

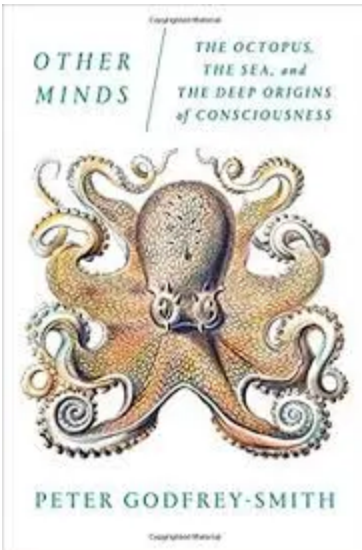
Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness

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JoAnn Hackos

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by Peter Godfrey-Smith (published by Farrar, Straus and Giroux, 2016)



Peter Godfrey-Smith, author of *Other Minds*, is a philosopher of science, a somewhat unlikely profession for someone writing about octopuses. What interests him, and us too, is that the cephalopods, which include squid, cuttlefish, and the octopus, are amazingly intelligent. They recognize individual people, developing strong likes and dislikes about humans. They make daring escapes from captivity. They play with objects and have a sense of humor, especially when it comes to squirting people with streams of cold water when they are not amused. We don't need to meet creatures from outer space to discover alien intelligence. Octopuses are right here among us.

I found the most interesting parts of the book were those that described the author's experiences diving to locations rich with octopuses. Such a location, which he calls

Octopolis, is apparently exceedingly rare. In fact, the one off the east coast of Australia may be the only one. It is a location where several octopuses come together, living in what Godfrey-Smith labels a "state of complicated coexistence." For such singularly solitary creatures, having many living together is extremely unusual. Even on this shell bank, they don't interact much, apart from an occasional arm wrestling (with eight arms, of course). But they do appear to react to the human in their midst. Godfrey-Smith finds himself being watched closely and, in one case, having an arm reach out to touch him and another try to drag him into its den.

Godfrey-Smith focuses in *Other Minds* on tracing the evolution of octopuses, trying to understand why they are "an island of mental complexity in the sea of invertebrate animals." The vertebrates separated from the invertebrates 600 million years ago. The common ancestor is a flattened worm-like creature, not yet living on land. He argues that cephalopods are an "independent experiment" in the evolution of large brains and complex behavior. We don't have a shared history with octopuses. They represent a parallel development of a sentient being.

Much of *Other Minds* is devoted to tracing the history of living creatures on Earth. Godfrey-Smith considers the development of a nervous system as a response to external stimuli and the evolution of a primitive nervous system into a centralized brain as a method of exerting more control on the environment. Both vertebrates and invertebrates have a nervous system. Vertebrates have most of their neurons centralized in the brain; the octopus has a central brain but also has a large number of neurons on its eight arms, which appear to be able to act independently.

You may find *Other Minds* challenging. Stories of Godfrey-Smith's incredible interactions with cuttlefish and octopuses are interspersed with considerations of the development of the nervous system and the brain. You will learn much about pre-Cambrian and Cambrian life forms and how they have continued to evolve. You will learn that the cephalopods long ago discarded a skeleton, having "no ... parts, no joints, no natural angles." For them, the body and the brain are hardly separate.

There are lots of fascinating stories of octopus behavior in Godfrey-Smith's *Other Minds*. Just be prepared to be amazed.