

Scuba Diving Praxis:
A Field Guide for Underwater
Orientation by Melody Jue

Scuba diving has much to offer arts and humanities research beyond its reputation as a recreational activity or means of conducting scientific surveys. The act of submerging oneself for prolonged periods of time underwater provides a unique opportunity for witnessing ocean phenomena and life forms, while raising fundamental questions about normativity, interpretation, and embodied observation. Scuba diving can promote a greater awareness of what I call ‘terrestrial bias,’ or the predisposition to think, speak, and physically orient in ways that reflect human habitation on land. As I discuss in my book *Wild Blue Media: Thinking Through Seawater* (Duke University Press, 2020), some examples of terrestrial bias include assumptions between truth and ground rather than water (consider the phrase, ‘legal standing’); terrestrial names for oceanic things (‘sea hare’ or ‘sea lettuce’); and even the way we place emotional value on orientations (‘I’m feeling down today’)—orientations that could take on different meaning in a milieu where things float. The point is not to purge our vocabulary of terrestrial bias or even to generate an ocean-specific lexicon, which sometimes risks reifying the very ocean that it tries to address. Rather, submerging oneself in the ocean contributes to an awareness of what we may have taken for granted as beings that breathe air and share a particular experience of gravity. By making obvious the habitual and the normative, scuba diving as physical submersion can contribute to an experimental underwater praxis and the

creative imagination of alternative ways of being and speaking.

I think of scuba diving as an experimental practice in relation to a concept that I call 'conceptual displacement.' In *Wild Blue Media*, I elaborate how conceptual displacement is 'a method of defamiliarization to make our terrestrial orientations visible.'¹ The defamiliarization that is possible in the ocean can disrupt certain habits of movement and interpretation, even for experienced divers. Conceptual displacement works within the following experimental framework: 'How would ways of speaking about (x) change if you were to displace or transport it to a different environmental context, like the ocean?'² The challenge is to not know ahead of time what the effects of this displacement will be (while I focus on the ocean, the displacement could also be to other milieux like outer space, high altitudes, etc.). Only by physically or imaginatively displacing something (your body, a concept, an idea) underwater can you begin to explore the question of what changes. Submergence is an open-ended experiment that provides the raw data, so to speak, for theorising to begin—raw data that can be drawn from attention to how the body feels, the affordances of perception, observations about underwater life, or interactions with/across/through particular waters and topographies.

Even more than swimming or free diving,³ scuba is a mediated activity: one usually dons a wetsuit for thermal insulation, as well as fins, goggles, an air-filled vest (BCD), an air

tank connected to several hoses and a regulator as well as weights. These layered prostheses make it possible to visit a variety of oceanic and coastal environments without the physiological demand to immediately surface for air. They are also incredibly heavy and clunky, especially in the moments where one is waiting to get in the water—I often feel like a beached sea turtle. Yet once you are in the water, as ethnographer Stephanie Merchant writes, diving equipment ‘comes into being with the seascape,’ and you are able to somewhat forget that it is there, that is, until your mask fogs, or you get too cold.⁴ In this way, scuba diving is a cyborgian experience, technically mediated by an array of technologies for managing air and thermal regulation. Yet it is different than the ‘submarine cyborg’ that Stefan Helmreich charts in *Alien Ocean*, an acoustic sphere of hard metal protecting its inhabitants from external crushing pressures.⁵ Recreational diving rarely extends below 120 feet (far shallower than a submarine goes). Unlike the hard shell of the submarine, cybernetic control in diving extends to human flesh as an index of control, which includes tissue saturation and lungs.

Indeed, one of the unique features of scuba diving practice is how it positions the immersant not merely as a pair of eyes but also as a pair of lungs, a semi-permeable interface to the rest of the body’s tissues. The longer you spend underwater, the more your body’s tissues become saturated with nitrogen and oxygen from breathing compressed air. Gas accumulation depends on how deep you dive and

how long you spend there, often necessitating a “safety stop” where you float at 15 feet below the surface to ‘off-gas’—allowing your body to reacclimate to lower pressures. Jacques Cousteau once compared this decompression stop to slowly uncorking a bottle of champagne (you are the bottle).⁶ In diving you don’t simply *wear* prosthetic interfaces, you are a spongy interface, and you must be careful how you manage your air.⁷ This also extends to movement: taking a breath causes you to float slightly up and exhaling has the effect of making the body slowly sink. This immediate feedback loop between breathing and movement can be a calming and meditative experience for some, or a source of anxiety for new divers who are still working on their “buoyancy control,” or the ability to gracefully manage how one floats underwater, neutrally buoyant, neither rising nor sinking. Being too buoyant can cause an unwanted surface ascent while being not buoyant enough means slowly sinking. Good buoyancy control is necessary for viewing marine organisms, underwater objects or artworks, and for photography—otherwise you risk blurry images.⁸

