

## Introduction

### **Blue Legalities Untangling Ocean Laws in the Anthropocene**

Elizabeth R. Johnson & Irus Braverman

#### **Law and the Sea: Toward Turbulent Legalities**

The surface of the sea has long been viewed as a “blank space.” As Carl Schmitt famously quipped in 1950, “on the waves, there is nothing but waves” (Schmitt 2003, 43; see also Steinberg 2011). In the popular imaginary, the oceans continue to be viewed as a place outside conventional politics. Futurists and libertarian technophiles envision the sea surface as a frontier space upon which new forms of governance and ways of life might flourish. In their depths, the oceans remain impenetrable to our bodies and senses. Remotely operated vehicles, like the U.S. National Oceanic and Atmospheric Administration’s (NOAA) *Deep Discoverer*, produce images of what appears to be a different world altogether. As Stefan Helmreich writes, the oceans are “haunted by the figure of the alien” (Helmreich 2009, xi).

Despite (or precisely because of) this haunting, attempts to demystify the oceans are now underway. David Attenborough’s famous *Blue Earth* series has introduced millions to the seas and their other-worldly inhabitants, insisting audiences view the oceans not as a world away, but as part of a deeply interconnected, and increasingly fragile, ecological system. Indeed, the oceans appear as a bellwether of coming ecological catastrophe that will affect terrestrial and marine environments alike. With growing regularity, the mainstream media features dramatic images of bleached coral reefs, the Great Pacific Garbage Patch, persistent red tides, and endangered fauna. Frequent stories expose the public to grim statistics on declining fisheries, increasing ocean acidification, and the ubiquitous spread of plastics. As the Australian culture and politics magazine, *The Monthly*, recently declared, we seem to be witnessing the “end of the oceans”

(Bradley 2018, 1).

But just as life within the seas as we know it seems to be coming to an end, the ocean is at the same time becoming a new frontier for resource extraction and economic expansion, what is often referred to as the “blue economy.” Incorporating a growing number of conventional and renewable resources, the blue economy encompasses deep-sea mineral mining (Sammler and Reid, this volume), biopharmaceutical production (Helmreich 2009), wind and wave energy (Helmreich, this volume), dredging sand to create land for real estate and state expansion (Gaynor, this volume), and the cultivation of algae biofuels (Braun, this volume). In this growing sector, ocean environments appear not as a limit to continued expansion, but as a promising site of endless and highly profitable economic production (Patil et al. 2016; Braun, this volume).

*Blue Legalities* appears amidst this “blue turn.” It joins a wave of scholarship in the social sciences and humanities that responds to and corresponds with these transformations, newly heralded under the banners of the Blue Humanities (Mentz 2009; Gillis 2013) and Critical Ocean Studies (Ingersoll 2016; DeLoughrey 2017). With connections to the wider fields of new materialism and environmental humanities, this scholarship grapples with the tensions that surround the more-than-human ocean, opening up questions of epistemology and ontology that thinking with the sea—and our connection to the lives that inhabit it—provokes. This work includes, among others, Philip Steinberg’s and Kimberley Peters’ extensive writing on marine geographies (Steinberg 2001; 2011; Steinberg and Peters 2015), Stefan Helmreich’s *Alien Oceans* (2009), the edited volume *Thinking with Water* (Chen, MacLeod, and Neimanis 2013), Zoe Todd’s writing on fish and indigeneity (2014), Elizabeth DeLoughrey’s work on post-colonial literature and the Caribbean (2007; 2015), Stacy Alaimo’s *Exposed* (2016), Karin Amimoto Ingersoll’s *Waves of Knowing* (2016), and Irus Braverman’s *Coral Whisperers*:

*Scientists on the Brink* (2018). Collectively, this literature has drawn attention to the spaces, histories, and lives of the sea. More critically, however, it also calls into question what we think we know—and what we don't know—about oceans, challenging strongly held assumptions of our earthly planet and of ourselves. It is an ethical and politically engaged literature that demands we rethink our patterns of life on, and with, the seas.

*Blue Legalities* is inspired by this emerging literature about oceans and their inhabitants. But as important and comprehensive as it has been, the “blue turn” has yet to substantively and creatively take up questions of ocean law and governance. This volume follows Andreas Philippopoulos-Mihalopoulos in arguing that the law “permeates” our understandings of space and matter (2018, 3), but takes that argument out of the terrestrial and into the marine environment. Concerns around warming temperatures, increased pollution, sea level rise, ocean acidification, bio-harvesting, and deep-sea and sand mining are driving regulatory changes and raising questions about the nature of territory, sovereignty, and long-established claims in international law. The rapid technological and ecological transformations that have taken place over the last few decades are now altering the ways that the seas are governed, suggesting an urgent need for more critical attention to the laws of the seas, in their broadest and most pluralistic articulations. *Blue Legalities* offers such an intensified analysis, focusing on the ways in which our political frameworks and legal infrastructures have been made, contested, and are currently being remade in the oceans.

There is already a steady body of scholarship about ocean law within the legal discipline. Numerous books and treaties focus on law with a capital L—namely, on formal statutes, regulations, case law, and international treaties that govern the seas and their inhabitants (Tanaka 2008; Harrison 2011; Craig 2012; Nyman 2013; Scheiber and Paik 2013; Stephens and

VanderZwaag 2014; Ranganathan 2016; Bishara 2017). However, this scholarship has mostly been confined to the positivistic analysis of state laws and international treatises. Accordingly, in much of it, the oceans and their inhabitants appear passive to the legal infrastructures imposed upon them. While formal laws and administrative bodies are prevalent throughout this collection, we are not only concerned with official and binding articulations of “Law.” Rather, we follow in the wake of other legal scholars who have been pursuing questions around the constitution of legalities in relation to material processes, taking their contributions into the ocean’s wet environment.

