

BOOK REVIEWS

Book Review: *Deepwater Alchemy: Extractive Mediation and the Taming of the Seafloor*. Lisa Yin Han. University of Minnesota Press, 2024. ISBN 9781517915940

Tim Shao-Hung Teng¹^a

¹ Chinese Language and Literature, Chinese University of Hong Kong

Keywords: extractivism, mediation, ocean humanities, science and technology studies, environmental media

<https://doi.org/10.1525/001c.138391>

How did the seafloor transform from an unfathomable space into a frontier zone of resources? How did it change from a domain of the past—holding mythical fantasies and wrecked ships—into a techno-optimistic harbinger of collective futures? In *Deepwater Alchemy: Extractive Mediation and the Taming of the Seafloor*, Lisa Yin Han draws on her expertise in media studies and STS to address these intriguing questions. Proposing the concept of extractive mediation, Han stages a timely encounter between media studies and environmental humanities, effectively broadening the definition of media to invoke echoes in the communicative, technological, and environmental. Extraction and mediation make for a fruitful conversation not only because undersea cables and pipelines constantly share common infrastructural bases. Han points to the deeper imbrications of the two, where resource extraction has always relied on the mediation of a range of technical objects, while our use of media is conditioned by extractive activities and is itself a form of meaning extraction. Through the lens of extractive mediation, the seafloor emerges not as a single entity but as many things at once: treasure trove, historical archive, resource frontier, multispecies contact zone, and networked platform.

In Han's vivid depictions, we often see media, whether communicative or extractive, diligently at work. Rather than simply document pre-constituted, individual marine lives, media play a significant role in co-constituting the deep-sea ecology. Media *do work*—they are the technologies and techniques of imaging and sounding, sensing and extracting; in doing work, they actively form and transform the benthic environment. Revealing the many ways media operationalize the ocean bottom, Han adopts a revisionist approach in media studies that shifts its inquiry from media to mediation: while the topics covered by the chapters run the gamut of media objects from petroleum seismographs to electronic tags to cabled observatories, the main concern

^a Tim Shao-Hung Teng is an assistant professor of Sinophone film and media at the Chinese University of Hong Kong. He received his PhD in East Asian Languages and Civilizations from Harvard University. Titled *Earthbound Mediation: Geological Entanglements in Sinophone Extractive Zones*, his book project studies four sites of earth material extraction and their entanglement with media technology across China and Taiwan throughout the twentieth century. His peer-reviewed work has appeared in *Public Culture*, *Environment and Planning D: Society and Space*, *positions: asia critique*, *Screen*, *New Review of Film and Television Studies*, *Journal of Chinese Cinemas*, and *Chinese Animation: Multiplicities in Motion*, among others.

remains how these devices bring the ocean into a constitutive relationship, mediating relations at various scales and across biological and geological categories.

Another keyword that proves generative is alchemy, which speaks to the material and metaphorical transformations of the seafloor Han traces throughout the book. The term signals both the processes of sea change such as biofouling and those of capitalistic resource conversion. The alchemic image applies as well to the ongoing construction of a “smart” ocean that “[transforms] the oceans into an ocean of data” (172). In Han’s hands, alchemy emerges as a critical method that attunes readers to the ocean’s protean materiality, thereby refuting an unthinking imposition of the terrestrial logic. These material specificities can be readily experienced in the fluid vibrations created by noise, which induce a cascade of negative affects (fear, stress, anxiety, disorientation, etc.) in marine bodies; in hormonal imbalances that lead to behavioral changes in whales; and in plume formation contingent upon turbulences.

Deepwater Alchemy begins not with the scene of resource extraction but with an earlier stage of discursive formation that paves the way for contemporary seafloor extractivism. This strategy shows the book’s strength not only in its innovative approach to the extractive technology but also in its critical assessment of the cultural logic that propels the ocean’s operationalization. In chapter 1, Han examines the discourse of heritage and inheritance that informs the archaeological salvage of lost treasures from the seabed. This discourse often presupposes the presence of valuables that are always already owned—as evinced by the international law principle “common heritage of mankind”—and can turn into economic and political assets. Spatially, the excavation of valuables constructs the seafloor as a frontier space, a continuation of the terrestrial realm; temporally, it charts a linear timeline whereby sunken pasts eagerly await recovery to reinstate the present and legitimize future grand projects, as seen in China’s musealization of the wreck of *Nanhai No. 1* along with its expansion into the South China Sea.

