
INTERSCALING AWE, DE-ESCALATING DISASTER

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The mass of concrete was bigger than anything anyone dared imagine, a harbinger, it seemed, of our worst fears.

—LORI TOBIAS, *THE OREGONIAN*

On June 5, 2012, a dock from Misawa—a northern Japanese town devastated by the Great East Japan Earthquake and Tsunami of March 2011—floated ashore on Agate Beach, in Oregon.¹ By the time the soon-to-be-famous “mass of concrete” docked on Oregon’s shores, American oceanographers and computer programmers had spent over a year tracking debris from the disaster in order to render wave patterns visible and predict what residents might expect in the way of future visitors. Nevertheless, the dock’s landing awed a range of American audiences—from seismologists and marine biologists to park officials and beachgoers—confronting them with the limits of what can be known, daringly imagined, or otherwise anticipated. As spokesperson for the Oregon Department of Parks and Recreation, Chris Havel, put it to local reporter Lori Tobias:

The dock is sort of this big turning point. . . . It was like a 200-ton alarm clock. All eyes turned to the coast. Everyone was like, “I guess it is really here.” . . . In the couple of months before the dock showed up, everyone was noticing there was more debris, Styrofoam and plastic. . . . This is exactly what we were told to expect—light stuff drifting across the waves. We were getting ready for that. . . . The fear was that if we were wrong about that, what else were we wrong about? . . . Are there 20 of these things waiting offshore? Nobody knew. As hard as they’d been looking . . . they missed this. In spite of the size to us, it is very small compared to the ocean. So there was that fear and that scramble to try and prepare for the unknown.²

Of course, a two-hundred-ton slab of concrete, in and of itself, hardly exceeds the imagination. And certainly, it is fathomable that something that size floated roughly five thousand miles across the ocean, another metric that the prolific commentary on the dock is keen to point out. As Havel concedes, the dock is very small compared to the ocean, and debris from Japan was expected to make the overseas journey all along. If the dock was “bigger than anything anyone dared imagine,”³ it is not because it was a ready-made sign of the awesome events that had unfolded in Japan, nor because it immediately indexed American futures. Rather, the dock was so alarming because of how it was (inter)scaled by the various commentators who engaged it.

Interscaling involves drawing connections between disparate scalable qualities so that they come to reinforce each other (See Carr and Lempert this volume; Philips this volume). As we document here, the American media on the “200-ton alarm clock” is characterized by an almost compulsive interscaling that moves briskly between the dock’s heaviness, its height, the distance it traveled, and the enormity of the natural disaster that sent it on its way, as well as the quantity and diversity of “nonnative” marine species attached to it. Significantly, while a variety of experts detected and defined particular scalable qualities of the dock, they commonly betrayed the conclusion that no single way of seeing and scaling the dock was sufficient on its own, potentially rattling the very basis of their expertise.

In fact, when speaking with journalists, experts were curiously up-front that the dock defied the scales most closely associated with their respective domains of knowledge. Among those who took responsibility for comprehending the visiting dock, many joined Havel in confessing that “there was that fear and that scramble to try and prepare for the unknown.” For instance, one marine scientist commented on the species-encrusted dock’s arrival: “That was the first time that anyone ever considered that marine organisms could drift across the ocean. . . . We’re still finding species we haven’t seen before. It doesn’t make sense to us.”⁴ Ecologists soon joined marine biologists in projecting uncertainty, taking the dock’s arrival as “the largest experiment in invasion ecology ever run” and warning that the “invaders . . . have the potential to extinguish native species, destroy fisheries and permanently alter ecosystems.”⁵ Whether the dock was cast as a giant “alarm clock” or the “largest experiment . . . ever,” these comparisons scaled the dock as something that could not be descriptively captured by way of standard measurements alone (see also Gal this volume). So if the dock became big by means of interscalar accretion, it grew awesome and even threatening as its expert interlocutors projected it as exceeding their established ways of seeing, scaling, and knowing.

The dock was also scaled by way of synecdoche—discursively rendered and materialized as part of otherwise inchoate wholes. More specifically, and as we will see, scalers figured the dock as a fragment of ecologies, histories, and futures too

disastrous and overwhelming to otherwise imagine. Scaling by way of synecdoche was a literal as well as figurative project at the Oregon State University's Hatfield Marine Science Center, which now displays part of the dock as "an educational exhibit" designed to serve as "a vivid reminder that a similar earthquake and tsunami could just as easily happen here in the Pacific Northwest."⁶ This foreboded catastrophe is what *New Yorker* writer Kathryn Schulz calls "the big one," or, worse, the "really big one": a disastrous amalgam of earthquake and tsunami expected to occur along the Cascadia subduction zone, which runs seven hundred miles along the Pacific Northwest. According to Schulz, seismologists anticipate that the magnitude of "the big one" will be somewhere between 8.0 and 8.6, with the "really big one" reaching between 8.7 and 9.2.⁷

Yet for Oregon officials charged with disaster preparedness, seismic scales capture only the most rudimentary feature of the future calamity. From their perspective, what makes the portended event so "big" is that the average Oregonian is still unaware of and unprepared for that which is inevitable.⁸ The arrival of the dock provided an opportunity to publicly establish that Japan's disaster could one day become Oregon's own, all the while pinning responsibility for weathering that future on more-or-less properly alarmed individual citizens, who reasonably accept the limits of state preparation and intervention. In order to do this, the dock was officially scaled as a sign of a threat too big to prevent, too big to centrally manage, and too big to individually ignore.

As we will see, scalers of all stripes and with very different agendas worked to multiply the symbolic magnitude of the dock for the Oregonians who beheld it. And if the dock was rendered *big* by way of interscaling, and *awesome* through the recurring suggestion that it exceeded even the most sophisticated scalers' sense-making abilities, yet another pragmatics of scale emerges in the mediation of the Misawa dock. Namely, the scientists, public officials, museum curators, and laypeople who came to know the dock—whether as experimental fodder, educational exhibit, or memorial—engaged in a process of *de-escalation*, forging intimacy out of fear, threat, and awe.

In popular parlance, to de-escalate a crisis is to de-intensify it by bringing its disoriented participants to their senses.⁹ In other words, de-escalation changes the qualities of a crisis only to the extent that it changes participants' perceptions of it. In the case of the dock, Oregonians came to understand what was far by touching what was now near, to feel the pain of Japanese victims by imagining their own future pain, to appreciate the "sea creatures that had survived hundreds of blistering days and nights crossing the thrashing Pacific,"¹⁰ if eventually annihilating them. Accordingly, de-escalation—as we illustrate below—is not a matter of erasing or reducing the scalar qualities of phenomena. Rather, de-escalation involves forging explicit connections between the human senses and that which has been scaled as awesome and alien.