By turning toward the relationship between governance and the life of ecological networks, this book joins a widening sphere of literature on law and nonhuman matters. Drawing in particular on Anna Grear’s work on law and the Anthropocene (2015), Philippopoulos-Mihalopoulos’s writing on nonhuman materialities (2016a; 2016b), and Alain Pottage’s explorations of materiality in the biosciences (2012; Pottage and Marris 2012), this volume refocuses the attention on the microscale questions concerning ocean law and its biopolitical, not only sovereign, enframings (Braverman 2016). Following Pottage’s lead (2012, 182-3), rather than starting with an assumption of “law” as a pre-discursive entity, this volume starts with the seas themselves and then moves to explore myriad laws as socio-scientific and heterogeneous phenomena. Coincident with the literature on the “blue turn” in the social sciences and humanities, this body of legal scholarship is influenced by science and technology studies and new materialisms.

Specifically, contributors to this volume apply the insights that are emerging within various disciplines to consider the ordinary and extraordinary projects of governing oceans. We identify several challenges in thinking with new materialisms, especially in relation to ocean

processes, sea creatures, and matters of the Anthropocene. In focusing on a pluralistic, dynamic, and interdisciplinary perspective, we argue here that the ocean is not singular. Rather, the fluid legalities of the seas evince what Stephanie Lavau has referred to in the context of fresh water governance as a “multiple reality” that hangs together in “untidy entanglement[s]” (2013, 428). The volume’s contributors emphasize the vast and unusual challenges associated with regulating such a multiple and untidy fluid reality as it is made manifest in the spaces, matter, and lives of the sea.

In addition to their plurality and multiplicity, oceans are also dynamic and unstable. Steinberg and Peters write that the seas are “a space of *churning*” (2015, 258; emphasis in original). The near constant re-formation of the ocean happens amidst “processes of ‘arranging,’ ‘gathering,’ ‘mixture,’ and ‘turbulence’” (ibid., 256). To bring the “churn” of this reality to light, we have assembled contributors that raise questions about material processes and about the epistemological and ontological assumptions that undergird how we know them. This volume, as a result, spans historic time periods and geographic locations. Within the legal context, engaging with the oceans as a turbulent “gathering” of life forms and processes invites interrogations of temporality, knowledge practices, the production of ignorance, and the fantasies that contribute to the making of ocean governance.

The volume’s chapters are grounded in a careful empirical analysis of historical and contemporary events. With a focus on microscale questions, we emphasize the extent to which soft standards, historic imaginaries, and scientific guidelines govern certain aspects of ocean life, regulating the everyday practices of scientists and other actors who operate in this space. Whereas such persons and institutions have traditionally not been considered legal actors, following their practices allows us to examine varied and plural laws. The volume thus more

broadly considers the negotiations and the frictions that emerge where systems of governance interact with complex geophysical, ecological, economic, and technological processes. We ask: What new forms of governance do engagements with the seas and their inhabitants engender? How are systems of governance adjusting to the recent radical changes that threaten the health of the oceans? And how might thinking with blue legalities open up opportunities for the contestation and transformation of governance?

The answers found in the following chapters are neither univocal nor singular; they are not of *one* ocean. Instead, they demonstrate that blue legalities are made up of the multiple and messy ontological, epistemological, and legalistic registers through which we come to engage the seas. We trace such emerging forms of governance to bring to the surface the not-yet-realized opportunities for more plural understandings of place, space, and the law. Adding to Steinberg's and Peters' "turbulent materiality" of the oceans, the volume's contributors render accounts of the turbulence that characterizes blue legalities, histories of governance, and wild regulatory imaginaries of the sea. The chapters are organized so as to highlight the turbulence of thinking with ocean legalities. In what follows, we discuss four central themes that hold these considerations of blue legalities and their multiple realities together.

### **The Vast Seas Between Knowledge and Ignorance**

The relationship between knowledge, imagination, and ignorance finds a fruitful substrate in the sea: long held in the deep, matter and fantasies resurface in legal and scientific accounts of maritime spaces. Emergent from our examinations of both ocean "Law" and its "laws"—of the micro as well as the macroscales of law—is the enhanced reliance of these forms of governance on scientists and scientific discourse. This collection carefully unravels the coproduction of ocean matter, scientific knowledge, and legislative classifications and framings.

The oceans have historically been characterized by inaccessibility and indeterminacy. For centuries, much of ocean space was simply unknown. Cartographers of the fifteenth and sixteenth centuries made up for the absence of knowledge with fantasy by filling the seemingly blank spaces with monsters and mermen. Today, ignorance remains central to the seas' legalities. The lack of adequate knowledge remains a frequent trope in the legal literature, wherein the opacity of the oceans is understood to incapacitate would-be managers of marine resources or conservationists seeking to curb pollution (Charles 1998; De Wolff 2017). According to many scholars, scientists, and policy makers, the proper government of ocean resources requires the excision or management of ignorance (see, e.g., Pauly 2013).

This is how the scientists in Jessi Lehman's chapter, "The Technopolitics of Ocean Sensing," approach the acquisition of marine data. Imagining the sea as a "borderless space" and as the object of a global science that could "benefit all of humanity," these scientists have released thousands of robotic devices in both national and international waters. Meant to facilitate better governance through obtaining more complete data, autonomous underwater robots like Argo floats collect readings on temperature, salinity, and movement of the planetary ocean in what is referred to as "real time." These attempts to eradicate ignorance are undergirded by the assumption that knowledge production takes place outside and before the law.