The conditions of breathing and the ability to spend time at depth are two factors that distinguish swimming practices from scuba practices. With scuba, you do not have to surface to breathe right away; you bring your air with you via the tank on your back. This tank is also a clock or, better, an hourglass—a measure of your remaining time underwater, slowly decreasing with each breath you take. Experienced divers

learn to ‘sip’ their air rather than guzzling it, which is easy to do when nervous, panicked, or swimming hard to fight a current. Breathing presents an intimate relation to time and phenomenological awareness through the careful monitoring and modulation of one’s air cavities (lungs, throat, ears and eustachian tubes) as well as gauges for depth and remaining air. Breathing is part of scuba diving’s phenomenology of interpretation, providing important feedback about the state of the body and position in the water column—a form of what Donna Haraway calls ‘situated knowledge,’ from the partial perspective of being underwater.⁹ In *Wild Blue Media*, I argue for understanding the amphibious condition of diving not as the dual access to two worlds but the partial exclusion or alienation from one world (land) as the cost of temporarily entering another (ocean); one can safely surface only after doing a safety stop to off-gas what was accumulated in the body at depth.

So what can we do with scuba diving?

ACCESS SPECIFIC SITES IN PERSON

Most obviously, scuba diving enables first-person witnessing and observation of sites that would otherwise need to be accessed through forms of second-hand knowledge: remotely operated vehicles or drones, or the report/photographs from another person doing the witnessing. These sites might include underwater artworks or installations, sunken ships, oil

rigs, coral reefs, kelp forests, internet cables or other underwater structures. Underwater sites offer unique experiences for thinking about the nature of archives, ephemerality and the proximity between the geologic and biologic given how many marine organisms either erode or form types of mineral crusts. As Killian Quigley writes, marine encrustation is ‘a shifting, ongoing, multispecies process that has the potential to inflect, and even transform, the ways submarine situations mediate materiality, memory, and story.’¹⁰ As a diver, you can gather your own observational evidence, perhaps most easily through photography but one might also collect objects, or install remote observational equipment, or bring a hydrophone.

Making bad photographs when you first start out can teach you about the ways that light works underwater, and also motivate you to work on your buoyancy control if you want clear images. However, one of the most useful photographs for my own theoretical work was a blurry image I took within a shipwreck that enabled me to meditate on the differences between the *Umwelt* of my cheap camera (blues and greens) and the bright oranges and pinks that my eyes remembered.¹¹ Scuba diving as a praxis—a practice that generates theory—means paying attention to specific oceanic milieus and specifically attuned instruments/organs, not just the ‘ocean’ at a more abstract scale. While there is one ocean, visiting particular oceans in person can teach something about what constitute meaningful boundaries in a fluid environment,

such as gradients of temperature or salinity (some cenotes have impressive haloclines).

ESTRANGEMENT FROM TERRESTRIAL HABITS

Becoming a new scuba diver is a good opportunity to assess the terrestrial bias of your own habits. When I first started learning to dive, I would try to ‘stand’ upright every time I felt out of control. This was likely because I underinflated my vest and was starting to sink. As a result, I would land on the sandy bottom of the ocean fins-down, trying to be conscious of not accidentally crushing a sea creature. This reflex to stand up keyed me into the way that scuba diving can help us become aware of normative forms of orientation. As Sara Ahmed writes, bodies ‘get stuck in certain alignments’ as an effect of certain types of work, such as the aches and pains of prolonged periods sitting at a desk.¹² In this way, she writes, bodies ‘acquire orientation.’¹³ While Ahmed channels these observations to talk about orientation in relation to sexual desire and queer theory, there is a certain way that one might view the ocean as having an estranging (or also queering) function on the normative ways we value orientation in language. We might think about how ‘up and ‘down’ acquire certain valuations as an effect of our own terrestrial habitation (and habits).¹⁴ One of the questions a scuba diving observer can ask, then, is this: how do different oceanic environments afford specific possibilities of

