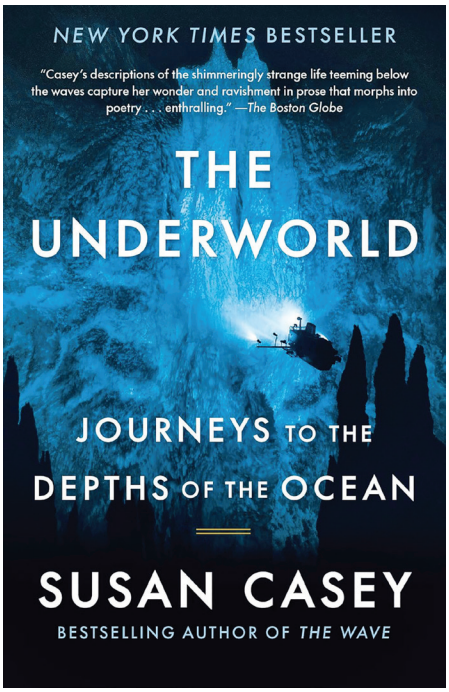
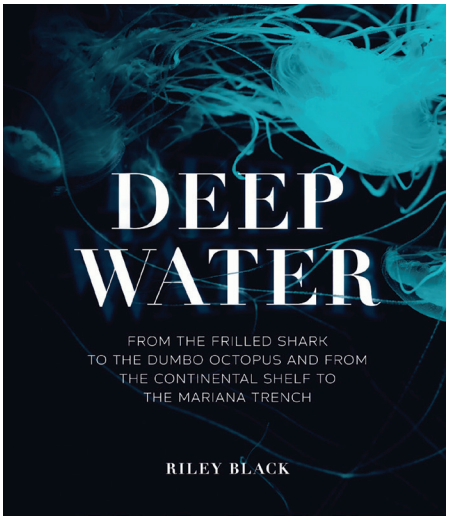
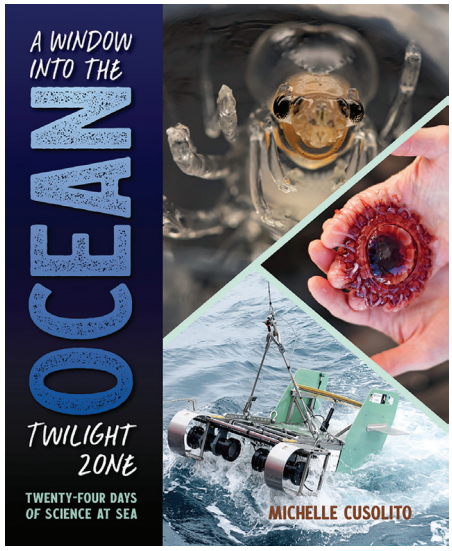
The Underworld: Journeys to the Depths of the Ocean. By Susan Casey. 2023. Penguin Random House. (ISBN: 9780385545570). 352 pp. Hardcover, $32. E-book, audiobook, and large print paperback also available.



Deep Water: From the Frilled Shark to the Dumbo Octopus and from the Continental Shelf to the Mariana Trench. By Riley Black. University of Chicago. (ISBN: 9780226827315). 224 pp. Cloth, $35. E-book also available.



A Window into the Ocean Twilight Zone: Twenty-four Days of Science at Sea. By Michelle Cusolito. Penguin Random House. (ISBN: 9781623543020). 144 pp. Hardcover, $18.99.



Apparently, the deep ocean is very beautiful. Sunlight can't penetrate the depths, but some waters scintillate with bioluminescent light. The crags and valleys of the ocean floor are unmatched by the terrestrial world's most stunning vistas. Regions near geothermal vents often team with life.