Of course, scientific and legal practices are deeply entangled. While scientific knowledge is typically considered as preceding the law and as providing the foundation for legal inscription, this book's contributions show how attempts to manage, harness, and govern also shape ontological and epistemological claims—what Sheila Jasanoff has referred to as the "co-production" of knowledge practices and law (Jasanoff 2008). She writes: "the law is now an inescapable feature of the conditioning environment that produces socially embedded . . .

science” (2008, 762). How we come to know the oceans and their inhabitants as objects of study thus neither precedes nor merely services the law; rather, scientists produce knowledge through legal systems and via governmental frameworks. At the same time, techno-physical and scientific practices also shape regulatory and administrative systems. As Lehman shows, the widespread use of autonomous robots both contests and reshapes legal infrastructures. Specifically, this use challenges the control by nation states over their territorial waters by reinforcing geopolitical strategies that impose universalized regulations on the seas.

Alongside the efforts to acquire ever greater repositories of knowledge and eliminate the unknown, blue legalities are also shaped by what Robert Proctor and Londa Schiebinger call “agnotology”: the production of ignorance (2008). In paying attention to the ways that scientific and legal frameworks are imbricated, this volume’s contributors highlight how not only determinacies but also indeterminacies are coproduced and even exacerbated to make ocean spaces more governable. In other words, the *unproductive* and *counterproductive* aspects of knowledge are made to matter for ocean governance. In some cases, knowledge of the complexities of geophysical and ecological processes in the ocean are ignored, over-written, or willfully avoided in order to make the seas into a manageable space.

Stefan Helmreich makes just that point in his contribution to this volume in the context of the controversy surrounding the attempted building of a seawall around an Irish golf course owned by U.S. President Donald Trump. While his permit proposal references scientific data that links sea level rise to climate change, Trump himself has actively, and notoriously, denied this connection. According to Helmreich, Trump’s simultaneous deployment and disavowal of climate science thus illuminates how “science and law are rhetorically coproduced at one moment, and torn asunder at another” (p. xx, this volume). In this instance of sovereign claims to



space and power, “dissimulation and misdirection” reign. We find evidence of the important role of ignorance in Holly Jean Buck’s chapter as well, where it is precisely the lack of attention to ocean acidification in climate legislation that has enabled the rise of a scientific imaginary of a geoengineered planet. Finally, in Lehman’s account, it is ignorance of the law, rather than ignorance of the sea, that has been enabling the use of autonomous robots and facilitating scientific research. Astrida Neimanis makes a different argument in the context of toxic contaminants buried in the sea when she writes that the “full knowability” of the sea will always elude us (p. xx, this volume). One of the challenges for blue legalities is figuring out how to insist on justice and accountability in the absence of total knowledge.

The mysterious and seemingly alien matter of the seas blurs the boundaries not only between knowledge and ignorance, but also between matter and fantasy. As Stacy Alaimo writes: “terrestrial humans have often found it more convenient to imagine that the seas are imaginary than to undertake the scientific, cultural, and political work necessary to trace substantial interconnections between human discourses, human practices, and marine habitats” (Alaimo 2012, 179). Understanding ocean imaginaries is therefore crucial to *Blue Legalities*. In her chapter “The Sea Wolf and the Sovereign,” Stephanie Jones examines how such maritime imaginaries—their symbols, metaphors, and fantasies—have shaped the history and spatial politics of the sea. Taking inspiration from Jacques Derrida’s writing on the animal, Jones looks to the figure of the sea wolf, demonstrating how her appearance in the literature configures understandings of sovereign power, including paradigms of legality and illegality. In particular, Jones connects the sea wolf’s liminal form of life to human stories about piracy on the high seas. As she argues, the rich literary traditions of both function to legitimize the state’s foundational relationship to violence.

Knowledge and fantasy similarly blur in contemporary attempts to legitimate future visions of sovereignty. Elizabeth Johnson's chapter "The Leviathan and the Hydra" shows, accordingly, how the U.S. military channels scientific research to create a future geopolitical sea space that is favorable to U.S. interests. Like the researchers in Lehman's chapter, military strategists and the scientist they fund endeavor to know more about what lies beneath the sea surface. Unlike the operators of the Argo floats who seek to use robotic devices to expand scientific knowledge, however, strategists use these devices to enhance the military's capacity. These efforts are justified on the back of a militarized geographical imaginary (Gregory 1994) composed of storied histories, imagined threats, and speculative futures. Dangers that allegedly lurk beneath the oceans' depths haunt this production of cutting-edge weaponry, which gains traction through a combination of advanced material technology and detailed calculations of security risks. Interrogating the interconnections between fabulous and mundane political practices not only helps us understand how power is made operative through technology; it also provides a path for challenging intractable—and often deeply unjust—configurations of sovereignty.

### **Turbulent Temporalities of Governance in the Anthropocene**

While the Defense Advanced Research Projects Agency (DARPA) has been advocating for a less risky sea, many scientists claim that human activities are in fact what is risking the sea, thereby accelerating the demise of oceans as we know them. In 2004, geologist Will Steffen coined the term the Great Acceleration to highlight how persistent histories of human activity, predominantly the global economic system, became prime drivers of change in the earth system. The twenty-four graphs that he charted to express the acceleration in human activity since the industrial revolution (see, e.g., Steffen et al. 2015) were foundational for the formalization of the

Anthropocene concept. According to these graphs, the oceans ameliorate climate change as well as other effects of human activity. The International Union for Conservation of Nature (IUCN) established that more than 93 percent of heat captured by greenhouse gases has been absorbed by the oceans since the 1970s. If the oceans were not absorbing this heat, the average global temperatures on land would be far higher—around 122°F, instead of the current average of 59°F (Quartz 2017).