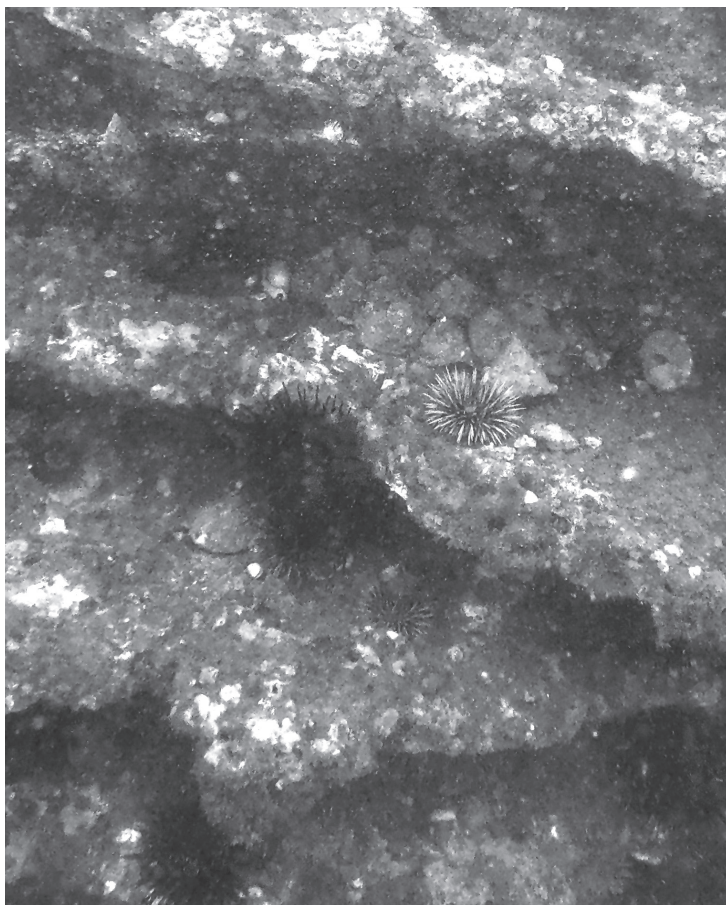
orientation? In what ways do buoyancy, currents, tidal surge, wave action, weather, or the movement of water across other topographic features position the diver? What are the possible ways that a diver can orient to particular underwater objects, structures, or organisms?

Another aspect of estrangement can draw on the performative and spectacular qualities of scuba diving, which often challenge where one might expect to find a human body. Joining scholars Rob Nixon and Elizabeth Deloughrey, I often think about the Maldives' 2009 underwater cabinet meeting and its photographic documentation, where Mohammad Nasheed's entire presidential cabinet donned scuba gear to descend underwater and sign a commitment to pursuing carbon neutrality, given their island's immediate threat from sea level rise.¹⁵ The images of this moment are striking, full of divers attempting to sit at tables and chairs or swimming by Maldivian flags. I think of this moment as a kind of performative speculative fiction that shows us a possible future as a tactic for urging the global public to collectively change their behaviour, such that such an underwater vision never comes to pass.

UNIQUE CONDITIONS OF INTERPRETATION

By visiting specific oceanic sites in person, one can reflect more critically on the representational choices of the ocean made in other forms of media. Diving enables forms of





‘comparative media analysis,’ a term I borrow from N Katherine Hayles, but with added attention to the phenomenological experience of the body. Comparative media analysis can illuminate the differences between oceanic and terrestrial conditions of observation, as an artist or theorist translates between two or more environments of experience. The media in question may be visual, acoustic or even literary. Consider how one might compare Adrienne Rich’s famous poem ‘Diving the Wreck’ with experiences of actual wreck diving, attentive to the similarities and differences and even media forms (‘the water eaten log / the fouled compass’) or a shared commitment to first-person witnessing (‘the thing I came for / the wreck and not the story of the wreck / the thing itself and not the myth’) or the similarities between mermaids, androgyny, and cyborgs (‘I am she: I am he’).¹⁶

One can also approach comparative media questions about underwater interpretation through photography. In *Wild Blue Media*, I compared the experience of looking at online photographs of Jason de Caires Taylor’s underwater sculptures with my experience of diving them in person. At the time, a strong current kept pulling me horizontal, and I found that I could not gaze at the sculptures with the same aesthetic of frontality that Taylor favoured in his photographic representations of the sculptures, which would have been achieved by standing and looking at the sculptures face to face. I noticed that Taylor’s photographic representation of the sculptures emulated

terrestrial conventions of portraiture rather than offering a range of views that would have been more common for a scuba diving observer—sideways, overhead. Only through diving the Silent Evolution sculptures in person did I become aware of the differences between the possibilities of viewing them as a diver, compared with fixed portrait orientation presented in Taylor’s photographic documentation.

Below I provide one example of how to apply these three principles of scuba diving praxis—access, estrangement, and interpretation—to explore how to think about bookshelves from oceanic standpoints.

