Fathom

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Terrestrial, bipedal, air breathing, and poorly waterproofed, how can humans fathom the bottom of the sea? This article was composed by an anthropologist, a cultural theorist, a philosopher, a coastal geographer, a cultural geographer, a feminist studies scholar, an artist, a spatial scientist, an ecocritic, a free diver, an STS scholar, a spear fisher, a biologist, a marine ecologist, a poet, a dancer, and a swimmer. (If the math does not add up, we remind you that we are always more than one.) Our insights emerged from a one-day workshop at Clovelly Beach in Sydney, Australia, on land and in the water, where we shared our perspectives and practices in researching ocean environments. Our collaboration is an experiment in multidisciplinary practice-based

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inquiry, where differences and tensions need not preclude collaborative understanding. In this article we combine emerging critical ocean studies and blue humanities perspectives to propose fathoming as a vital, embodied practice that gathers technoscientific acts of measurement together with practices of immersion, imagination, and speculation. Through collaborative multi-situated inquiry[1] we learn new things not only about the sea but also about the limits of epistemological mastery and the rewards of knowing *with*.

Fathom means to seek understanding, to puzzle out something that confounds us—an apt undertaking in the face of an ocean: a habitat we do not inhabit. We can visit the sea only temporarily, even as it has always animated human stories and sustained terrestrial life. We might fathom, first, by taking a measurement. Watery depths can be fathomed, for example, by lowering a lead weight on rope, or using sonar remote sensing. In practice, many depths are collected and combined, possibly using a statistical procedure known as interpolation, to build a continuous map of seafloor topography.

To fathom the seafloor in such ways suggests technoscientific precision: one fathom corresponds to others by assigning it 1.83 meters of length. Yet what sway do a rope and a weight, or even satellite altimetry or synthetic aperture radar, hold against the roaring maw of the eternal sea, whose movement and multispecies wonders elude pretensions to a "God's eye view"?[2] Feminist theorist Karen Barad argues that modes of scientific measurement do not reveal preexisting phenomena. Rather, in making agential cuts between subject and object, these measures "are dynamic (re)configurings of the world."[3]

As oceanic ecocritic Elizabeth DeLoughrey points out, embodied knowledge can strangely coexist with a scientific or political not-knowing.[4] Before standardization, a fathom was the span of outstretched arms from middle fingertip to middle fingertip. Our human bodies were always already implicated. Akin to what Karin Amimoto Ingersoll calls oceanic literacy, [5] all fathoming is bodily, aided through prosthetics both corporeal and technoscientific—devices that help us know the ocean differently, each according to its own affordances.[6] The bottom of the sea emerges at the meeting of our bodies, instruments (for measuring, recording, writing, filming), and the materialities of the benthos.[7]

1. See Haraway, "Situated Knowledges."

2. In "Situated Knowledges," Haraway explicitly critiques a God's eye view in favor of partial perspective.

3. Barad, *Meeting the Universe Halfway*, 169.

4. DeLoughrey, *Allegories of the Anthropocene,* 4.

5. Ingersoll, *Waves of Knowing*.

6. Prostheses are not necessarily external to what we consider our bodies. Binocular vision can be a type of specifically human prosthesis, for example. Haraway, "Situated Knowledges."

7. Key research on knowing oceans through technoscientific means include Stefan Helmreich's *Alien Ocean*, Nicole Starosielski's *The Undersea Network,* and Jessica Lehman's "From Ships to Robots." See also Steinberg, *The Social Construction of the Ocean*; and Steinberg and Peters, "Wet Ontologies."

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At the bottom of the sea, then, knowing is always knowing *with*: A man walks for six hours across the bottom of Sydney Harbour, breathing through a hose linked to a boat above. Tourists, commuters and sharks pass over his head. A quadriplegic scuba diver enters the waters at Manly Beach north of Sydney, lovingly conveyed into the sea by his comrades. "Knowing with" calls up collectives of humans and more-than-humans, all puzzling out the seemingly unfathomable sea through the gifts and lessons of others.

Meanwhile, further south at Clovelly, a marine scientist works alongside fish and seaweeds. She uses camera, loggers, metal grids, and mask, to teach her the ocean, to *learn with* the sea. Today, the water is too churned up to see the tropical fry that the marine scientist wants to show us. (Lately the baby fish have been waking up at the wrong latitude, she tells us, making a new home down here, as the climate-changed waters warm. Memory is also a fathoming prosthesis: what ocean-knowers once knew helps us measure what we know now. Fathoming measures difference, too.) Even in these murky waters, we still breathe, turn, float, and feel our bodies into the waves. While eyes can be helpful, fathoming does not valorize ocular knowledge. Held beneath the wet surface, an object appears closer than it really is.