In performing an ameliorating function, ocean ecologies have become not only an early casualty of the Anthropocene, but also a bellwether of what the future has in store for the rest of the earth. Estimates of sea level rise predict that the oceans will encroach upon human settlements, flood coastal cities, and shrink continents. English scholar Elizabeth DeLoughrey writes in this regard, “if there is any agreement about climate change, it is that our planetary future is becoming more oceanic. [...] Sea level rise is perhaps our greatest sign of planetary change, connecting the activity of the earth’s poles with the rest of the terrestrial world, producing a new sense of planetary scale and interconnectedness through the rising of a world ocean” (DeLoughrey 2015, 353). In his recent book, *The Water Will Come: Rising Seas, Sinking Cities, and the Remaking of the Civilized World*, journalist Jeff Goodell writes similarly: “despite international efforts and tireless research, there is no permanent solution—no barriers to erect or walls to build—that will protect us in the end from the drowning of the world as we know it” (2017, cover).

Catastrophe comes in other forms as well. We are already witnessing the dramatic effects of plastic waste on marine ecosystems as media images of whales, turtles, and albatross with stomachs full of plastics appear with ever greater frequency. In addition to sea level rise and pollution, scientists worry about the “triple threat” to marine ecologies: ocean acidification,

ocean warming, and deoxygenation (Rogers and Laffoley 2013). Ocean acidification in particular is often referred to as climate change's "evil twin" (Buck, this volume). Absorbing elevated amounts of carbon dioxide from the atmosphere, the changing chemistry of the ocean is resulting in a decrease in the rates of calcification by reef organisms and an increase in the dissolution of the reef sediments that form reef structures. Reef disappearance in turn results in an accelerated loss of fish habitat and leads to growing coastal erosion (Bakke 2017, 53-4). Oceanographer Sylvia Earle put it this way: "Now we know: If the ocean is in trouble, so are we. It is time to take care of the ocean as if our lives depend on it, because they do" (Earle 2014).

Climate change's triple threat to marine life portends a future of collapsed fisheries and dead reef building corals. Buck shows in this volume, however, how international climate and biodiversity treaties have largely ignored the scientific evidence on ocean acidification. The complexity and relative invisibility of these material processes mean that ocean acidification has been portrayed only as what she refers to as a "power-point sentiment" in climate change debates. By rendering ocean acidification a peripheral effect of anthropogenic change, climate change policy has merely strengthened narratives that figure climate futures as technologically controllable, rather than completely out of hand. Imaginaries of heightened planetary management have boosted scientific investments in climate and geoengineering techniques. These efforts resonate with the "Good Anthropocene" of the Breakthrough Institute and of other Silicon Valley optimists, in which humans figure as the technologically-endowed producers of a well-worked planet (Asafu-Adjaye et al. 2015).

Consistent with the "Good Anthropocene" perspective, novel developments in biomedicine and the rise of the blue economy have infused new value to the seas and their inhabitants. Rather than a grim casualty of human history, advocates of the blue economy view

the oceans as a resource for sustainable technological and biotechnological enhancement (Helmreich 2007; European Commission 2012; Johnson 2016; Braun, this volume). Amy Braun describes in her chapter “Got Algae?” that alongside more conventional sectors such as fisheries and mineral extraction, industrial and venture capitalists are also turning to the oceans for extraction and economic development. As land resources dwindle, these entrepreneurs harness sea life and matter for food, energy, carbon sequestration, and genetic resources. Through practices of enclosure and privatization, emerging sectors—including aquaculture, deep-sea mining, seaweed and algae harvesting, and marine bioprospecting—portray the ocean as a utopian space of limitless yet sustainable development (Braun, this volume).

Whether we are hurtling toward catastrophe or rather toward a technologically endowed utopia, the future that figures in both the Anthropocene and blue economy literatures follows the modern understanding of time as singular and secular—namely, as a linear and unidimensional passing from past to future. In contrast to these universal accounts of time, many of this volume’s chapters reveal the rich polychronic nature of the oceans. In Susan Reid’s chapter, for example, the deep, slow time of the seas’ geologic and evolutionary pasts calls into question basic assumptions of temporal progression. Specifically, Reid argues that UNCLOS’s instrumental view of oceans has enabled deep-sea mining operations by encouraging a “mine first, observe and legislate later” approach. Countering such approaches, Reid writes poetically of the sea as a “co-generative, transitional realm thrumming with material agency and life” (p. xx, this volume). She thus not only imagines more sensitive and durative parameters of livability, but also shows how we might shift the foundations upon which policies and actions are based. Thinking with the slow, thick time of the seas and their inhabitants is critical, she writes. In her

words: “At a time when planetary environmental systems are in stress and decline, there is a vital place for new imaginaries with which we might all navigate and transition” (p. xx).

Considering multiple temporal registers beyond the linear is crucial for crafting such new imaginaries. Michel Serres’ scholarship on nonlinear topologies is instructive in this context. In an interview with Bruno Latour, Serres compares time to a handkerchief: laid flat, the distances between one point and another can be measured. Crumpled in one’s pocket, however, “two distant points suddenly are close, even superimposed” (Serres and Latour 1996, 61). His most evocative passage on nonlinear time references the movement of water: “[Beneath the Mirabeau Bridge flows the Seine [...]—thus flows classical linear time [...] Yes, time flows like the Seine, if one observes it well. All the water that passes beneath the Mirabeau Bridge will not necessarily flow out into the English Channel; many little trickles turn back toward Charenton or upstream” (ibid., 58). Accordingly, for Serres, what we often consider history—recent or distant—is not necessarily in the past. Patterns and norms laid down in time can, much like water, circulate in eddies and whirlpools or flow back upstream. As the recent political climate demonstrates, blind faith in temporal and social progress is often an erroneous—and dangerous—assumption.