SUBMERGING THE “BOOKSHELF” AT REFUGIO BEACH

Bookshelves depend on gravity. As infrastructures of organisation, they provide a frame that keeps books ‘standing’ in an upright position, easily accessible for a person to walk by and browse. As media scholar, Shannon Mattern writes, bookshelves are intellectual furnishings’ that ‘inform the way human bodies relate’ to media, and embody knowledge in particular ways.¹⁷ Building on her work on the history of bookshelves as an architecture, Mattern reflects that, ‘We put things on shelves, rather than behind doors or in drawers, when we want them to be readily graspable, when they’re sufficiently attractive for display, when they lend themselves to an ordered presentation, when they’re not susceptible to dust or light or children’s sticky

fingers or other environmental hazards.¹⁸ Bookshelves make things graspable not only because they have an open face but because terrestrial conditions of gravity enable books to stay put—rather than float away. Each shelf provides a surface, parallel to the earth, to push against, a vertical architecture for information storage that is a popular subject of the social media ‘shelfie.’¹⁹

Yet what happens to the bookshelf under different environmental—or gravitational—conditions? If we ‘conceptually displace’ the bookshelf in the ocean, how might we think differently about shelves as ‘intellectual furnishings’ for thought and informatic organisation? To call an underwater structure a ‘bookshelf’ might seem to exemplify terrestrial thinking, which stamps a template of expectations from a particular human medium onto something of a different milieu. Yet underwater conditions also teach us what we have taken for granted about the bookshelf as an intellectual furnishing or architecture for thought. By conceptually submerging the bookshelf in the ocean, perhaps we might make this familiar item a bit stranger.

There is an underwater structure near Santa Barbara that has been hard for me to forget. To get to this structure, you need to drive 20 minutes up the coast to a state park called Refugio Beach—a Spanish colonial name that means ‘refuge.’ When I visited in November 2020, socially distancing with a friend, we prepared for the dive by suiting up for the cold Pacific

waters with a fully insulated seven millimetres of neoprene wetsuit, boots, hood, and gloves, plus over 20 pounds of weights to counteract the extra buoyancy of all our insulation. From the asphalt-covered parking lot, I observed the small splotches of tar on nearby rocks and wondered if they were a residue from the 2015 oil spill (the platform that caused it is still within view) or whether they were part of the regularly occurring drips from the seafloor. As we trudged through the sand towards the water (recalling Adrienne Rich's line, 'My flippers cripple me'), a man stopped us to talk, briefly, wanting us to know that indigenous Chumash pottery and other artefacts were known to be found in the area should we run across any while underwater. I cannot recall who he wanted us to notify—it was probably anthropologists—but it made me intensely aware of my positionality as a settler scholar, all while sweating under 30 pounds of diving gear. As I looked out at the oil platform, I was hyper-conscious of how our neoprene wetsuits are made of petroleum-based plastics that connected us to the same splotches of tar on the beach.

Finally, my friend and I swam through the relief of cold water, heading towards the buoyant strands of giant kelp that marked the beginning of the dive. This particular dive on the left side of Refugio Beach could take many paths but was best known for offering a horizontal rocky shelf that ran parallel to shore—the structure I had heard playfully called a 'bookshelf reef' (Figure 1). As we manoeuvred

to face the shelf, I realised that the name 'bookshelf reef' was indeed hard to avoid. As a colleague had later explained, the reef was likely made of uplifted ocean sediments, with softer and harder sediments overlaying each other.²⁰ Erosion had worn away layers of softer rock and left the harder layers stacked and exposed, ideal crevices for a variety of life forms, extending perhaps hundreds of feet parallel to the shore. One element to clarify is that the 'reef' in the context of California does not mean corals but rather a rocky surface to which lifeforms adhere. As a cold-water habitat sustained by the south-flowing chill of an Alaskan current, the Santa Barbara channel is home to a variety of seaweeds and kelps that provide food and habitat for many kinds of organisms. Indeed, some patches of seaweeds featured so many colours so as to compete with the rainbow reputation of the coral reef—the end of our dive at Refugio Beach featured the bright greens of surfgrass swaying alongside ochres and a variety of reddish-purple seaweeds.

One of the reasons why the name 'bookshelf' felt so appropriate for this reef has to do with how one normally orients to the bookshelf itself. Consider how calling something a 'shelf' is dependent on a particular directional relationship to gravity. The shelf is no longer a shelf if you change its orientation 90 degrees; then it becomes columns or slats. Stefan Helmreich charts the question of how furniture is defined by orientation in his ethnographic study of FLIP ship, a research vessel for studying

waves that can flip 90 degrees into a vertical position, causing floors to become walls—with furnishings in two orientations.²¹ I thought about this example as we hung vertically in the water column, peering with a flashlight into the horizontal crevices of the bookshelf reef. Here we were adopting an orientation of frontality that reflected the normative positionality of standing. It didn't have to be this way: one of the pleasures of diving is being able to slowly fly, or swim upside-down, or explore sideways. These postures also depend on oceanic conditions: I have found that it can be difficult to maintain a vertical standing-like posture if there is a strong current. In fact, one of the benefits of this particular bookshelf reef is that it protected us from the tidal surge above, offering a shadow of still water to hide behind. It was this protection that made it possible for me to 'stand,' floating neutrally buoyant in the water column.