I've spent time recently with several books that attempt to convey different elements of the ocean's beauty and mystery to general audiences. Susan Casey's *The Underworld* has extensive descriptions of a few fascinating topics such as underwater earthquakes, a pod of charismatic orcas, and Casey's own opportunities to accompany research expeditions and even ride a submersible into the depths. Riley Black's *Deep Water* focuses on the unique animals that live in the depths, with brief sections of magazine-style prose and multiple large, glossy photographs for each. Michelle Cusolito's *A Window into the Ocean Twilight Zone*, intended for elementary- and middle-school-aged readers, is also full of photographs, but rather than otherworldly animals, we see many pictures of research tools and the people who use them. By showing a diverse cast of researchers and by describing the thrills, excitement, and occasional agonies of a research trip at sea, Cusolito hopes to get young readers excited about the possibility that they too might do this work in the future.

None of these books alone would have sated my curiosity. The survey format of *Deep Water* meant that I was left wanting more whenever Black piqued my interest—a mere three pages about anglerfish felt insufficient! Additionally, while I think it's admirable that Cusolito gives young readers insight into the lives of research scientists, who often get overlooked in favor of the dazzling creatures they study, I constantly found myself wanting to read more about those creatures (in all fairness, that same desire probably motivated most of the researchers to undertake their careers). And, while I generally enjoyed the writing in Susan Casey's *The Underworld* (aside from a misuse of the word "inflammable," which always irks me), there was an ideological quandary at the heart of the book that I wished the author had reckoned with.

A lot of scientific research is expensive. A project might require microscopes, cell lines, reagents. But deep-sea exploration has outrageous costs, especially if human observers will physically descend.

Within our system of market capitalism, we impose few constraints on purchasing—if the principal profit-maker of an online sales-hosting website wants to buy all the fuel needed to launch himself into inner orbit, he can. Similarly unfettered purchasing power tends to be involved in sending human passengers to the deep: usually at least one researcher has been selected for skill at acquiring money rather than for observational prowess or scientific expertise. And yet. This research *is* expensive, and marine biologists would love to do it; they'd especially love to have the chance to be immersed in the depths and see everything firsthand, rather than settling for recorded drone footage on a screen.

Even that footage, to say nothing of intact biological specimens, requires that we solve the (expensive!) engineering problem of getting durable equipment down and then up again. So: while I personally wanted to learn less about the people funding these expeditions, I understand Casey's fascination with the individuals who make this work possible, and other readers might share her interest.

Yet Casey also devotes a significant portion of the book to a tirade against capitalism, particularly the way in which people are rewarded for converting *res nullius*—parts of the world that we've judged to be "nobody's thing," such as fish in the sea or the air we breathe—into private property. Specifically, Casey is appalled that anyone might mine deep-sea nodules. I happen to agree that it would be a travesty to allow these to be mined. It would destroy whole ecosystems and potentially damage huge swaths of the ocean—include our ocean's life-sustaining carbon cycle—in unpredictable ways.

But Casey never mentions that the same system of environmentally destructive resource extraction for private gain enabled individual thrill-seekers to commission submarines and hire the teams of people needed to safely launch and maintain them. After all, Casey got to ride in a submarine because she was invited by a finance executive; he'd obtained millions of dollars by directing investments toward corporations engaged in hydraulic fracking, among other environmentally destructive enterprises. I felt that *The Underworld* would have benefited from a moment of self-interrogation, perhaps of the sort that characterizes Naomi Klein's most recent work, *Doppelganger.* (Klein has often written about the perils of unfettered extractive capitalism, but in *Doppelganger*, Klein questions her own commitment to anti-branding after she felt that her personal brand was in crisis due to a common conflation of her with Naomi Woolf.)

And then, after all that expense, the experience of descending into the deep sea is described in essentially the same terms as meditation. "Subtract ego," Casey writes. "Subtract human illusions of supremacy and control."

"Subtract time, and you're left with presence. In the deep, you lose your bearings, and you find yourself."

I've read strikingly similar prose in guidebooks telling me to sit still and intone a mantra. With a major difference being that meditation is free.

But meditation can't teach us about the luminous fish or sea mammals or cephalopods living in the depths. I'm reminded of my favorite moment from the film *Boyhood:* after a child laments that there's no magic in the world, no unicorns or elves, his father says, "What if I told you a story about how underneath the ocean, there was this giant sea mammal that used sonar and sang songs . . . you'd think that was pretty magical, right?"

Each of these books shared some of that real-life magic with me, and I'm incredibly grateful.

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