Along these lines, the media coverage of the dock suggests that its interlocutors, whether expert or lay, not only came to better know the dock from a number of angles but also began to *feel connected* to all that the dock had come to represent. As Havel commented, “One year later [the dock] has become the epitome of tsunami debris—an object that brought with it lessons, surprises and helped shape our response to every piece that’s floated ashore in its wake.”¹¹ Those lessons and responses, we argue below, would be impossible without the intensive scalar labor of the dock’s many interactants as they (inter)scaled awe and de-escalated disaster.

In studying the media descriptions of the dock’s landing,¹² we demonstrate that scaling is a practice that can—among other things—spawn a sense of intimacy and an ethic of interrelatedness at the same time it serves projects that discriminate, individuate, and alienate (cf. Tsing 2012, 2015). This is so because there is more than one pragmatics of scale: different sorts of sign activities amount to distinctive modes of scaling, each enjoying its own productive potentials.

BEHOLDING THE MONOLITH: EXERCISES IN INTERSCALATION

U.S. media coverage of the dock’s landing often includes striking photographs: some feature a bare, straightforward aesthetic, while others, like those included in a *National Geographic* photo essay by journalist Brian Handwerk from June 2012, are more atmospheric. These photographs depict the dock marooned upon a crescent of beach, haloed in fog, and tucked into a curve of evergreen-dotted hills. The photograph in figure 6.1, titled *Monolith*, portrays the concrete slab as almost unworldly: cloaked in slime, bearded with sea life, and host to a variety of not readily identifiable creatures. In the foreground are two human bodies, gendered in blue and pink raincoats and holding hands as they tentatively approach the once floating object now resting in a shallow tide pool. Subject of the couple’s transfixed gaze, and surrounded by other landsmen’s buckets and tools, the “monolith” has been transported, apparently, from the umbra of the vast Pacific to the penumbra of Agate Beach—goers’ field of sensation. Indeed, the photograph highlights the relationship of the life on the dock to its new human neighbors.

Such visual representations alone do little to tell us just what is “monolithic” about the Misawa dock. After all, it appears only slightly taller than the couple who stand before it, and a modest, five-step ladder has evidently lifted another person to its top. If the dock was to be beheld as alarmingly big, scaling was in order. Media descriptions almost always begin by emphasizing the dock’s physical dimensions. Repeatedly, readers are told how much the dock weighs (132–165 tons, depending on the surveyor) and what its height (seven feet), width (sixty-six feet), and depth (nineteen feet) measure. And while *National Geographic* deemed the



FIGURE 6.1. *Monolith*. Photography by Robin Loznak/ZUMA Press/Corbis. From Brian Handwerk, “Pictures: Tsunami Dock Is ‘Alien Mother Ship’ of Species,” *National Geographic* (June 13, 2012).

dock a “monolith,” other journalists less poetically describe it as “massive,” “enormous,” or a “hulking monstrosity.”¹³

The dock only continued to grow as its physical dimensions were interscaled with the distance it traveled and the time it took to arrive on Oregon’s shores. Consider, for instance, this characteristic titling in a *Time* magazine article: “Massive Fishing Dock Washes Ashore in Oregon, 15 Months after Japanese Tsunami.”¹⁴ In a *USA Today* piece, the journalist not only recites the thousands of miles the dock traveled—a standard metric in the media descriptions of the dock—but also assigns the dock an agency usually reserved for animate entities. The journalist writes, “For a dock that was ripped from its pilings in the Japanese port city of Misawa during the March 2011 tsunami and then floated 5,000 miles across the Pacific Ocean—thanks to its Styrofoam filling—it seemed fitting it would put up a fight.”¹⁵

The dock is also frequently interscaled relative to the size of the seaside town in Oregon where it landed, Newport—described in one article as a “small port city” and a “quiet, friendly town.”¹⁶ “Not for long!” the dock seemed to say through those who described it. “This past summer, residents of Newport were abuzz and tour buses shuttled people to the shoreline to check out the big slimy excitement that had washed ashore—a 20 meter long, 6 meter wide chunk of concrete,” one journalist remarked.¹⁷ The dock, when interscaled with the “thousands of visitors from the US and Canada” who came to visit it, does more than simply place the small

town on the proverbial map.¹⁸ It also arguably makes the dock even bigger in light of its popularity, prompting one journalist to title the dock a “tourism sensation” and others to deem it a “slimy celebrity.”¹⁹

As the Oregon Parks and Recreation Department (OPRD) was counting seventy-three thousand cars in the Agate Beach parking lot between the dock’s landing and dismantling—indicating a momentous “spike in tourism”²⁰—others were counting the revenue generated by its now famous Japanese visitor. Once subjected to economic scaling, the dock became sign of potential boom, with locals lobbying the state not to bust it. Indeed, in several articles, the dock is interscaled with dollars, from the amount of money a tourist would spend to behold it (about \$3,000) to the bids that the OPRD received to wreck it, dismantle it, and remove it from Oregon’s jurisdiction (\$79,922 to \$128,702).²¹

While readers expect the *Wall Street Journal* to engage in economic scaling, the newspaper’s explicit temporal scaling of the dock betrays its understanding that the monetary values of the dock dramatically intensify when interscaled. Consider that the *WSJ* article “Tsunami Relic Puts Beach on Map” begins this way: “Some use the word ‘historic’ to describe the big thing that washed ashore here. Others call it ‘important.’ For most, though, it elicits a simple phrase: ‘The tsunami brought it in.’”²² In article after article, the dock is scaled not simply as *big*, but as a *big event* with even bigger implications about the past and for the future. To call the dock a “relic,” after all, is to imply a quasi-sacral connection to a history that promises to endure in perpetuity. Accordingly, journalists sometimes refer to the tourists who “flock to the site” as “pilgrims,” reinforcing the idea that the dock confers transcendental knowledge and experience. Said one such pilgrim: “We had to bring the kids, the whole family, and at least touch it. . . . It’s a piece of history.”²³ Furthermore the “lasting impression” that the dock²⁴ was said to leave upon pilgrims—such as the hooded, hand-holding couple—was not just in relation to a disastrous past but also a portended future.

The dock’s historic significance was thematized at Hatfield Marine Science Center (HMSC), which salvaged a corner of the dock for a permanent exhibit. The interim director’s note in the newsletter begins, “It came ashore at night. Rather than the beginning of a bad novel, it is the middle of an interesting saga.”²⁵ And while seismologists affiliated with the science center read this “saga” as an epochs-old tale of subduction and eruption, for the marine scientists at HMSC the big story was that, as the dock made its journey, “along for the ride were hundreds of millions of individual organisms, including a tiny species of crab, a species of algae, and a little starfish all native to Japan that have scientists worried if they get a chance to spread out on the U.S. West Coast.”²⁶

From the start, these sea creatures were central to the semiotic projection of the dock as monolithic and monstrous. Consider this description with attention to its interscaling virtuosity: “The 66-foot dock originated from the Japanese fishing

port of Misawa and during its year-long, 5,000 mile journey has picked up a host of sea creatures including Asian crabs, sea stars, algae, urchins, barnacles, snails, and other life-forms. In fact, there are so many creatures on it that the Oregon Department of Fish and Wildlife estimate that they weigh over 100 tons.²⁷ Clearly, it is not just the aggregate weight of the tiny sea creatures attached to the dock that helps to interscale it as big here. It is also the ecosystemic threat that those creatures were feared to pose, given the alien agencies assigned to them. Indeed, the marine biologists who flocked to Agate Beach to study the dock and speak to journalists made clear that, aside from the dock-clinging sea organisms' physical size, there was nothing diminutive about them.