Just as Sara Ahmed asks us to rethink tables as 'orientation devices,' we might similarly consider the terrestrial bookshelf as an orientation device with a particular relationship to terrestrial conditions of gravity that hold archived books in place.²² Underwater, one could easily change one's orientation to the bookshelf through flipping into a different position of swimming. Is the bookshelf still a bookshelf if you view it from a horizontal position so that it looks like a set of slats? How much does the positionality of the observer anchor practices of categorisation and naming? Perhaps oceanic conditions prompt us to consider gravity as

an unacknowledged physical characteristic of terrestrial archiving practices that holds observer and books in vertical alignment—a sentiment echoed in the title of Craig Robertson's *The Filing Cabinet: A vertical history of information*.²³

My thoughts drifted to shelving as not only an architecture but a figure of speech. Under the conditions of industrial agriculture and late capitalism, the phrase 'shelf stable' describes canned products that are not perishable, that do not decay quickly over time. By contrast, the bookshelf reef seemed to be caked in the past residues (and erosions) of a number of sessile creatures, embodying the contradiction of a living archive. I was reminded of Plato's discussion of the sea god Glaucus in Book X of *The Republic*, where he imagines—with futility—trying to extrapolate the ideal form of someone whose 'original parts have been broken off, others have been crushed, and his whole body has been maimed by the waves and by the shells, seaweeds, and stones that have attached themselves to him.'²⁴

Swimming along the reef slowly, my friend noticed a number of creatures that seemed to be grouped by species. There was a pile of hermit crabs in one nook followed by a den of lobsters maybe ten feet away. Then there was a field of purple sea urchins, the same variety that has had a population explosion in Northern California and Oregon and decimated forests of bull kelp, a keystone species. After the dive, I mentioned the name bookshelf reef, and my friend joked that perhaps there was a Dewey Decimal system for the

sea creatures: PS.5432 urchin or QE.8989 lobster. Of course, other shelves had more of a mix of species (Figure 2), purple and black urchins, along with a bat star or several rocky outcrops carpeted in pink strawberry anemones.

While it would take a more seasoned biological observer to determine how populations move around on this reef space, or ‘shelve’ themselves, the underwater conditions of shelving when involving living forms, like marine invertebrates present very different conditions of the bookshelf as archive and as a medium of storage than terrestrial libraries. The seawater that nourishes and sustains the marine creatures is also the same force that, over geologic time, produced the very structure of the bookshelf reef through erosion, the force that now wears away at it. Yet there are also elements of production, of growth. Seen through interaction with what Astrida Neimanis calls the ‘gestational medium’ of seawater (one of its many qualities), we might re-examine the bookshelf not only as a space of holding but as a space of gestation and generation via the diverse reproductive strategies and sexualities of marine organisms, many of which are hermaphroditic.²⁵ The word ‘gravity’ also shares a Latin root with the word ‘gravid’ (*gravis*)—a shared experience of heaviness, perhaps, of being pulled to earth. What about gravity underwater?

In a recent talk, Alice Te Punga Somerville connected the bookshelf to the ‘continental shelf,’ the underwater slope bordering between continents and the deep

ocean.²⁶ The continental shelf has been imagined for particular human, state, colonialist and economic purposes, such as mapping EEZ (exclusive economic zone) rights to territorial waters and fishing. Meditating on Māori poet Vernice Wineera's line 'imagining all that mountain / invisible beneath you,' Somerville suggests that the invisible volume of Pacific literature could provide a different way of thinking about continental shelves (alongside archival shelves). Rather than spaces colonially mapped for resources and sovereignty, the continental shelf might be a figure for addressing 'how we know things we cannot see.'²⁷ What I might add to this generative discussion is that the continental shelf, unlike the bookshelf, is sloped rather than uniformly horizontal. If one imagines being a whale or dolphin for a moment, it could be reasonable to suggest that this slope would be a meaningful topographic feature and means of orienting toward or away from islands. If bookshelves are flat surfaces that books press against, then continental shelves are variously contoured slopes for oceanic thought to press against—an inclined reference for swimming and movement. The continental shelf is thus a different kind of intellectual furnishing than a bookshelf to which humans and nonhumans might orient or compose forms of relational knowledge.

