

## OCTOPOLIS

We are mesh-mates with the sea. Life was born in the chemistry of the ocean and we still carry it inside us. When we ground ourselves in this connection - swim in the woven fabric of our evolution - the separation slips away and we become fully aware of the ancestry we share with the ocean and its inhabitants. The boundary between sea and land slowly disappears and we find ourselves in a mesh of kinship and species. We find ourselves in the gaze of the octopus.

The first octopus I ever knew by name was the infamous Inky; he escaped from his enclosure in a national aquarium in New Zealand by breaking out of its tank, slithering down a 50-metre drainpipe and disappearing into the sea. The aquarium staff were not surprised by his escape and are still hopeful he will come home. He is they say, ‘that type of octopus ... all personality.’ This story and many more have of late prompted a focus on octopuses in science, philosophy, literature and beyond. In his 2016 book, *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*, Peter Godfrey-Smith journeys through the evolutionary pathway of cephalopods in search of what these animals can teach us about other minds and the origin of consciousness. To examine this evolutionary story is to ask big and timely questions of our place in the world. Consciousness - the possession of an ‘inner’ model of the ‘outer’ world, or the sense of having subjective perspective on the world - is, in his view, just a highly evolved form of what he calls ‘subjective experience’ and is possible outside of the human perspective.

That octopuses have an experience of what it means to be an octopus has become the focus of much attention in lab studies over the last decade but for Godfrey-Smith his observations uniquely began in the wild - in OCTOPOLIS. This is an underwater site on the east coast of Australia, so named because of its likeness to an octopus city, a place where the usually solitary creatures gather in

great numbers to feed. Octopolis gives an unusual insight into the social interaction of these animals. Struck first by their interest in us (in one tale, he recalls an octopus leading a fellow diver around by his arm to show him its den) Godfrey-Smith begins both a scientific and philosophical journey into the intimate sensory life of the creatures. Cephalopods, he tells us, represent a different evolution in the nervous system, their nervous systems are ‘more distributed, less centralized, than ours ... much of a cephalopod’s nervous system is not found within the brain at all, but spread all over the body.’<sup>1</sup> What does that mean for an eight-armed animal? In conversation with Louise Allcock of NUI Galway she explains further ‘his central brain only contains one-third of the octopus’s total nerves. The other two-thirds are in its arms and each arm has a “mini brain” at its base. Hence an octopus arm can feel and react independently.’<sup>2</sup> The octopus, it seems, has a sensory experience of the world that sits outside the usual brain/body divide, its thinking limbs experiencing the world as they move through it.

The fact that they live outside the usual body/brain divide, have a phenomenological experience of the world that is radically different to human experience yet express intelligence associated with a three-year-old child is surely why these creatures occupy such a place in our mythologies and imagination and are the stuff of legend in lab studies. Renowned for their curiosity and craft, Godfrey Smith’s work documents octopuses refusing food they dislike and pushing it out through water valves in their tanks to get rid of it, as well as turning lights out with squirts of water.

So why is it that the story of this curious being is so misunderstood? The philosopher Timothy Morton gives us clues in his book *Dark Ecology*, where he begins to dismantle the very idea of ‘nature’ so that we can understand the social constructs that have put ‘nature’ as something over there, estranged from us. The idea of ‘nature’, he tells us, is a legacy of Romanticism, which appeared during the Industrial Revolution. This was a period when unintended

consequences played out and externalised costs such as pollution and radiation took shape in the human psyche. At this point Romantic Irony appears and ‘the narrator becomes the protagonist, unnervingly aware that the world they have constructed is fiction.’ This period signals for him the beginning of a separation between the world and us. He references Tolkien’s Lord of the Rings as an example of the persistence of the Romantic narrative and points to the fictional world of the Hobbits - organic and wholesome in their form - as designed to sit outside the ‘otherworld’ and never to interact with it. The narrative reverberates with the divided worlds of ‘nature/the octopus’ and ‘us’. The romantic ‘world outside’ places nature as an entity to be guarded or an entity to be fought for, but never an entity that is similar to ‘us’.<sup>3</sup>