These marine organisms grew even bigger as they acquired anthropomorphic qualities in the descriptions by journalists and the scientists they quoted. The sea creatures are alternately described as “troublemakers,” “invaders,” “refugees,” and “hitchhikers,”²⁸ given their “unprecedented” ability to withstand vast distances and time and survive extreme conditions. Although a few journalists use the quintessentially American monikers of “pilgrims” and “pioneers,” the sea creatures are most commonly anthropomorphized as threatening Others. So while ecosystemic threat was marine biologists' and ecologists' most present concern, there are nevertheless echoes of xenophobic rhetoric deployed in discussions of human migration over the course of U.S. history (see also Cardozo and Subramaniam 2013; Helmreich 2009). For instance, in one case a quoted invasive-species biologist raises concerns about the organisms' reproductive capacities, noting that “they can disrupt entire ecosystems by outcompeting native creatures, . . . [and that by] compromising commercially valuable species—oysters or crabs, for example—invaders can damage economies.”²⁹ A reader of the *Wall Street Journal* apparently inferred the analogy. In the online comments section on January 12, 2015, the reader recites a line from the article's interview with Oregon's aquatic invasive species coordinator—“You just don't know which ones are going to explode and become harmful”—to set up his own disturbing commentary: “Much like human migration, it seems.”³⁰

Before assuming this comment is an idiosyncratic one, we would be wise to consider that at the time of the Japanese sea species' arrival, the migration of the human species to the United States was at the very center of post-9/11 public debate. Perhaps in an effort to raise public awareness, and likely with little to no reflexive intent, interscalers nevertheless tethered a political-sociological discourse to a scientific one.³¹ As a result, the dock grew even bigger, a sign of a looming social, economic, political, and ecological threat. Given this implied linkage of human and nonhuman migration, there is something profoundly discomfiting when one marine biologist—in reference to alien species and with a presumed cache of expert knowledge at hand—declares, “Kill them. Kill them all.”³²

SCALING THE ALIEN AND THE PRODUCTION OF AWE

John Chapman, of Oregon State University's Department of Fisheries and Wildlife and its affiliated Hatfield Marine Science Center, was the one who issued that warlike cry. A marine biologist with over forty years of experience and a scholarly focus on aquatic biological invasions, he was among the most vocal in his accounts of the dock's "unprecedented" journey and, therefore, one of the most accomplished interscalers when it came to the Misawa dock. For instance, in the caption accompanying the *National Geographic* photo pictured above (see figure 6.1), Chapman is quoted as saying, "While invasives sometimes find their way across oceans, the journey of this 'floating island' was unprecedented. So was the idea that hundreds of millions of organisms could survive in relatively food-poor, open-ocean waters without being picked clean by predators."³³ Scaling up the dock, from human-made structure to self-sustaining ecosystem and land-mass, Chapman's description suggests that swift, expert intervention was required to deal with the two hundred species, including 1.5 tons of barnacles, mussels, urchins, crabs, sea stars, snails, algae, and marine microbes of all kinds, that he and his colleagues had identified.

Indeed, Chapman and others indexed expertise by way of their intensively scalar descriptions of the dock.³⁴ In doing so, they helped make the dock an object of public attention, and themselves the knowing purveyors of the lessons necessary to comprehensively see and understand it (see also Carr 2010; Silverstein this volume). At the same time, the dock's expert interlocutors commonly confessed that they had failed to predict what they so often referred to as "unprecedented." They further conceded that the dock defied their own established standards, thereby suggesting that it was conceptually unwieldy, even alien. Accordingly, the dock was commonly presented by the journalists—who relied heavily upon experts to tell them just what the dock really was—as a symbol of the very limits of what can be predicted, seen, and known, standing for what awes and can only be imagined.

When metrics fail, scalers can always turn to metaphors. In the case of the dock, metaphoric scaling abounds. In addition to the likening of the dock to "freight train boxcars" or colossal "alarm clocks,"³⁵ extraterrestrial comparisons further grew the dock. When the dock was scaled in reference to the "invasive" species attached to it, it was not simply in terms of their aggregate weight but also through reference to other, resonant kinds of invasions. And while Chapman, as a marine biologist, was obviously most concerned with "alien" sea creatures, his and others' descriptions of the dock elide the word's shades of meaning, evoking notions of the alien as extraterrestrial, foreign, exotic, disturbing, unassimilated, and (almost) unassimilable. Said Chapman himself, "It was like a spaceship landed on the beach. It was impossible except for one thing: it wasn't."³⁶ Whatever they claimed to definitively know about the dock, Chapman and his colleagues were also quick



FIGURE 6.2. Scaling the monolith. Still from *2001: A Space Odyssey* © MGM/Photofest.

to confess that when the dock first arrived, “we were caught flat-footed. . . . This was a close-encounter-of-the-fourth-kind type of event, where an alien mother ship from outer space lands on our shores.”³⁷

To be flat-footed, by popular definition, is to be either unprepared or uncompromising; and in Chapman’s use of the term, both meanings seem to be in play.³⁸ He reflects that the scientific community was wholly unprepared to understand the “alien” invasion based on their already established cache of expertise. However, this lack of knowledge hardly halted efforts to prove how big the dock—as object, event, and possibility—really was. Rather, experts began to metaphorically scale what was already known with what could only be imagined, thereby growing the merely massive into the definitively awesome. We see this as Chapman digresses from knowing talk of alien sea creatures to reference another sort of invasion: one alien because it is outside of the bounds of scientific knowledge.

The *National Geographic* image pictured earlier—in both its composition and Chapman’s captioning of it—invites comparison to another “monolith” in popular representation: the alien object of Stanley Kubrick’s *2001: A Space Odyssey* (1968). Much like Agate Beach-goers are figured wonderingly assembling around the dock’s cuboid form, the opening movement of Kubrick’s film portrays awestruck hominids gathering around an extraterrestrial object. When Kubrick’s “monolith” appears in the middle of a bare, prehistoric landscape, the tribe of hominids begin

to interrogate it with their senses—its size, materials, temperature, texture, behaviors. Their habitual curiosity brings them increasingly closer, and they cry out at the monolith, tentatively approaching, and then touching it with fingertips and palms (figure 6.2).