Chapters 2 and 4 explore underwater interspecies relations, focusing on cetaceans as they become entangled with the anthropogenic project of seabed mediation. An exemplar in sound studies, chapter 2 depicts the precarious livelihood of whales in the wake of petroleum seismology, which makes use of air-gun explosions to locate benthic hydrocarbon riches. Here Han teases out the paradoxical logic of underwater prospecting: to retrieve noise-free signals indicating oil reserves, seismic surveys resort to producing more noises. This regime of aural terror further dictates that marine lives “interfering” with the surveying process be treated as noises, rendered as expendable “takes.” Interested readers should not miss a different treatment of the topic

in the edited volume *Saturation: An Elemental Politics*, where Han draws compellingly on the chemical processes of saturation and precipitation to illuminate cetacean necropolitics.¹

Chapter 4 critically examines the role of cetaceans as coworkers in the production of a networked smart ocean. In whale telemetry, not only are tags and pacemakers attached to whales to monitor their well-being, but these marine mammals are also incorporated into an oceanographic infrastructure, helping to disclose information about the deep sea. As data collectors and environmental sensors, cetaceans are likened to drones, an analogy that tends to treat their labor as free and automatic. This chapter also advances a much-needed reorientation of intimacy in the digital age, which can no longer refer to embodied care alone. In the case of whale telemetry, interspecies intimacy is more often a result of radical disembodiment, relying not on proximity but on remote control, not on the body's sensorial capacities but on the retrieval of abstract data points.

In both cetacean chapters, Han grants an understanding to the scientists who either work for corporations or frame their research project from an anthropocentric point of view. We encounter marine biologists assigned the task of detecting whales during the exploration of drilling sites. An engineer committed to the development of whale-tracking devices claims that he does his work "for the benefit of mankind" (133). In detailing the work of these scientists, Han resists the temptation of knee-jerk critique. Instead, she nurtures a space for ethical reflection that acknowledges the all-too-common entanglement of knowledge, power, and profit, while locating possibilities of care and kinship amid the ruins of capital.

Sandwiched between the cetacean chapters is a discussion of sediment plumes, a surprising subject that is both vibrant matter and a powerful heuristic figure. Han pays close attention to the construction of plumes in scientific research, an attempt to epistemologically fixate something that is ontologically unfixable (here, too, scientists studying plumes constantly mediate between states, corporations, and environmentalists). The unruliness of plumes also shapes the discourses of risk and resilience, which, as Han notes, fail to address the question of social accountability. Ultimately, the plume destabilizes temporal order in its blending of sedimented pasts and uncertain futures, frustrating risk-prediction models. Its transscalar mediation of space—across water columns, from local to global, often more spectral than concretely bodied—further eludes scopic regimes that tend to presume individuated identities as their visualizing principle.

¹ Lisa Yin Han, "Precipitates of the Deep Sea: Seismic Surveys and Sonic Saturation," in *Saturation: An Elemental Politics*, eds. Melody Jue and Rafico Ruiz (Durham: Duke University Press, 2021): 223–42.

The final chapter on cabled seafloor observatories foregrounds a theme at play throughout the book, which is the dynamic between veiling and unveiling. As the benthic zone becomes increasingly covered—veiled—with media technologies such as fiber-optic cables (which can multitask now as both transmission tools and environmental sensors), more of its secrets are unveiled and rendered manageable through a global surveillance network. However, the technological coverage of the seafloor unwittingly creates a material platform of multispecies encounter. Han introduces the fascinating phenomenon of biofouling—“the accumulation of marine colonies on human technologies” (157)—that serves to re-veil the ocean, thus recentring the muddy reality of “human-ocean entanglements” (187). This last point nicely echoes the discussion in the opening chapter of the living archive, whose form and content keep changing in the alchemic co-presence of material erosion, marine metabolism, and historical violence.

Traversing multiple disciplines, *Deepwater Alchemy* embodies the gist of ecological thinking that defaults to relationality rather than identity as the basic analytic unit. In all the chapters, an inquiry into a single entity, be it a media technology or a marine species, quickly expands into multiscalar accounts of the larger milieu in which profit and loss, survival and harm are differentially connected. The book leaves us with a sober insight: despite talks about transitioning out of the fossil fuel regime into the green and blue economies, we continue to extract resources from the deep sea to power our windmills, smartphones, and electric cars. In the face of the extractive fervor likely to outlive the fossil fuel regime, *Deepwater Alchemy* furnishes guidance on ecological and mediational thinking, training our attention not merely on the presence of material riches but also on present absences, lost memories, and the long-term processes of mediation and metamorphosis.

Published: May 21, 2025 PDT.



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CCBY-4.0). View this license's legal deed at <http://creativecommons.org/licenses/by/4.0> and legal code at <http://creativecommons.org/licenses/by/4.0/legalcode> for more information.