Part of what interests me in the bookshelf as structure is that it is different from the conversations in the ocean humanities around books. There is a long history here that balances the fragility of the soaked paper-page

with re-conceptions of the seafloor as a surface for inscription. This includes work on the Black Atlantic from scholars, such as Eduoard Glissant in *Poetics of Relation* as he wonders about the balls and chains that ‘punctuate’ the seafloor, like a kind of grammar that emerged from the violence of the Middle Passage, or the way that M. Nourbse Philip allows a watery aesthetic to disperse letters on the pages of poetry in *Zong!*. Or consider Ken Liu’s short story ‘Dispatches from the Cradle: The Hermit—Forty-eight Hours in the Sea of Massachusetts,’ which imagines a post-diluvian future where Harvard’s Widener library has been overgrown by a vibrant rainbow of corals whose colours derive from toxins. The story sets up a kind of substitution of coral-for-book, as one character observes ‘a massive brain-shaped coral formation whose gyri and lobes evoked the wisdom of generations of robed scholars who had once strolled through this hallowed temple of knowledge.’²⁸ In contrast to these examples of books and writing that remain underwater, the ocean challenges notions of inscription (a mark or cut), a concept that terrestrial media theory takes for granted in its theorisation of recording technologies.²⁹

Where a media theory focus on books may centre information, and how it endures over time, my question about underwater bookshelves—or an underwater reef as bookshelf—offers a different set of concerns. As an infrastructure of archiving, the terrestrial bookshelf (rather than the book itself) supports the weight of books while protecting them from the vicissitudes of time and environment. In

the ocean, a bookshelf reef evokes a similar form through its horizontal shelves but had no such telos—and of course here I acknowledge some of the limits of the metaphor, like the absurdity of imagining checking out a creature from the bookshelf like one might a library. The underwater bookshelf takes on a different relationship to materiality, process and time, and may be seen to be in a relationship of ongoing erosion with seawater and the organisms that encrust or inhabit its surfaces. Where geologic material ends and biotic life begins is an ontologically uncertain boundary, especially considering how creatures that live on the rock chip away at it or build up residues of calcium or other shell-like substances. The bookshelf is what clusters and binds but also proliferates across surfaces.

Perhaps ‘shelving’ is about positionality and refuge—a name that takes on particular meaning given that ‘Refugio Beach’ takes its name from the Spanish word for refuge, a residue of California’s Spanish colonial history. As a diver, I found myself taking refuge behind the bookshelf reef as a means of sheltering from the force of waves that moved above us, sweeping towards the shore. Yet, the bookshelf reef is also a home for many invertebrates and seaweeds. Imagine you are one of the many strawberry anemones, a filter feeder dotting the reef. Shelf positionality (where you anchor yourself) might be about accessing the flow of planktonic drift from the best position possible. A higher position on the shelf would mean being hit by the current but also bring more potential food. Or imagine you are a sea slug, like

the Spanish Shawl nudibranch (Figure 3) that predates on hydroids and anemones: you might crawl all over the shelves. For you, the shelves are meaningful as a surface for prey to grow, irrespective of orientation to gravity. Or imagine that you are a lobster following the chemical trail of something you want to eat across the reef—tasting it with your feet. Viewed from multispecies perspectives, the architectural form of the bookshelf is fundamentally about orientations and affects. In addition to how one faces the bookshelf (if one has a legible face), it matters what informatic traces signify across the bookshelf. If affect has to do with preconscious reflexes to turn or react in a particular way, then the myriad forms of life that live on, under, and around the underwater bookshelf proliferate the possible ways we might imagine orienting to our shelves.

FURTHER DISPLACEMENTS AND POSSIBILITIES

I have used the example of visiting the bookshelf reef at Refugio Beach to show how scuba diving enables access to underwater sites of artistic or humanistic interest, how it provides unique conditions of observation and interpretation through the buoyant positionality of the diver within conditions of current, and how this situates the diver to notice differences with terrestrial circumstances. What I learn from the underwater bookshelf is just how much we have taken for granted the force of gravity as a condition of informatic storage with the infrastructure of the

bookshelf. While scuba diving has been used in scientific surveys of species abundance, mapping, and marine archaeology, artists and humanists can also use scuba diving for their own purposes of witnessing.³⁰ Here I fully acknowledge that scuba diving is a physically demanding activity that requires some knowledge of swimming and a modest degree of fitness and has start-up costs and is thus not accessible to every person. Yet people with mobility difficulties—such as military veterans or amputees—can participate in assisted dives, enjoying a freer type of movement through the buoyant support of the water. There also exists a dive shop called AquaHands run by a man with hearing impairment who enjoys full linguistic fluency underwater when communicating with others who use sign language.³¹

The specific case of the bookshelf prompts us to consider the milieu-specific conditions of other information infrastructures and how they habituate us to orient and observe in particular ways. Artist Trevor Paglen's use of scuba diving to photograph NSA-tapped underwater fiberoptic cable network is another example of how submerged points of view can offer new perspectives on infrastructure.³² While its documentation of underwater fibreoptic cables has a strong visual politics through documenting the out-of-sight, this project could be taken further through considering the differences between surveillance underwater (which has long been acoustic) and surveillance above water. Gazing at the opacity of water in Paglen's cable documentation, I wonder about

the orientational conditions of surveillance across visual and acoustic media, such as the military uses of sonar.