The parallels between the hominids of Kubrick's film and of Oregon's coast extend beyond the fact that both tribes assemble around a mysterious object, called a monolith, which has arrived without seeming precedent. In both cases, initially, there is mutual wonder at the alien strangeness, followed by efforts to manage the awe by establishing patterns of relation. But before this can happen, what has come from afar needs to be brought near, through what Chapman refers to as a "close encounter." Beginning with Hynek's scaling,³⁹ famous among those who study unidentified flying objects (UFOs), as well as among fans of science fiction, ufologists have used the concept of the close encounter to establish a quasi-scientific classificatory system for humans' sightings of UFOs. In a seeming paradox, the UFO must be close enough for the viewer to be reasonably sure that it is not actually a mistaken plane or satellite. In other words, the UFO by definition is that which is scaled as unscalable with terrestrial tools. Awe is produced in the close encounter when the witness realizes that the UFO defies or exceeds its existing ways of seeing, scaling, and knowing.

Yet a close encounter of *the fourth kind*—the kind invoked by Chapman's description of the dock's arrival—complicates the agencies involved in the process of seeing, scaling, and knowing the unidentified object. After all, a close encounter of the fourth kind refers to human abduction by aliens. It was ultimately by way of abduction, in the sense of the term as used by American pragmatist Charles Sanders Peirce, that Chapman and others regained their footing in relation to the alien. They took the alien as the starting ground of their inquiry. For before one can abduct, in a Peircean sense, one must be abducted, in a Hynekian sense—by acknowledging the limits of existing ways of knowing (cf. Helmreich 2007). If induction is inference from a sample to a whole, abduction is inference from an observed body of data to an explanatory midlevel hypothesis, which need not be true, or even verifiable, but merely provide promising guidelines for further action and investigation (Peirce 1997; see also Carr 2015). In this sense, abduction motors knowledge production precisely to the extent that it radically troubles what is knowable in advance—a leitmotif of the scientific discourse about the dock.

To be sure, Chapman and his colleagues did not remain flat-footed for long. He continued to be a key protagonist in the process of knowledge production about the dock—a process heavily reliant on scaling techniques. As an affiliate of the science center where part of the dock would eventually be displayed as an educational exhibit, Chapman also understood that his profession would be served if the dock's accumulated awesomeness could be preserved through ongoing discursive management.

LOGGING THE DOCK, AND THE OFFICIAL MANAGEMENT OF AWE

While experts worked to demonstrate that they were acquiring ways to know and scale the dock in all its awesomeness—awesomeness they had helped discursively generate—state officials set about showing how the threat of the monolith would and should be managed. That the pragmatics of scaling the dock advanced particular state, as well as scientific, agendas is suggested by the Oregon Parks and Recreation Department (OPRD), whose spokesperson is quoted as saying, “The tsunami debris brought marine debris up to this high level of awareness. . . . I almost feel like knocking on wood when I say this but we’re stronger than we were a year ago.”⁴⁰

When the dock washed ashore on Agate Beach, one of Oregon’s public recreation sites, it entered OPRD’s jurisdiction. Almost immediately, park officials initiated their own process of documenting the dock through an online “logbook.”⁴¹ The logbook is most obviously a textual exercise in identifying the dock, delegating responsibility, allocating resources for its management, and handling the uncertainty expressed by scientists and laypeople alike. That the logbook’s entries are explicitly scalar invites us to think about the role of scaling in state bureaucracy (see also Meek this volume), and the scaling of risk more particularly.

According to the logbook, when OPRD staff first “responded to the site,” the origin of the dock was still unknown. Loggers resorted to more proximate calculations: the dock was documented as “very large and heavy: 7’ tall, 19’ wide and 66’ long,” and as fashioned “primarily of concrete and metal,” though “clearly designed to float.” These rudimentary calculations promptly compelled a risk managerial response from the OPRD officials, who announced that the “large and heavy,” yet buoyant, structure—nudged ever the more insistently by incoming tides—might pose a threat to curious or intrepid humans. Interscaling the dock with Newton’s first law of motion and the tide table, park officials recorded their first of many warnings in the log: “Because of its size and the chance it could continue to settle or be moved by wave action, state park staff are posting warning tape and signs instructing the public to stay off the structure.” Significantly, loggers nevertheless informed tourists that the beach would remain open, with one caveat: “Just stay off the dock.”⁴²

In subsequent log entries, scales and scalars proliferate, and a specific approach to risk management comes into view. On “Day Two” of the log, during the short time it took Japanese consulate officials to confirm that the metal placard inscribed in Japanese was evidence of the dock’s origins, loggers note both that the dock had been tested for radiation, with negative findings, and that local scientists had discovered that some of the marine life attached to the structure were “specific to Japan.” Having determined that the dock posed a potential ecological, if not

radiological, threat, the loggers announced that they had elicited the help of fellow officials at the Oregon Department of Fish and Wildlife “to contain this threat.”

The ODFW’s engagement with the dock-as-threat is chronicled in the June 7 entry of the OPRD logbook. Bright and early, as marked by an 8:15 AM entry, a hybrid team of about a dozen ODFW staff and volunteers, with John Chapman among them, assembled alongside the marine biota that encrusted the dock’s steel and concrete bearings. Their task was to make good on Chapman’s call to “kill them all,” in reference to what he had identified as nonnative species. Once the dock dwellers had been exterminated, loggers turned their attention to the disassembly of the dock itself. The June 13 entry lists the privately owned companies that placed bids to remove the “derelict dock at Agate Beach.” Through that entry, the OPRD also advertises that it is “checking references” of the bidders, thereby indexing its own fiscal responsibility as a state agency.

In the meantime, park officials were counting tourists who had come to see what loggers had deemed a threatening and derelict site, making note of a sixfold increase of cars in its parking lot between June 2011 and June 2012. Scaling the dock in terms of tourists, logging officials, like the scientists they had enlisted, apparently gathered that it was best to preserve the awesomeness that the dock had acquired even as it was being physically disassembled. Significantly, the state’s response was never to cordon off the dock from human visitors but, rather, to continue to engage them while issuing reminders that any risks those visitors took were their own. Accordingly, OPRD promised to post pictures of the dock’s dismantling on its log and made note of the footbridge it had built for tourists so that they could watch the demolition live. Some of the tourists who did so reported boredom to journalists, as if their awe had been deflated as the dock was dismantled. However, the loggers continue to make note of the “surprises” and “difficulties” the demolition crew encountered, including the discovery that the dock was “heavier than expected,” and that inspection of its underside revealed pink Japanese acorn barnacles.

Interestingly, the log ends not when the very last chunk of dock is carried off, but rather with a promise that the barnacles that adorned it are dead and the “stiff foam” has been “contained.” That the logbook textually begins at these alien entities’ end can be read as a projection of the OPRD’s increasing managerial “strength,” to recall their spokesperson’s self-description. One might therefore conclude that if the professionals who interacted with the dock were emboldened, it was precisely because they portrayed themselves as responsibly managing the monolith: soliciting private corporations to remove it from state property and volunteers to help eliminate ecological threats to Oregon’s shore. At the same time, loggers clearly delegated responsibility for human injury to those individuals who crossed state-erected footbridges. As we will see, this approach to risk management—one in which disaster risk is perceived as external to technological or social risks within

modern life, and solutions hinge upon the public heeding technocratic knowledge (see also Hewitt 1995)—carried over to the project of disaster preparedness, once a chunk of the dock was relocated to the Hatfield Center.