Christina Sharpe’s *In the Wake* (2016) evokes the ways that such a temporal churn is lived in the present. Sharpe uses the multiple meanings of the term “wake” to consider how past violence continues to resurface in the lives of African Americans today. In particular, she describes persistent forms of trauma and terror that followed in the wake of slave boats across the Atlantic. The past that concerns Sharpe, in which some lives are designated ungrievable by law and made unlivable in practice, is in fact never past. Similar to Serres’ understanding, here, too, the past “reappears, always, to rupture the present” (Sharpe 2016, 9). In her words: “in the

wake, the semiotics of the slave ship continue: from the forced movements of the enslaved to the forced movements of the migrant and the refugee, to the regulation of Black people in North American streets and neighborhoods, to those ongoing crossings of and drownings in the Mediterranean Sea, to the brutal colonial reimaginings of the slave ship and the ark; to the reappearances of the slave ship in everyday life in the form of the prison, the camp, and the school” (ibid., 21).

Immigration and asylum policies reweave traumatic patterns between ocean routes and legislative regimes. Following boats that carry migrants across the Mediterranean and elsewhere, one finds dehumanizing legislation that is being forged in Europe, in the United States, and in Australia. In their wake, death tolls mount while the lives of survivors are displaced, suspended, and often made unlivable through detention and poverty (Lyons 2018). These connections are clearly visible in the use of offshore detention facilities, such as Australia’s Christmas and Nauru Island camps. There, the legal capacities of the nation state expand into the sea and test international accords as asylum seekers await justice on islands with little recourse to human rights legislation (Welch 2014; Mountz and Loyd 2014; Zeweri 2017; Coddington 2018).

Other violent pasts and toxic legacies also threaten to reemerge in the ocean. In Astrida Neimanis’s chapter, “Held in Suspense,” the potential rupture of past into present haunts contemporary politics around the Baltic Sea. Following World War II, hundreds of thousands of tons of unused chemical warfare agents were dumped in the Gotland Deep. Contemporary legal regimes prohibit such dumping. But at the time, this form of waste management was considered “a safe and sound technique” and “the best and most practical solution” for disposing of unused munitions. The sea was viewed as a limitless repository, a blue hole into which things unwanted on land could simply be made to disappear.

But the past has in fact not passed. What was dumped then is now resurfacing. Uncertainties around the severity and timing of the chemicals' reemergence, Neimanis finds, incapacitate legal resources: matter and law are simultaneously "held in suspense." The problem is not a technical one, though; it does not rest in the inability of science or the law to address the waste of the Gotland Deep. It is, rather, one of response-ability (Haraway 2008). The temporal churn of ocean materialities and histories forces a response to the violence of past and present displacements of humans and nonhumans alike. Recognizing the complexity of coming ecological catastrophes in the Anthropocene requires, in Neimanis's words, calling "ourselves to account, to enact an ethics of curiosity and care, to do politics even if we know they are always incomplete" (p. xx, this volume). For Neimanis, even these incomplete attempts to alter the ecologically and politically degrading status quo are crucial if we are to work toward social and ecological justice in the Anthropocene.

### **Making Boundaries at Sea: Elemental States of Inscription and Foundational Legalities**

Alongside temporal boundaries, other turbulent boundaries—such as those between land and sea, water and ice, and atmospheres and waves—all threaten to upend the "static and binary divisions that so often characterize legal rhetoric" (Steinberg et al., this volume, p. xx). While international legislation has attempted to account for the unique characteristic of the oceans, their fluid properties and countless indeterminacies have resulted in claims that oceans "resist inscription" (Boucquey et al. 2016, 8). Still, myriad inscriptions—scientific, legal, and cultural—proliferate and overlap across ocean space, establishing, undoing, and redoing geopolitical boundaries.

The 1982 UN Convention on the Law of the Seas (UNCLOS) is the most comprehensive contemporary framework for inscribing ocean sovereignty, jurisdiction, and use. UNCLOS is a



monumental treaty with 320 articles, divided into seventeen parts that establish normative concepts such as the 12-mile territorial sea and the 200-mile Exclusive Economic Zone (EEZ). Mapping the ocean into these multiple zones and jurisdictions, UNCLOS sketches the political geography of today's oceans and sets up the normative framework that governs it. While it attempts to hold open legal space for oceanic indeterminacies, it also creates the conditions for inscriptions to be set across the seas.

Both reified and constrained by the legal and political powers that created it, UNCLOS's jurisdictional powers lie in its acknowledgement and ratification by territorial nation states. As Katherine Sammler notes in this volume, UNCLOS produces a jurisdictional matrix in which national sovereignty diminishes with increasing distance from land. While the nearshore territorial sea confers full national sovereignty over its waters and the ocean bed, the EEZ delineates a hybrid bundle of spatial rights and responsibilities further offshore. In that 200-mile wide ribbon, coastal states maintain sovereign rights to pelagic and sessile resources while surface waters are international (UNCLOS, Articles 58 & 87). British geographer Stephen Graham describes this way of governing as the "classical, modern formulation of Euclidean territorial units jostling for space on contiguous maps" (Graham 2004, 20).

Any sovereign claims on the high seas, or "The Area," have meanwhile been categorically invalidated by UNCLOS in an effort to protect it as a "common heritage of mankind." Further attempting to reinforce UNCLOS's role as protectorate of life, the UN is currently negotiating a new regulatory platform for the deep sea, with a special emphasis on marine biodiversity in areas beyond national jurisdiction and on marine protected areas (Payne 2017). Issues of conservation in areas beyond national jurisdiction have provoked a crisis in national sovereignty, invoking questions about how to transform a space previously

characterized by freedom and with relatively limited regulation into a space for the enhanced protection of sea life.

