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Review of Peter Godfrey-Smith's *Metazoa: Animal Minds and the Birth of Consciousness*

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Few philosophers have pushed more forcefully in favour of a strongly gradualist, phylogenetic, and ecological approach to consciousness than the Australian philosopher of biology and mind, Peter Godfrey-Smith. Nothing emphasizes this more elegantly than his new 2020 book *Metazoa*, which forms the ambitious sequel to his critically acclaimed and commercial bestseller *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*, published in 2016 and subsequently translated into multiple languages. In his earlier book, Godfrey-Smith beautifully described the peculiar lives, behaviour, and intelligence of octopuses (alongside their cephalopod cousins) as forming a natural experiment of 'alien-like' minds, able to challenge our mainstream human-centric thinking about consciousness. While one could certainly read his new book without having read its predecessor, *Metazoa* could be well described as a deep dive into new territory from precisely where *Other Minds* left off. Whereas the latter focused on octopuses as a possible case of an independent evolution of consciousness within this animal branch of life, *Metazoa* broadens its focus and ambitions to the entire titular animal kingdom: discussing crustaceans, fish, sponges, corals, insects, and mammals. There is a notable focus on marine life, which is unsurprising given the account provided, as the ocean is where Godfrey-Smith suspects a distinct animal *way of life* to have evolved. This way of life is implicated in the evolution of consciousness and can be distinguished from more plant-like *modes of being* - an idea familiar from the recent 2019 treatise by Simona Ginsburg and Eva Jablonka on the evolution of consciousness (see Browning and Veit 2021). Yet, despite some similarity in content *Metazoa* differs both from its predecessor and Ginsburg and Jablonka's competing title, and it will be useful in this short book review to contrast these pieces to emphasize what makes the Godfrey-Smith's

approach to the problem of consciousness distinctive - not only from Ginsburg and Jablonka, but many others in the field.

Once again, Godfrey-Smith offers a book with a notable emphasis on his personal diving experiences with life under the sea, making it a compelling and accessible read even for those with little to no familiarity with academic work on consciousness, with unnecessary jargon kept to a minimum. Not only, however, does Godfrey-Smith here dive deeper into the evolutionary history of animal life - from the single-celled world of the Protozoa to sponges and cnidarians (corals, jellyfish, sea anemones, sea pens), to arthropods (crabs, shrimp, insects), fish, and other vertebrates - where he once again mixed his own anecdotes with scientific findings, but he also dives deeper into the philosophical and scientific challenges of explaining the place of consciousness in nature. Unlike *Other Minds*, this book will undoubtedly strike many non-philosophers as more technical and challenging, not quite managing to emulate the seemingly effortless merger of science, philosophy, and scuba diving reports found in its predecessor.

The chapters swim back and forth between his own anecdotes, scientific history and findings, and philosophical discussions of consciousness. These are best conceived as an attempt to fit together different pieces of a puzzle, without the goal of providing us with something like a theory of consciousness. The approach taken is more humble and tries to offer different ways the puzzle could eventually look, which will undoubtedly strike some as too speculative. At times, the rapid shift from philosophical speculations to anecdotes is more than welcome, providing a necessary breather - at others, one cannot help but feel that we switch the topic just as the discussion has reached its high point. But *Metazoa* is incredibly ambitious in its attempt to synthesize myriad findings and ideas about pain, dreaming, memory, and other kinds of subjective experience to address the 'problem of qualia', 'explanatory gap', or alternatively 'hard problem' of consciousness (i.e. the question of why subjective experience feels like something). Accordingly, *Metazoa* can be seen as a much deeper dive than its predecessor and the water pressure is correspondingly stronger, which makes it also feel all the more dense and compact, containing a barrage of new ideas and speculations.

The result is a very different kind of book from that of Ginsburg and Jablonka, or for that matter most who have recently written about animal consciousness. Those who seek a defense of a new or old theory of consciousness will be dissatisfied. *Metazoa* is fundamentally a book in the philosophy of nature. Rather than offering a new theory of consciousness or even new analytic distinctions, Godfrey-Smith synthesizes our growing knowledge about animal life and minds to tackle the most general question of how matter and mind could be related and to show that biological materialism makes sense. Here, the role of philosophy can be seen as an attempt at very general modelbuilding. Rather than showing other radical views - such as panpsychism or dualism - to be wrong, Godfrey-Smith labours at building a better model for a biological materialist view of the world, without wasting much time in

engaging with other views. The goal is to make progress on multiple fronts in order to narrow the explanatory gap between matter and mind rather than to propose a single solution.

For this purpose, descriptions of his actual scuba diving excursions around Sydney and elsewhere constitute more than just a breather. They form an essential part of the larger argument, just like the beautiful illustrations by Rebecca Gelernter and Alberto Rava contribute to a better understanding of the peculiarities of animal life. Godfrey-Smith is a philosopher of mind, but he is also a philosopher of nature. Unlike most philosophers of mind who confine themselves to the armchair and occasionally pay heed to what goes on in the cognitive and neurosciences, Godfrey-Smith's scuba-diving explorations are reminiscent of Darwin's own activity in natural history, or the ethologists' observations of animals in the wild.

Australian philosophers are sometimes described as being 'down to Earth', forced by the Australian sun and local natural diversity to focus on realism, materialism, and engagement with the natural world. In Godfrey-Smith's case this is expressed in him being pulled under the water. His work is a positive attempt at a natural history of the mind which was born in the sea. He attempts to make progress on the puzzles of consciousness by answering the teleonomic question of what consciousness is for, i.e. the reason for which it has evolved. He does this by looking at animals in nature and thinking about the challenges and opportunities consciousness may enable animals to face and partake in. Some may lament Godfrey-Smith's arguments as deeply speculative and yet lacking firm commitments and precise predictions, but his goal is simply to emphasize that a proper understanding of animal life forces a reshaping of how we usually think about the place of consciousness in nature.

In all this one cannot help but feel a return to the kind of work undertaken in the 1970s by the zoologist - and discoverer of bat echolocation Donald Griffin, when he called for the need of a science of animal minds that he called 'cognitive ethology'. Griffin wanted to bring the subject of animal consciousness under the purview of scientific investigation and do so in a manner similar to how ethologists had created a biological science of behaviour. His books, however, were seen as deeply speculative and his efforts to establish a science of animal consciousness remained largely fruitless until the last decade or so, with new journals such as *Animal Sentience* coming into existence, bringing the subject of animal consciousness to the forefront of science. Unfortunately, few philosophers were convinced by Griffin's ideas that our investigation of animal consciousness must begin with an evolutionary understanding of animal life and this has remained largely true even now. Even with the now widespread recognition that we must think about the function of consciousness in order to understand it, philosophers have done very little to familiarize themselves with the actual animals and their lives. This is why it is unfortunate that some versions of the book have been given a different subtitle, with "Animal Life" being replaced for "Animal Minds". The central message of the book

is that an understanding of consciousness must begin with an understanding of the natural lives that led to the evolution of consciousness.

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