If the OPRD's scaling furthered risk management strategies that individuated the dock's interlocutors, they were simultaneously participants in *de-escalating* the dock, rendering the awesome and alien features it had acquired intimate and relatable. For at the same time that they politically individuated the Oregonians they invited to the dock, loggers also made "the monolith" conceptually and affectively, as well as physically, approachable. Indeed, if park officials removed the dock from its shores and scientists exterminated the life that it once hosted, both groups were central in heightening the dock's affective dimensions.

DE-ESCALATING DISASTER, AND DOCKING (POST) HUMANISM

According to Kubrick, the Dawn of Man comes precisely when hominids begin to interrogate their relationships to objects and their ability to manipulate those objects to achieve certain ends. This first occurs when a bone is taken up in the hand of the hominid protagonist, who studiously weighs it and turns it over, considering its dimensions. He then hefts it overhead, letting it fall to splinter and scatter ribs and scapulae. Through experimentation he learns that interrelationships—among the forces of gravity, his arm muscle's contraction, the weight of the bone, the brittleness of the skeleton, and countless other inputs—can break, threaten, cudgel, and kill. For Kubrick, this knowledge-production process, and the relationality it spawns between hominid and bone, rock, tapir, and other hominids, is precisely what makes the human.⁴³ Similarly, media accounts of the Misawa dock suggest that Pacific Coasters who heeded loggers and visited the dock came to new understandings of themselves and their worlds by appreciating the extent of their interrelationships with others.

Scholarly advocates of the ontological turn in anthropology, sociology, and neighboring disciplines work to document precisely this kind of relationality, seeing it as the evidential fodder of posthumanism. This strain of thought is united by the shift of methodical attention away from individuated subjectivity and toward the patterns of relations that connect and constitute human and nonhuman things (see, for instance, Kohn 2013; Raffles 2002). Consider, for example, Donna Haraway's premise that "relationships are the smallest possible patterns for analysis; the partners and actors are their still-on-going products. It is all extremely prosaic, relentlessly mundane, and exactly how worlds come into being" (2008, 25–26). Haraway (2003; 2008) and others are interested in the ethical implications of this relational ontology, suggesting that the ethics and politics of subjectivity may be overtaken by the ethics and politics of relations, but only if we begin to

seriously consider nonhuman actors—whether dogs or docks—and accept our posthuman condition.

Accordingly, anthropologist Eduardo Kohn suggests that “what we learn about the world and the human through the ways in which humans engage with the world . . . undoes any bounded notion of what the human is” (2015, 313). While this may be the case, we are wise to keep in mind that taking relationships to be “the smallest possible patterns,” as Haraway advises, is a matter of rescaling our analytical lens. After all, it is not that some underlying or essential interrelatedness is simply revealed by way of attentive scholarship. Relations, too, are a product of scaling, which is a profoundly perspectival and therefore humanistic endeavor, even when posthuman entities are constitutive participants (see Carr 2015).

One cannot help but recognize and appreciate the posthumanist overtones in the public discourse on the Misawa dock, focused as much of it is on the intimate relations forged with once-alien entities. And while much of the scalar discourse is concertedly scientific, the mediation of the dock-as-monolith nevertheless exalts the sensorial and imaginative capacities of those who behold it. This resonates with Stefan Helmreich’s 2009 account of the sensitized scientists aboard the research vessel *Lobos* who explore the “alien ocean.” Taking exception to Chandra Mukerji’s account of deep sea research as “the expression of signatory techniques . . . [that] gives scientists a way to assert their culture, and not be overwhelmed by the scale of the ocean” (153), Helmreich proffers this observation: “To imagine scientists on *Lobos* hungering after some exterior, transcendent position would be to miss the more intimate relations they develop to their subjects of study. . . . On *Lobos*, the sensation is not of detachment from nature but of a pleasurable, technological immersion *in* it—an experience of being ‘in the field’ at once immediate and hypermediated” (44).

If such sensorial experiences are at once immediate and hypermediated, as Helmreich suggests, we should examine the pragmatics of scale in which those charged with knowing the ocean participate. Along the same lines, consider the way the OPRD logbook de-escalates the dock in the eyes of its interlocutors, thereby reorienting their senses. For although, at first blush, the logbook may simply appear to be a textual exercise of enacting expertise, more than risk management seems to be at play when the loggers warn: “Stay off the dock. Look, touch, reflect on the original tragedy that brought this visitor to Oregon’s shores, but do not compound the sadness of that day by suffering an injury.”⁴⁴ The dock is portrayed as a special “visitor” that other visitors might thoughtfully (if carefully!) engage. Furthermore, the at-risk Oregonians the loggers address are explicitly connected to those who fell victim to the “original tragedy,” a tragedy that is putatively approachable and apprehensible through human touch.

Indeed, touch played an especially potent role in the dock’s de-escalation. Even the *Wall Street Journal* found that *homo economicus* had ulterior motives for

“flocking” to the “132-ton slab of reinforced concrete” when a quoted father explains that he wanted his family to “at least touch” what he called “a piece of history.” Yet another father in the same article is quoted as saying, “It’s the tsunami![,]’ . . . hoisting his son onto his shoulders so the boy could touch the concrete.”⁴⁵ To the extent that the dock had been scaled as synecdoche—as in “it’s the tsunami!” or “a piece of history”—these visitors apparently feel that they are accessing what is otherwise inchoate and barely imaginable when they touch the dock.

As little boys on their fathers’ shoulders touched the dock, as synecdoche, in an effort to feel the awesomeness firsthand, other visitors described a profound experience of *continuity* with the dock and—by extension—all that it had come to represent; they too attributed their experience to the power of touch. Oregonians’ physical encounters with the Misawa dock made the large, awesome, even alien feel proximate and intimate, at least in their sensorial self-portraiture. Consider this prototypical account:

Kate Brown, 55, a resident of Newport, was one of those who rushed to see the dock after hearing about it. Touching it, she thought back to what happened in Japan, recalling horrific images of entire communities being swallowed by the ocean. Since the same ocean brought the 20-meter-long concrete and metal slab weighing over 100 tons from Misawa, Aomori Prefecture, all the way to her doorstep, thoughts of tsunami tearing apart the Oregon coast also flashed through her mind. “I was at a loss for words. I became a part of the tsunami. The tsunami and earthquake became a part of Oregon. People around me were shocked,” she said.⁴⁶

To extend Helmreich’s (2009) terminology, an “immediate” reading of Brown’s narrative goes something like this: Touching the dock instigates a series of thoughts, which we might conventionally assume to be in her own head. First she “[thinks] back to what happened in Japan”—that is, to “entire communities being swallowed by the ocean.” Brown then realizes that it is the very “same ocean” that has brought the object she touches—described here again in concertedly interscalar terms—to her relatively diminutive doorstep. With that, she is thrust forward in time, almost as if riding a huge wave, confronted with the idea that the Oregon coastline could be similarly destroyed. The narrative is graced with a strikingly posthumanist climax as Brown feels herself to be part of the tsunami, which in turn became part of Oregon.