Of course, the Euclidian demarcation of space was integral to the history of ocean governance well before the establishment of the UN. The tremendous investment by early western administrations in inscribing the seas is described in detail in Zsafia Korosy's chapter, "Whales and the Colonization of the Pacific Ocean," in which she shows how eighteenth-century cartographic techniques demarcated spaces of sovereign territory in the seas. While UNCLOS has been extending territorial logics into the sea, eighteenth century renderings of ocean space enabled colonial expansion on land as well. "[By] allowing both seen and unseen spaces to be conceived as congruent wholes within defined boundaries," Korosy writes, cartographic representations of the sea enabled authorities to fantasize about sovereignty over terrestrial areas scarcely-known (p. xx, this volume). The violence that followed—perpetrated against migratory whales and terrestrial humans alike—catalyzed new ways of viewing the land as a repository of resources to be extracted, used, and abused with legal authority.

The methods of demarcation and geographical reasoning developed in the eighteenth century are just as crucial to ocean governance today. Philip Steinberg, Berit Kristoffersen, and Kristen Shake examine the mapping of Norway's icy northern waters in their chapter, "Edges and Flows." They describe how locating the ice's edge has become a practice of translating what is fluid and indeterminate into fixed and knowable borders. As Steinberg and his coauthors show, legal reasoning intensifies and reifies cartographic inscriptions by insisting on "stable definitions and fixed distinctions." The project of ocean inscription thus creates, in their words, "a world of lines and laws" (p. xx). By defining the boundary between fluid and solid states, cartographers and legislators have effectively erased the physical indeterminacy of ice from the map. These

efforts at inscription aim to make the Arctic more governable for resource extraction. Just as Korosy's eighteenth century cartographers produced lines and laws to facilitate the extraction of fuel in the form of whale blubber, the Norwegian government has been remapping the geophysical border zone in order to expand oil extraction in the Arctic.

These practices in lines and laws reveal a mounting tension in ocean governance: on the one hand, the seas are configured as a global common; on the other hand, they are perceived as providing a repository of globally profitable commodities. This tension has long underpinned the establishment and negotiation of marine space and corresponding legalities (Snyder and St. Martin 2015). Few modern concepts have been as influential in stoking such tensions—and in the development of law, political science, economics, or environmental studies—as Garrett Hardin's "Tragedy of the Commons" (1968). Hardin's vision of a depleted commons has dominated legal discussions about how to govern public spaces and has frequently been deployed in the context of marine resources (mainly fisheries) and marine pollution (Ranganathan 2016). The global contribution to ocean waste and the spread of micro plastics have been referred to as perfect examples of Hardin's tragedy. But as legal scholar Surabhi Ranganathan notes, conservation efforts that vilified common resource management in the seas have ended up sparking legislation that dispossessed both indigenous and settler communities alike from critical resources. Consequently, Hardin's concept inadvertently set the stage not for more sustainable management, but for more efficient extraction (Ranganathan 2016; see also St. Martin 2009).

The tension between resource exploitation and protection undergirds many of the legal frameworks for ocean governance. The establishment and expansion of the EEZ in particular has been viewed as emblematic of this tension. In 1946, President Truman expanded this category to

200 miles at sea, thus tripling the territorial claims of the United States (DeLoughrey 2015, 355). Although generally unnoticed by scholars, the post-1946 remapping of the EEZ constituted “the most dramatic change to global mapping since the post-World War II era of decolonization” (DeLoughrey 2015, 355). It is no wonder, then, that the EEZ has been viewed as the ultimate symbol of the twentieth-century neocolonial scramble for the oceans.

The 1960s development of technologies that enabled the exploitation of minerals in the seabed intensified that scramble. Most notable was the new-found ability to mine manganese nodules at the depths of over 3,000 meters (Rieser et al. 2013, 23). According to some legal scholars, the rise of seabed mining in the twentieth century radically reshaped the ocean: rather than merely a “navigational surface or fishing commons,” the seabed became a constellation of “places for fixed capital investment” (Ranganathan, forthcoming). The efforts to capitalize on minerals and fossil fuels beneath the seabed have been so rapid that they have triggered a “legal revolution” (Rieser et al. 2013, 23). Ongoing technological advances allow developed countries to excavate the high seas, resulting in what developing countries refer to as “neocolonial ocean grabs” (Pinkerton and Davis 2015; see also Ranganathan, forthcoming). In light of these transformations, it is difficult to view the demarcations established by UNCLOS and promoted through other cartographic efforts as fixed and stable. Instead, the oceans have become the new Wild West—a frontier playground for exertions of national sovereignty and power that extend logics of land into sea.

Beyond their attempts to extend the logics of land into the sea and their scramble for existing territorial anchors to extend their reach, nation states are now also extending the land itself into the ocean, with significant legal impacts. Jennifer L. Gaynor’s chapter in this volume shows, accordingly, how increasing state capture and contestations over resource extraction and

the control of shipping lanes in Southeast Asia have driven island and coastal states to engage in massive terraforming projects. These projects of sand redistribution stretch and transform legal distinctions between land and sea, as international court tribunals are called upon to adjudicate which landforms count as territory with entitlements over adjacent waters and which are merely rocks and sand.