My choice of focusing on bookshelves relies on a visual analogy between the geologic form that I noticed at Refugio Beach and the shelves that adorn my office. Such analogies are not a bad place for scuba praxis to start. In *Shakespeare's Ocean*, Dan Brayton noticed the 'deep encoding [of the land] in the terminology and conceptual categories that define ecocritical inquiry,' which is prevalent across oceanic naming.³³ Consider the names of creatures like sea cucumber, bat ray, cow fish, clownfish, or even 'hydrography' (water/writing) as a variation on 'geography.' I also think of creatures like the 'pencil urchin'—named for its extra thick spines—that etches tracks along the volcanic rocks of Hawaii, scraping off tasty algae. There is already a form of conceptual displacement at work in these instances of terrestrial bias, of naming oceanic organisms and features after land things or human cultural references. Scuba diving enables the conditions for observing these things in person, attentive to the meaningful differences with their namesakes.

What can be 'conceptually displaced,' then? There are many possibilities: an abstract concept, an object, an infrastructure, the human body, a poem, a philosopher, a photograph, a song, a colour, an artwork, an aspiration.³⁴ As a scuba diver, one can meditate on any of these things during or after a particular dive. Indeed, scuba diving praxis is fundamentally a form of memory

work, for the way that one must remember and recall elements of a dive—not just its creatures, but its spatiality—in order to write or compare the dive effectively with some other media form. I personally find it difficult to recall my dives in a sequential manner (first I saw this, then I saw that ...), but I can more easily recall drifting past a wall, emerging through a shipwreck window, or tracking low to the sand to avoid wave turbulence above. This is my art of noticing.³⁵ So if you decide to descend under the surface, you too will discover the ways that you notice, and how what you notice takes the form of an embodied memory, and how this memory returns to you in a dream-like way after you surface to do your creative work at desks and studios, a little bit more amphibious.

Images

- p. 452 Black urchins, purple urchins, a bat star, and layers of encrustation. Photo: Melody Jue, Refugio Beach, November 2020.
- p. 453 Bookshelf reef, Refugio Beach, CA. Photograph: Melody Jue, November 2020.

Endnotes

1. Melody Jue, *Wild Blue Media: Thinking Through Seawater* (Durham: Duke University Press, 2020), 6.
2. Jue, *Wild Blue Media*, 8.
3. Scuba diving is one of many aquatic practices that have been gaining attention in the humanities and arts, including swimming, surfing, and sailing. One can get to know a place through swimming, as Vanessa Dawes writes of 'psychoswimography' ('Psychoswimography: Santa B arbara.' *Visual Artist's News Sheet*, March–April 2015), or Steve Mentz in *Ocean* (New York: Bloomsbury, 2020), or Leann Shapton's reflections on being a competitive swimmer in *Swimming Studies* (New York: Riverhead, 2012). Karin Amimoto Ingersoll writes about Kanaka Maoli practices of surfing and sailing as ecological forms of knowledge in *Waves of Knowing: A Hawaiian Seascape Epistemology* (Durham: Duke University Press, 2016). To this one might add the growing body of work on surfing, such as *The Critical Surf Studies Reader* ed. Dexter Zavalza Hough–Snee and Alexander Sotelo Eastman (Durham: Duke University Press, 2017).
4. Stephanie Merchant 'Negotiating Underwater Space: The Sensorium, the Body and the Practice of Scuba-Diving.' *Tourist Studies* 11:3 (2011), 230.
5. Stefan Helmreich, *Alien Ocean: Anthropological Voyages in Microbial Seas* (Los Angeles: UC Press, 2009).
6. Jacques Cousteau, *The Silent World*. With Frédéric Dumas. 1953. Washington, DC:
7. *National Geographic Adventure Classics*, 2004.
8. See Chapter 1, 'Interface: Breathing Underwater' in Jue, *Wild Blue Media*.
9. Aiwah Ong, 'Buoyancy: Blue Territorialization of Asian Power' in *Voluminous States: Sovereignty, Materiality, and the Territorial Imagination* ed. Franck Billé (Durham: Duke University Press, 2020).
10. Donna Haraway, 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.' In *Simians, Cyborgs, and Women, 183–202*. New York: Routledge, 1991. For an extensive discussion of 'situated knowledge' in relation to oceanic perception, see *Wild Blue Media* p. 12–14.
11. Killian Quigley, <https://sei.sydney.edu.au/opinion/toward-an-encrusting-ocean/>
12. *Wild Blue Media*, ix. See also Plate 1 (colour insert).
13. Sara Ahmed, 'Orientations Matter,' *New Materialisms: Ontology, Agency, and Politics*, ed. Diana H. Coole and Samantha Frost (Durham, NC: Duke University Press, 2010), 274.
14. Ahmed, 'Orientations Matter,' 253.
15. Jue, *Wild Blue Media*, 113–17.
16. See Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011); Elizabeth Deloughrey, 'Submarine Futures of the Anthropocene,' *Comparative Literature* 69:1 (2017), 32–44; Melody Jue, 'Performative Science Fiction,' *Science Fiction Studies* 45 (2018), 423–424.
17. One film that draws inspiration from 'Diving the Wreck' and *Wild Blue Media* is Madison Bycroft's *The Fouled Compass*, <https://www.vdrome.org/madison-bycroft/>.
18. Shannon Mattern, 'Intellectual Furnishings,' <https://medium.com/@shannonmattern/intellectual-furnishings-e2076cf5f2de>, accessed 5/21/2021.
19. Shannon Mattern, 'Before Billy: A Brief History of the Design Bookcase,' <http://www.harvarddesignmagazine.org/issues/43/before-billy-a-brief-history-of-the-bookcase>, accessed 5/21/21.
20. Craig Robertson, *The Filing Cabinet: A vertical history of information* (Minneapolis: Minnesota Press, 2021).