The sublime experience is typically figured as an experience *beyond language*. Note how Brown eloquently claims that she was at a loss for words in encountering the dock, though it seems that she is anything but. While Brown attributes the approximation of her own here and now, a shocking Oregon future, and “what happened in Japan” to the power of touch, let us underscore the semiotics of scale that allowed for this culminating experience. Recall that the dock had been synecdochically scaled in the media as *part of* all the entities Brown names as her

experience: tsunami, history, and past and future devastation. The pragmatics of scale has also linked the dock, metaphorically and indexically, to a web of other relations within which Ms. Brown now includes herself. This is not to take away from the profound experience of being part of and in relation to, but rather to point to the scaling processes that allow for that experience. Of particular note here is the way that Kate Brown, like so many others, de-escalates what has been thought alien and Other by her claims of intimacy and relationality.

Significantly, the dock's de-escalation occurred across what is understood to be distinctive temporal planes, extending webs of relation across time. For as the "100 tons from Misawa, Aomori Prefecture" lands on Kate Brown's proverbial doorstep, it seems that future as well as past devastation is at the forefront of her mind. As we will see below, experts and officials alike worked hard to make the dock a sign of a portended American future. As an effect of these scalers' labors, Oregon residents absorbed the dock into their imaginaries of crisis (Povinelli 2011), leading them to ponder the ways that their fate was bound inextricably to (inter)actions among other people, places, and things. De-escalation reveals to interlocutors that the processes that threaten and secure their lives, such as "natural" disasters and preparedness efforts, are diachronic in ways that can be visualized, imagined, predicted, and forestalled.

Children hoisted upon parental shoulders learn that the relations that constitute them are highly contingent upon the mercurial weather patterns and tides. Tourists, like Kate Brown, travel way farther than they had planned as they recognize, through a complexly scaled dock, that their lives are the product of unfolding interactions that seem to outpace current horizons of knowledge and management. These sensibilities and socialities challenge the common scholarly implication that scaling degrades or defies human experience rather than, conversely, making it possible and apprehensible. The phenomenal experience of being "part of" and "related to" described by Brown and celebrated by posthumanists is not generated despite the pragmatics of scale but is, rather, their very product. To be sure, scaling is necessarily perspectival (Gal, this volume; Irvine, this volume), which directs the human eye/I to an object of interest. Yet the story of the Misawa dock also poignantly shows us how people can *feel*, as well as see, themselves as part of something larger through their scalar practices. So contrary to the concern that scale obviates "transformative relations" between species (Tsing 2015, 40), we suggest that scaling practices can illuminate the world and orient the human senses to others, even when there are competing pragmatics at play. After all, if we are to take Brown and her fellow Oregonians seriously, we must recognize that de-escalating the dock radically challenged notions of human beings as atomized or unique, unaware of their surrounds, and made them see and feel themselves to be "awash in relationships" (Whittington 2010, 166), whether with sea creatures, unpredictable waters, or Japanese victims.

SCALING SOCIALITIES AND EXHIBITING DISASTER

While overseeing the dock's demolition, amid the crowd of tourists, OPRD spokesperson Chris Havel predicted, "Once that last piece is off and gone . . . all this interest will probably evaporate like the morning clouds."⁴⁷ In this prognostication, Havel clearly underestimated the dock's enduring impact, for even after it was physically dismantled, its symbolic capacities endured. Proving that scaling work is never done, the dock continued to acquire new meanings as its ever-growing number of interlocutors made use of previous scalings in the service of a diverse range of projects.

For instance, the idea that the dock phenomenally connected Oregonians to a Japanese disaster and its victims was clearly fodder for the dock's exhibition at the Hatfield Marine Science Center (see figure 6.3a). And while the HMSC's institutional mission is to "improve scientific understanding of marine systems, coastal processes and resources, and appl[y] this knowledge to social, economic, and environmental issues,"⁴⁸ public officials focused on risk management recognized that this concerted scientific endeavor could serve state interests.

Consider that among the many speakers at the exhibit's dedication—including representatives from the HMSC, Oregon Sea Grant, the City of Newport municipal government, and Oregon Emergency Management—all organizations that, according to an HMSC newsletter, "have been instrumental in developing the exhibit and increasing preparedness on the coast"—stood Japan's consul general, Hirofumi Murabayashi, and former Newport mayor Mark McConnell.⁴⁹ Their job was to read aloud in English and in Japanese, respectively, the posthumanist tract that had been inscribed on the dock exhibit's dedication plaque (figure 6.3b). The paired public officials initiated a moment of silence to honor the tsunami's Japanese victims as their audience contemplated the plaque's instructions to appreciate "the great power of the ocean to shape our lives, binding us to the natural world, and to each other"—a relationality that the dock had come to represent through the pragmatics of scale we detail above.

Though ritually reinforcing the human connection forged between those gathered at the dedication and those who lost their lives and livelihoods in Japan, it turns out that the dock's exhibit was not simply, nor primarily, a matter of memorialization. Rather, the exhibit was instrumentally geared toward educating Oregonians to prepare for, if not avoid, a similar fate. George Boehlert, biologist and former director of the HMSC, explained: "We're not putting it up as a shrine per se; it's really more for educational purposes. The real meaning here is really related to the disaster, and to give visitors a sense of the power and how serious the potential impact can be. Because people will be attracted to this piece of dock, I think the signage accompanying it will really serve a very valuable educational tool to educate folks about what the threats are and what could happen here."⁵⁰



FIGURE 6.3A. Docking relations. Photograph by Rio Romero-Jurado.



FIGURE 6.3B. Docking relations. Photograph by Rio Romero-Jurado.



FIGURE 6.4. Scaling disaster: head of the Tsunami Evacuation Interpretive Trail. Photograph by Rio Romero-Jurado.