Clearly, then, there is much at stake when inscribing boundaries and binaries onto the sea and decisively distinguishing land from water. Our work in this collection of historicizing and problematizing legal borders enables the telling of myriad ocean stories and the furthering of protective, rather than productive, policies. Doing so can also undercut the ontological assumptions that privilege extractive industries and neocolonial policies. Katherine Sammler's chapter "Kauri and the Whale" studies the controversies over New Zealand's Foreshore and Seabed Act of 2004, which has enabled the extraction of seabed minerals. This Act has generated much friction between two clashing worldviews: one embracing a western land-sea binary, the other based in indigenous Māori traditions that assign holistic customary rights extending from mountains to sea. According to Sammler, indigenous ontologies provide alternative ways of governing that challenge the essentialism of national sovereignty and that can better accommodate the fluidity of oceans. Instead of seeing the oceans as a fixed Euclidean space within which power is exercised, this worldview ushers in a "wet ontology" that allows for mobility within and through novel jurisdictions (Steinberg and Peters 2015). Such a wet ontology would arguably diversify and expand the potential for "postcapitalist waterworlds" and support efforts to decolonize the seas (DeLoughrey 2015, 359; see also St. Martin 2009).

### **Thinking with Sea Creatures**

Among the public, calls for the conservation of ocean resources and the rethinking of

marine governance are often channeled through considerations of marine life. Orcas, humpbacks, octopuses, and pelagic sea angels are merely a few of the ocean's charismatic creatures who have captured the human imagination. In spite of their charisma, however, the ocean's nonhuman lives have often been neglected by both legal scholars and policy makers. When considered, they are often the passive subjects of conservation management or fisheries regulations. But the inhabitants of ocean space also both shape and resist regulatory enframings and institutions. Sea creatures therefore sketch and stretch our understandings of laws in unexpected ways, while simultaneously made to live (and die) through these laws.

The vast difference between land and sea animals has been fruitful for scientific and philosophical inquiries. In his *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness* (2017), Peter Godfrey-Smith examines the evolutionary divergence of humans and octopuses as he attempts to identify how the impressive intelligence of cephalopods developed within a body so unlike our own. Godfrey-Smith's work attunes us to what is unique about octopuses and cuttlefish: their communicative capacities and their evolutionary histories, so different from that of vertebrates, yet an undeniable "accomplishment" of life.

Alongside the octopus, sea creatures have long been considered so morphologically and behaviorally divergent from those of the terrestrial world that some have offered that they must hail from another one altogether. In *Octopus: Physiology and Behavior of an Advanced Invertebrate*, Martin Wells contended that "the octopus is an alien" (1978, 8). In the decades that elapsed since then, scientists commenting on the evolutionary oddity of cephalopods have frequently invoked his claim. Most recently, a widely-debated article on life's "cosmic origins" dwells on the unique qualities of the octopus's genome as evidence of "unearthly" beginnings (Steele et al. 2018, 12). We find more of the same fascination with the unearthly and the other in

the ways that scientists write about extremophiles. The ubiquitous tardigrade offers a vivid example. Her ability to suspend life by pausing metabolism in unfavorable environments challenges conventional understandings about the boundary between life and death. Similarly, living in hydrothermal vents thousands of meters deep and producing energy through chemosynthesis, tube worms and ghost crabs seem entirely unworldly. It is no wonder, then, that even the marine biologists on NOAA's recent OKEANOS expedition refer to unknown creatures on the abyssal plane as "unidentified swimming organisms."

Thinking with animals takes us beyond questions of extending existing legal infrastructures into the deep seas of responsibility and care. Indeed, one of the central motivations behind the scholarship that draws nonhuman life in from the margins of politics is the dramatic reconfiguration of care and responsibility. A wealth of literature is currently emerging that examines how thinking with animal life might reconfigure our ethical comportment, engendering what Donna Haraway (2008) refers to as a stronger sense of "response-ability" to the worlds with which we build and share life. In thinking with animals, Haraway and her interlocutors envision a post-Cartesian world in which subjectivity is neither individual nor autonomous, but situated across a shared, multispecies planet.

Queer theorists have also turned to the ocean and its organisms as a resource for thinking beyond and outside the traditional coordinates of being human as heteronormative and gender conforming. Eva Hayward's work, for example, has shown how thinking with cup corals and starfish enable us to reposition the "meat and meaning" of the body. Hayward encounters these organisms in a way that resonates beyond the representation of an animal that can be known only at a distance. For Hayward, referencing starfish—speaking, writing, singing of them—creates an "inter-somaticity" and "a kind of nearness that invokes a voluptuary of trans-speciation, and

imagines a co/passionate kind of presence” (Hayward 2008, 80). Learning with sea organisms, she argues, we might create new “ethics of mattering” (Hayward 2012, 185).

Confronting wet ontologies and epistemologies also reveals that we have never been dry—namely, that we are in fact those alien creatures that we see as other. Along these lines, Stacy Alaimo’s recent work considers how thinking and engaging radically different life forms forces us to think beyond our human exceptionalist tendencies and to recognize that “like our hermaphroditic, aquatic-evolutionary ancestor, we dwell within and as part of a dynamic, intra-active, emergent, material world that demands new forms of ethical thought and practice” (Alaimo 2011, 283). According to Alaimo, thinking with sea creatures may engender unexpected affinities (283; see also Harvell 2016). Astrid Schrader emphasizes such affinities in her contribution for this collection. Looking at the rhythmic life cycles of marine bacteria, she writes, we are “haunted” by past generations: dead cyanobacteria colonies govern the life cycles of living populations. Thinking with these populations challenges how we understand the divides between living and dead, between individuals and populations, and among species. Drawing on Derridean legal scholar Drucilla Cornell, Schrader thus develops what she calls a “marine microbiopolitics,” which works to unseat the primacy of the autonomous liberal humanist subject. Such an unseating of the liberal subject not only undermines the position of an autonomous human in the law, but also shifts the role of science in relation to biopolitics, turning to it into a resource for rethinking conceptions of justice.