21. Thank you to Dr Patrick Rafter, a biogeochemist at University of California, Irvine, for this insight.

22. Stefan Helmreich, 'Flipping the Ship: Ocean Waves, Media Orientations, and Objectivity at Sea,' <https://mediaenviron.org/article/21389-flipping-the-ship-ocean-waves-media-orientations-and-objectivity-at-sea>, accessed 5/21/21.

23. Ahmed, 'Orientations Matter,' 274.

24. Craig Robertson, *The Filing Cabinet: A Vertical History of Information* (Minneapolis: Minnesota Press, 2021).

25. Plato, *The Republic*. Edited by Alan Bloom (Indianapolis: Hackett, 1968/1991), 282.

26. Astrida Neimanis, 'Feminist Subjectivity, Watered' *Feminist Review* 103:1 (2013): 23 - 41.

27. Alice Te Punga Somerville, "Imagining all that mountain beneath": Pacific writing, continental shelves.' Public talk for 'Ocean as Archive' conference, May 2021.

28. Alice Te Punga Somerville, "Imagining all that mountain beneath": Pacific writing, continental shelves.' public talk for 'Ocean as Archive' conference, May 2021.

29. Ken Liu, 'Dispatches from the Cradle: The Hermit-Forty-eight Hours in the Sea of Massachusetts,' in *Drowned Worlds: Tales from the Anthropocene and Beyond*, ed. Jonathan Strathan (Oxford: Solaris, 2016), 49.

30. For example, see Chapter 2, 'Vampire Squid Media,' in *Wild Blue Media*; see also Melody Jue, 'Fluid Cuts: The Anti-visual Logic of Surfactants after Deepwater

Horizon,' *Configurations* (Special Issue: *Ocean Science & Technology Studies*), Fall 2019: 525-544.

31. The last chapter of *Wild Blue Media* begins to approach questions of archive, museum, and history in relation to the trans-Atlantic slave trade and its unintentional evocations by artist Jason de Caixes Taylor in *Silent Evolution*.

32. Aqua Hands, <https://www.youtube.com/watch?v=RYu3o5wEzKc>, accessed June 24, 2021.

33. Trevor Paglen, 'NSA-tapped Undersea Cables: North Pacific Ocean,' <https://www.tba21.org/journals/article/trevorpaglen>, accessed June 23, 2021. See also 'Trevor Paglen Plumbs the Internet,' <https://www.newyorker.com/tech/annals-of-technology/trevor-paglen-plumbs-the-internet-at-metro-pictures-gallery>, accessed June 23, 2021; 'Trevor Paglen's Deep Web Dive,' https://video.vice.com/en_us/video/trevor-paglens-deep-web-dive-or-behind-the-scenes/56cf7bdd269b1bc36f7edddb, accessed June 23, 2021. See also Nicole Starosielski's book, *The Undersea Network* (Durham: Duke University Press, 2015).