Now adorned with signage that points not to a Japanese past (see figure 6.4) but rather to an Oregonian future, the dock is reendowed with the threat it had acquired through previous scalings. The director imagines that those American individuals “attracted to the piece of dock” can be empowered to assert individual agency in the face of what they now understand to be a serious threat, thanks to the museum’s educational efforts. Significantly, the dock’s indexical capacities were not just carefully aimed at an American future but also literalized: the dock exhibit now stands at the entrance of an evacuation route, or as the HMSC puts it, the “starting point for the new Tsunami Evacuation Interpretive Trail leading visitors to high ground.”⁵¹

Explicitly coupling interpretation and evacuation, the posthumanist values the dock had acquired through its scaling were repurposed to support utilitarian science and state projects. It was therefore not surprising that, when asked about the exhibit at the dedication, McConnell recalled his visit to Sendai, Japan, to view the wreckage from the disaster this way: “You realize when you see it first-hand that you can’t plan or build for an event of that magnitude, but you can prepare for it by educating yourself about the risks and creating strategies for safe evacuation. The exhibit will be a reminder that the tragedy in Japan could just as easily

happen here.”⁵² With that, a familiar political narrative, one that absolves the state of responsibility to “plan and build” for natural disasters while urging citizens to nevertheless “prepare” through self-education, was mobilized by means of the representational apparatus the dock had acquired through its scaling.

If the primary purpose of the dock’s permanent exhibition was science education, then the agenda of disaster preparedness and, by extension, the political program of neoliberal individuation, was clearly serviced by the dock’s de-escalation. Consider, for instance, how the power of touch perdured in the remediation of the dock at the dedication. Speaking of the exhibit, the former mayor further remarked, “I wanted people to see it. To educate the people who visit Newport and the local residents about tsunamis and the debris washing up. It connected us to the people on the other side of the Pacific. It made the tsunami something they could touch.”⁵³ Once erected at the museum as literal and figurative synecdoche, the dock served as a way to render science, as well as politics, as personal and sensorial.

The scientists affiliated with Hatfield also saw how the sensory experience produced by the scaled dock could focus their own efforts to predict and prevent natural and ecological disaster in Oregon. According to Mark Farley, the manager of the HMSC visitor center, one of the most popular features of the exhibit is the tsunami simulator, a “hands-on educational tool” that “offers a firsthand look at how destructive a tsunami can be.”⁵⁴ As Farley sees it, the sensorial responses cultivated by the dock’s scaling are crucial to getting Oregon residents to take seriously the impending disaster threat and educate themselves about the risks and preventive measures—that is, to appreciate and feel what is scientifically predictable if not known.

CONCLUSION: BEAUTIFUL, BOUNTIFUL SCALING

Contra Havel’s prediction that the symbolic potency of the dock would fade, others rightly insisted that the “saga” of the dock would not end anytime soon. One spokesperson for another tsunami-debris exhibit, at the Columbia River Maritime Museum in Washington, implied that the dock’s symbolic tenacity was closely linked to its scalability. He stated, “Almost exactly two years and 5,000 miles later and here is a piece of wreckage from a natural disaster almost beyond comprehension, 10 miles from the museum on the shores of Washington. It has connected us in this almost unimaginable way. Fifty, 100 years from now, I think it will continue to be an interesting story.”⁵⁵

Scaling never ceases, and its products can never be fully determined in advance nor forever stabilized. The saga of the dock illustrates that scalings can be used for various projects, and that scalers—whether ecologists, marine biologists, public officials, humanists, or posthumanists—borrow each other’s metrics and

metaphors, putting those terms to work toward different ends. And while we may bemoan the way the dock was ultimately used in a political project of individuation, if not alienation, we must recall the lability that things acquire precisely because they are subject to our sign practices, including scaling. As we have seen, scaling means that all forms of life can be brought close as well as cast afar. Scaling can create collectivities, bringing nonhuman entities within them, as easily as it can individuate them.

To be sure, scaling fixes our perspective and, accordingly, propels some projects at the expense of others. But there is nothing inherently dehumanizing nor atomizing about scaling. The story of the Misawa dock demonstrates that while certain governance strategies are served by scaling projects, so too are sensory experience, relationality, and our very understanding of who, where, and what we are. People may use scalar discourse to anchor themselves in profoundly moral, deeply felt relationships forged across established geographical, national, temporal, and experiential borders. So while we must be ever alert to the ways institutions impose constraining scalar logics that limit our imagination, we must also remember that scaling can transport us across space and time, introduce us to countless other actors, and dock us to any number of shores.

NOTES

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1. Misawa was one of the towns devastated by the magnitude 9.0 undersea earthquake that occurred off the coast of Japan. The earthquake unleashed a massive tsunami that wrought widespread death and destruction, particularly along Japan's northeastern coastline. This compound disaster resulted in the deaths of tens of thousands, widespread injury, over twenty-five hundred people missing, and more than two hundred thousand people internally displaced—many of whom are still living in temporary housing as the nation confronts bureaucratic obstacles and construction delays. Japan also sustained unprecedented damage to homes, property, land, and infrastructure, leading the World Bank to deem the natural disaster the costliest in world history (Victoria Kim, "Japan Damages Could Reach \$235 Billion, World Bank Estimates," *Los Angeles Times*, March 21, 2011, <http://articles.latimes.com/2011/mar/21/world/la-fgw-japan-quake-world-bank-20110322>).

2. Lori Tobias, "Japanese Tsunami Dock Came Bearing Lessons for Oregon Officials, Coastal Residents," *The Oregonian/Oregon Live*, June 4, 2013.

3. *Ibid.*

4. Jes Burns, "More Japanese Tsunami Debris Will Wash Up This Winter on Northwest Shores, Scientists Predict," *Northwest Public Radio*, December 9, 2014.

5. Eric Wagner, "The Tiniest Tsunami Refugees," *Slate*, August 15, 2013, www.slate.com/articles/health_and_science/science/2013/08/tsunami_and_earthquake_debris_from_japan_washes_ashore_in_the_united_states.html; Katy Muldoon, "After Long, Cold Trip across Pacific on Tsunami Debris, Sea Creatures Find Little Warmth," *Wall Street Journal*, January 12, 2015, www.wsj.com/articles/after-long-cold-trip-across-pacific-sea-creatures-find-little-warmth-1421108242.

6. "OSU's Hatfield Marine Science Center to Unveil Japanese Dock Exhibit on March 10," Oregon State University News and Research Communications, February 27, 2013, <http://oregonstate>.

edu/ua/ncs/archives/2013/feb/osu%E2%80%99s-hatfield-marine-science-center-unveil-japanese-dock-exhibit-march-10.

7. Schulz writes, "In the Pacific Northwest, the area of impact will cover some hundred and forty thousand square miles, including Seattle, Tacoma, Portland, Eugene, Salem (the capital city of Oregon), Olympia (the capital of Washington), and some seven million people. When the next full-margin rupture happens, that region will suffer the worst natural disaster in the history of North America." What's more, "the science is robust . . . [and] the odds of the big Cascadia earthquake happening in the next fifty years are roughly one in three. The odds of the very big one are roughly one in ten." "The Really Big One," *New Yorker*, July 20, 2015, www.newyorker.com/magazine/2015/07/20/the-really-big-one.