We also sit onshore, and later at our computers, summoning up the oceanic through our tapping fingers. Bodies are "portable laboratories" and measuring devices,[8] but not only in the sense of arms outstretched. Since we are all bodies of water—*salty ocean coursing through capillaries*—fathoming can also be an act of embodied extrospection.[9] Bodies parse the ocean through imagination as prosthesis. (As queer Chicana poet Gloria Anzaldúa reported, the body is smart, reacting equally viscerally to both external stimuli and imagination.[10]) So perhaps fathoming does not require proximity to the sea.

Bodies as instruments for fathoming are also:

Time machine—Close your eyes. Run your palm, your fingers across its surfaces, swells and contours. Even if this conch is dead, can you still feel the life in the benthos?

Teleportation device—How might I gauge the distance between me, here, and the bottom of the sea? In the kitchen, I magnetically find the sea salt and float a crystal into my mouth. On contact, its solid shape begins to liquefy and the cavity in the lower part of my human face fills to the brim with saliva. Soon the salty sea water is gushing down my throat and trickling

8. Varela, "The Portable Laboratory."

9. See Neimanis, *Bodies of Water*.

10. Anzaldúa, *Borderlands/La Frontera*, 59–60.

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> from my lips. I've lost all composure, I am fathoming differently, barely able to contain the bottom of the sea inside me, imagine that!
>
> Metric scheme, prosody—We fathom with our arms stretched out from our sides: two knobble-jointed pectoral fins. This is a span, but it's the sea that takes our measure, like a streamlined tuna did for Pablo Neruda. He called that fish "a grieving arrow."[11] We know the ocean floor insofar as we weep, and joy, with it.

Possibilities expand as bodies and methods multiply: not only measurement, poetics, and aesthetics[12] but also interview, participant observation, even survey. What can we learn from surfers, divers, spear fishers, swimmers, surf lifesavers—people who know the ocean well? "I have learnt a great deal from those 'ocean-users,'" one of us tells the others, "which I would not have learnt through my own embodied interactions; imagination; or scientific method."[13] Again, fathoming requires a team.

Yet even parsed through all of our sensory apparatuses, the sea still remains a question. Is this an epistemological failure? Recalling that in colloquial terms, one fathoms mostly in the negative ("I cannot fathom . . . "), might we take this as a sign of fallibility's positive value? The value of fathoming exceeds reliable calculation and repeatable measure. Not knowing is also a form of knowledge.

> We send down the knotted line, the dull weight plummeting through darkness. It is both hubris and failure: as the known expands, the unknown rises to meet it. Each new fact uncovers new uncertainty. We open to the unknown.

Fathoming is dark work. Fathoming can be frightening.[14]

Just as fathoming swells in the tensions and pleasures of the many and the different, fathoming also (paradoxically, simultaneously) teaches us about the impossibility of mastery. Fathoming reminds us that the aim of knowing (researching) may not be finding the answer but rather asking a question and engaging with what surfaces. How might *this* question, *this* answer, emergent from *these* measures, *these* bodies, and *this* time, collaborate in and with the world to point to other possibilities still unknown?

11. Neruda, "Ode to a Large Tuna in the Market."

12. Key blue humanities texts on ocean poetics and aesthetics include Alaimo, *Exposed*; Chen, MacLeod, and Neimanis, *Thinking with Water*; Christian and Wong, *Downstream*; Cohen and Quigley, *The Aesthetics of the Undersea*; De Loughrey, *Allegories of the Anthropocene* and "Towards a Critical Ocean Studies"; Mentz, *Shipwreck Modernity*; and Te Punga Sommerville "Where Oceans Come From."

13. See also Evers, "Polluted Leisure"; Gibbs "Transforming Shark Hazard Policy"; Probyn, *Eating the Ocean.*

14. See Adams, "Salt Blood"; also Glissant, *Poetics of Relation*; Sharpe*, In the Wake*; and Eshun, "Drexciya as Spectre" for work on oceanic places and imaginings that attend to the submerged traces of colonialism and slavery.

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