. Some of his experiences can be viewed here.Early in the book the reader is introduced to cephalopods by way of the scuba diving anecdotal stories of their engagement with the humans. In particular, he means the interactions with the author. Certainly the cephalopod does not recognize that object as we do but something like a dark animal with no face, four arms and many bubbles exuding from them. Nevertheless the author experienced them reaching a tentacle or arm out to tactilely probe the object of this encounter-to the point of attempting to pull them into the lair. This behavior suggests the importance of feel to the cephalopodÃƒÂ¢Ã â ¬Ã â„¢s repertoire of resources that help it survive and bring forth spawn.He also observed their visual observance of everything around them. They watched the scuba divers but also their entire landscape for friend, foe and neutral bodies. Well maybe just for foe as the writer indicated often, these species are generally indifferent to their conspecifics. He did remark on variation from the rule here as he did whenever he was making a general statement about behaviors. Noting exceptions to the rule is critical to explanation and for the non-scientist reader, valuable.He brought up the fact of the elaborate nervous systems of these animals and how that plays with the brilliant abilities for the animals to shape shift as if to conform to their surroundings which included immediate color changes. It is remarkable for many reasons but a couple include the fact that the colorations do not occur as if by one mechanism but instead by many yet it occurs so quickly it appears as if by simplicity. It is a three step process since they mechanisms occur at three different layers of skins. The details are in the book but not here. They are too fascinating for my own interpretation. He does provide an image however.The other bizarre curiosity is that lab results strongly suggest that they are colorblind. Something within the nervous system that is not visual ignites the instantaneous

processes that allow the color change and body morphing. He examines this through two different operations of the nervous systems one in which is the taking of sensory cues from the environment with the innate motor skills respond like autonomic reactions. The other is a simpler stimulus response action based on what occurs on the spot like the flight or fight response.In this discussion he cited other philosophers of consciousness to remind us that interpretation involves a lot of questions. There is nothing certain and plenty that may be probable. In efforts to describe animal behavior from a non-anthropomorphic perspective, the observer may not always see the forest for the trees. Yet we are thrust into a situation where it is difficult to understand information and the processing of it from other than a human perspective. We also have to treat information as a physical thing-something to be measured. Is it? Or is it reducible to a binomial sort of impulse and response an immediate (and evolutionarily adaptive) reaction? This is a debated question amongst those examining what is meant by ÃƒÂ¢Ã â ¬Ã Å“consciousnessÃƒÂ¢Ã â ¬Ã Â•. In fact it remains sort of a Gordian knot and there are dualists who consider that consciousness is made up of a ÃƒÂ¢Ã â ¬Ã Å“functionalÃƒÂ¢Ã â ¬Ã Â• quality which is the 1s and 0s of binomial information. It also has a ÃƒÂ¢Ã â ¬Ã Å“phenomenalÃƒÂ¢Ã â ¬Ã Â• essence that involves the interpretational or conscious experience. The former is said to control behavior and the latter simply is consciousness. It is these sort of issues that the author proposes not to find concrete answers but to ask additional questions. Godfrey-Smith ponders hard on the notion of consciousness saying ÃƒÂ¢Ã â ¬Ã Å“ItÃƒÂ¢Ã â ¬Ã â„¢s sometimes hard to work out how these theories relate to my own target here: subjective experience in a very broad sense. I treat subjective experience as a broad category and consciousness as a narrower category within itÃƒÂ¢Ã â ¬Ã â • not everything that an animal might feel has to be conscious.ÃƒÂ¢Ã â ¬Ã Â• More important than defining consciousness, the author provides much to consider and the reader can take advantage of that.Back to the animals, the author discovered several things that also make the reader think. With the knowledge that cephalopods have a very intricate nervous system it would seem that it would take years to develop and yet he informs us that these species have a very short life span. In most cases four years would be very long. He asks about the evolutionary benefit of this intricate structure to only exist for so short a time. They hardly have time to use their wondrous skills when they are replaced by the next generation.They are semelparous meaning that they only reproduce once in a lifetime and in their case, the female dies right after spawning. They also use a deimatic display which is one of complete submission and the author examined this many times and offers suggestions as to why. These beasts are so capable of camouflaging for protection as well as to predate, why would they need a passive and subordinate display? It is not used when flight would

work or an attempt to startle something it would eat. There is no clear answer but he believes it is used when a more aggressive conspecific appears.There is much to learn about cephalopods and there is scarce information of them historically. Being soft bodied they do not preserve well so the fossil record is nearly non-existent. His own efforts at first hand observation are in coordination with biologists and other scientists. There is much study of them going on today. It is clear that the bounty of possible research is hindered by decreasing habitat. That is a problem that the study of any animal behavior faces. With climate change comes both a loss of habitat, but a change in behavior as well. Various species adapt differently to changing environment environments such as warming waters.This was an easy book to not put down. The pace was lively and informative yet never certain. The book makes the curious reader intent on learning more of the subject matter. He provided lots of philosophical questions for the reader to ponder.

Fascinating book. Walks a fine line between providing enough scientific information and being casual enough for anyone to enjoy. Perhaps as was needed for background, the first 1/4 of the book is a discussion of evolution and consciousness in general before delving into cephalopod specifics. Also, the last 1/8 of the book is notes, etc. for further reading. So, don’t expect every page to be a hilarious anecdote about octopuses. But the middle section that is is well worth the read! There are also helpful drawings and about a dozen lovely color photographs in the middle.

This book has been widely and favorably reviewed, and in this reader’s opinion the praise is justly deserved. Even if you have no interest in philosophical issues about consciousness you will profit from, and enjoy reading, this delightful book.

There are several concepts that I shall take away. One is that intelligence has been created four different times in evolutionary history: primates (including humans), cetaceans, octopuses, and cuttlefish. Though species in these groups certainly do not all have intelligence, several members of each do.Another takeaway regards how evolution has made the life of an octopus very short, even though they have developed intelligence. An animal that can escape a tank and then leave a laboratory surely would not be expected to have only a short time to develop its intelligence, and yet it does.

Argued with joy and awe. Clears up a lot I had half understood from Godfrey-Amit he’s earlier book. A lot of philosophical evolutionary psychology seems presented from too great a distance. Not this

book.

Interesting theories on the development of intelligence and sentient beings on earth.

This book is incredible. Really opens your mind to the evolution of life and brains. I think perhaps the closest we'll come to meeting a thinking space alien in these tentacled friends of ours. And such a reminder to be kind to all animals and get off the wagon of thinking we're the only intelligent thinking beings on the planet!!

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