Finally, thinking with marine organisms challenges our assumptions about the relationship between life and law. Accounts of law will inevitably shift when we move away from our anthropocentric bias to more carefully consider less-like-us lives and matter. In her chapter “*Chupea Liberum*,” for example, Alison Rieser showcases the largely unknown historical



role of the Atlantic herring in the development of the modern state. She argues in particular that the herring was central to formative seventeenth century debates over the Freedom of the Seas principle. The herring's seemingly intentional arrivals and disappearances were part of the oceanic imaginaries of the competing polities of the North Sea basin, where new legal institutions were emerging to undergird the rapidly changing economies. The Atlantic herring's agency played a role in the constitution of emerging regulatory paradigms: with their particular habits and biological properties, the herring coproduced the Freedom of the Seas doctrine as it emerged in early modern European legal culture.

While herring were central to the constitution of major principles of Western legalities, many other forms of ocean life have been much less fortunate. Reef building corals are a good example of the misfit between law and life, as has become evident from the recent attempts to know and classify them for laws that deal with endangered species protection (Braverman 2018). Trying to decide whether they are endangered or not, conservation managers and legal administrators have needed to figure out the relevant unit for counting the coral individual: is it the polyp, the colony, or the genotype? (ibid.). As it turns out, each carried significant problems. Clearly, laws about endangerment were enacted with tigers, lions, and bears in mind—not with invertebrates such as corals. Braverman describes, accordingly, that “legal administrators, equipped with words and paper, stretch, bend, and lengthen legal norms to fit the particularities and peculiarities of coral life—thereby breathing life into corals. Their imperative is to make the coral visible to the law, and they have been using the legal and scientific language of endangerment for this purpose” (2018, 183).

Corals have also challenged the definitions of harm and death, which are central to conservation protection laws. For example, the term “take” is a core tenet of the United States’

Endangered Species Act of 1973 and is intended to prevent any harming of listed species by physical injury. But rather than harming the coral animal, the breaking off (or “fragging”) of corals creates new life and is in fact utilized by coral nurseries for restoration purposes (ibid.). It is no wonder, then, that the plan to list two Caribbean *Acropora* coral species as endangered triggered a wave of protests among coral scientists and activists alike, confusing conservation managers who assumed that these experts would be thrilled with the proposed legal up-list and its enhanced protection.

If corals have been the focus of protection through their legal designation as threatened, Braverman’s contribution to this collection reveals those attempts to manage the ocean that focus on legal acts of killing. In particular, she examines the historical and contemporary use of robotic machinery in attempts to “control” the crown-of-thorns starfish outbreaks that have been damaging the Great Barrier Reef. These robotics “make die” in a biopolitical gaze that extends not only beyond human but also beyond nonhuman life to consider machinic ways of seeing and killing. As robots displace humans in marine inquiry and marine life management, we find that ways of knowing and governing life are increasingly embedded within technological prosthetics. These prostheses, which have been providing important access to the deep sea, have also become apparatuses of governance that in turn shape this space.

Yet as coral managers lament, the major problem for corals in the Anthropocene may well be far beyond the capacity of fancy technologies and the limited scope of national laws. Since existing laws are restricted to the national scale, these managers have been realizing, they cannot provide adequate tools for resolving the global problems of our era. For these and other reasons, legal scholars have referred to climate change as a “super wicked problem” (Lazarus 2009, 1159), arguing that “climate change challenges the capacity of law” (Weaver & Kysar

2017, 296). Will a more plural, dynamic, and planetary law be better equipped at protecting existing ecosystems and forms of ocean life from their projected decline?

### **Churning Ocean Legalities: Final Notes on Turbulences**

Like climate change, the governance of the ocean is a wicked problem. But while improving the management of the oceans is absolutely crucial, particularly in the face of the growing ecological crises in the Anthropocene, we must at the same time acknowledge that it requires a radical rethinking: both of our existing assumptions and of our existing institutions and regulatory apparatuses. After all, ocean governance is not a managerial or technical problem to be solved through the acquisition of more and better knowledge or through an expansion of existing legal regimes. The unique material and symbolic dynamics of the sea and its inhabitants thus force us to de- and un- center our systems of governance, our modes of regulation, and our conservation regimes. In other words, recognizing the fluidity of land and sea requires a reconsideration of the existing institutions, temporal frameworks, and categories with which we engage the oceans, illuminating our responsibilities to these oceans and to what lies and lives within them.

Existing on the edge of law and haunted by the figure of the alien, the seas have been central to the construction of terrestrial institutions and modes of governance. Reversing the continental gaze into the sea, ocean imaginaries may creep onshore, inspiring openings for flows, transformations, and relationalities. Such wet ontologies and their accompanying wet creatures and structures have already manifested in wet coalitions, resistances, and emancipations on, in, and near the sea (Sammler, this volume; Hadjimichael 2016; Steinberg and Peters 2015). Specifically, thinking with sea organisms such as the Atlantic herring, whales, crown-of-thorn starfish, green algae, and bioluminescent *Pyrocystis fusiformis*, as well as with sea phenomenon

such as ice, waves, buoys, remotely operated vehicles, humanoid robots, and forgotten chemical weapons, alternative regulatory frameworks emerge to that of the nation state's linear inscriptions of the sea. In some of these physical and temporal sites, political struggle may lead to more just and ecologically sustainable practices of knowing—to a mode of governing with care. *Blue Legalities* therefore not only points to the myriad ways in which legal structures are adrift at sea but, more importantly, we hint at the vast opportunities for other legalities—and ways of understanding and relating to the world—to emerge.

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