So much of the framing of nature falls into this trap. We are confronted with images of ‘nature’ in wooden boxes, glass jars and tanks, and on online databases, preserved post mortem or framed outside our world and even their own. This sort of aesthetic framing is Tolkienesque, where nature is to be observed from afar. For Morton the realisation of this framing is a sensing of a Dark Ecology and there is no return. It takes the form of a film noir with the detective investigating an external situation only to realise they are implicated in the plot. It is here in this darkness that the narrator realises there is no ‘other’. This for Morton is the important message for our time; *nature never existed*. It was never the other; it was always us. Morton tells us, ‘Don’t fight it. Find a way to tunnel down. Find a way to see how things sparkle all by themselves.’

Tunneling into the world of the octopus it is impossible not to feel things sparkle. Staring through the glass at a captive octopus (Leonard<sup>4</sup>) in Bray aquarium I get lost in a web of flesh, arms and suckers. It is impossible to know where things begin and where they end. They coil and recoil, evoking the great spiral motif so iconic because of its repetition across all life from star constellations to our DNA, and echoed again in the first expressive stone

markings recorded by our kind. The non-human and human bound together, entwined as companions, twisted in an ever-moving spiral.

Tunneling down further I feel I am in his gaze and I wonder:

What does he make of the times we are now living in together?

What would it be like to see with your skin?

Asking these questions sends me into a speculative spin where this boneless, shape-shifting being teaches us to understand the world through many different lenses, axes and planes. Perhaps the Bronze age Greeks knew this when they adorned their pots with the octopus's figure, its eight arms stretching around the earthen vessels as if to protect the valuable contents. The octopus seems to have boundless possibilities as a symbol of the thinking we need in these times. All-sensory, with a tentacular understanding of space and time, this is a creature whose boneless body seems to challenge borders with every movement, shape-shifting to escape entrapment, curious and inquisitive. This is a being with a sense of taste a hundred times greater than ours, when its arms and suckers reach for our skin it can taste our ancient chemical history. It is very possible they can taste the sea in us and they know we are kin.

As I leave the tank a visitor snaps with an iPhone ...

I point to the sign . 'No flash ...

*(long pause)* his eyes are sensitive'

## NOTES:

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<sup>1</sup> Godfrey-Smith, Peter. *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*, 2016. William Collins. London. P67

<sup>2</sup> Extract from conversation with Dr Louise Allcock Lecturer in Zoology, Ryan Institute & School of Natural Sciences, NUI Galway.

Rosie: Do octopods have subjective experience?

Louise: Neuroscientists have recognised that octopuses have neural circuits that deal with important components of consciousness such as decision-making. Octopuses also display behavioural traits associated with

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consciousness including sleep and exploration of novel items. Some researchers even think octopuses have individual personalities, but not all agree. It is not proven, but it is certainly possible that octopuses do have subjective experience.

Rosie: I've read a little about the autonomy each arm of an octopus has because of the distributed nervous system - could you explain this a little further?

Louise: We are all constrained by our ancestry - and the octopus is no exception. It is a mollusc and most molluscs don't have a brain, but rather have numerous 'mini-brains' or ganglia distributed throughout their body. Unusually for a mollusc, the octopus has a well developed central brain with multiple lobes, but this central brain only contains one-third of the octopuses total nerves. The other two-thirds are in its arms and each arm has a 'mini brain' at its base. Hence an octopus arm can feel and react independently, and when an octopus arm is severed, it can continue feeling and moving for a short period.

Rosie: Do they taste with their skin?

Louise: Yes, they do. Octopuses have chemoreceptors in the skin and these are particularly concentrated around the sucker rims, so that when an octopus touches, it is also tasting. Early experiments using sweet, sour, and bitter tastes showed that octopuses have a sense of taste that is 100 times more sensitive than ours.

<sup>3</sup> Morton, Timothy. *Dark Ecology*, 2016. Columbia University Press

<sup>4</sup> While photographing the octopus Yvette named him Leonard Cohen, thinking about the lyrics to his song Anthem. 'There is a crack, a crack in everything, that's how the light gets in'.