8. *Ibid.*

9. The American English term *de-escalate*, which appears to be of Cold War origin, means: "to reduce the intensity of a war or international conflict." The term is now widely used in American policing, where it means: "to defuse conflict and potential violence through communicative techniques." And most recently, in relation to the widespread public concern about overzealous policing, it means: "to reduce the chance of using force against a citizen during a suddenly antagonistic encounter" (Timothy Williams, "Long Taught to Use Force, Police Warily Learn to De-escalate," *New York Times*, June 27, 2015). It has a similar meaning in American parenting discourse, where to de-escalate is to calm a potential outburst or tantrum through verbal and other communicative techniques.

10. Muldoon, "After Long, Cold Trip."

11. Tobias, "Japanese Tsunami Dock Came Bearing Lessons."

12. We conducted a comprehensive literature review and document analysis of North American media sources covering the dock, beginning with its arrival in June 2012 and continuing through early 2015. These sources included local and national newspapers, magazine articles, blog posts, official documents released by Oregon state department officials, presentations by local scientists, newsletters for the Hatfield Marine Science Center and other local organizations made available online, and written materials from tourism websites, among others. Alongside these media sources, we considered English-language Japanese publications, such as the *Japan Times* and the *Asahi Shimbun*, English edition.

13. Its descriptions as "massive" and a "hulking monstrosity" come from Nick Carbone, "Massive Fishing Dock Washes Ashore in Oregon, 15 Months after Japanese Tsunami," *Time*, June 7, 2012, <http://newsfeed.time.com/2012/06/07/massive-fishing-dock-washes-ashore-in-oregon-15-months-after-japanese-tsunami/print/>; and its description as "enormous" is from Max Eddy, "Japanese Dock Torn Loose in Tsunami Washes Ashore in Oregon Bringing Unwelcome Guests," *The Mary Sue*, June 8, 2012, www.themarysue.com/japanese-ghost-dock/.

14. Carbone, "Massive Fishing Dock Washes Ashore."

15. Cara Pallone, "Dock from Japan Leaves a Lasting Impression," *USA Today*, August 2, 2012.

16. Tomoji Watanabe and Yu Miyaji, "Misawa Pier Becomes Slimy Celebrity on Oregon Beach," *Asahi Shimbun*, January 13, 2013.

17. *Ibid.*

18. Tobias, "Japanese Tsunami Dock Came Bearing Lessons"; Joel Millman, "Tsunami Relic Puts Beach on Map," *Wall Street Journal*, June 20, 2012.

19. Lori Tobias, "Tsunami Dock Memorial Unveiling Planned on March Anniversary Date," *The Oregonian/Oregon Live*, September 15, 2012; Watanabe and Miyaji, "Misawa Pier Becomes Slimy Celebrity."

20. Pallone, "Dock from Japan Leaves a Lasting Impression."

21. Millman, "Tsunami Relic Puts Beach on Map."

22. *Ibid.*

23. *Ibid.*

24. Pallone, "Dock from Japan Leaves a Lasting Impression."

25. Janet Webster, “Notes from the Interim Director,” *Upwelling* (Hatfield Marine Science Center newsletter) 10 (August 2013), http://hmsc.oregonstate.edu/files/main/upwelling_v10_1_2013.pdf.

26. RT.com, “Boxcar-Size Dock from Japan Tsunami Washes Up on US Beach,” June 7, 2012, www.rt.com/news/japan-tsunami-beach-us-280/.

27. Timon Singh, “Japanese Tsunami Dock Hits Oregon Beach with Army of Alien Species Attached!” *Inhabit*, June 19, 2012, <http://inhabitat.com/japanese-tsunami-dock-hits-oregon-beach-with-army-of-alien-species-attached/>.

28. The quotations “troublemakers” and “hitchhikers” are from Brian Handwerk, “Pictures: Tsunami Dock Is ‘Alien Mother Ship’ of Species,” *National Geographic*, June 13, 2012, <http://news.nationalgeographic.com/news/2012/06/pictures/120613-tsunami-dock-japan-oregon-aliens-invasive-species-science/>; “invaders” is found in both Rebecca Jacobson and Jenny Marder, *PBS NewsHour*, June 27, 2012, and Muldoon, “After Long, Cold Trip”; and “refugees” comes from Wagner, “Tiniest Tsunami Refugees.”

29. Handwerk, “Pictures: Tsunami Dock Is ‘Alien Mother Ship.’”

30. Graham Sanders, comment on Muldoon, “After Long, Cold Trip,” www.wsj.com/articles/after-long-cold-trip-across-pacific-sea-creatures-find-little-warmth-1421108242.

31. Consider also Stefan Helmreich’s (2009) book, *Alien Oceans*, which addresses how taxonomic and political questions get entangled in the classification of marine organisms. He argues that in Hawaii, where the term for native marine species is also the term that indigenous Hawaiians use to describe themselves, feelings of nationalism and xenophobia get baked into marine science, which in turn compounds a sense of alienation and threat.

32. Muldoon, “After Long, Cold Trip.”

33. Handwerk, “Pictures: Tsunami Dock Is ‘Alien Mother Ship.’”

34. Alongside marine biologists and ecologists, ocean seismologists seized upon the dock as a way to project the predictive potential if not the established knowledge of their vocation. For instance, a computer programmer in the University of Hawaii’s International Pacific Research Center—which, according to an article in the *Christian Science Monitor*, reportedly tracked “the 1.5 million tons of tsunami debris estimated to still be floating across the Pacific”—told reporters, “Just how the dock float happened to turn up in Oregon was probably determined within sight of land in Japan. . . . That’s where the winds, currents and tides are most variable, due to changes in the coastline and the features of the land, even for two objects a few yards apart” (Jeff Barnard, “Tsunami Debris: Dock from Japan Floats 5,000 Miles to Oregon [+ Video],” *Christian Science Monitor*, June 7, 2012, www.csmonitor.com/USA/Latest-News-Wires/2012/0607/Tsunami-debris-Dock-from-Japan-floats-5-000-miles-to-Oregon-video).

35. *Ibid.*; Tobias, “Japanese Tsunami Dock Came Bearing Lessons.”

36. Muldoon, “After Long, Cold Trip.”

37. Handwerk, “Pictures: Tsunami Dock Is ‘Alien Mother Ship.’”

38. According to the 2015 *Oxford English Dictionary* online, *flat-footed*, meaning “unready, not ‘on one’s toes,’” is from U.S. baseball slang of the early twentieth century. In its prior use, beginning in the early nineteenth century, it had meant “downright, plain and positive,” in the sense of planting one’s feet firmly.

39. J. Allen Hynek, PhD, an American astrophysicist who served as chair of the Astronomy Department at Northwestern University and as scientific adviser to the United States Air Force on studies of UFOs following the Second World War, developed his eponymous scale in an effort to classify UFOs in a way that he claimed was compatible with science. For Hynek, this relation between fact and (mis)representation presents a fundamental “UFO problem,” outlined in his book *The UFO Experience: A Scientific Inquiry*: “Either UFO observations represent genuinely new empirical observations—that is, new in the sense that they do not fall immediately into place in the present scientific framework—or they simply are misperceptions and misidentifications” (1972] 1998, 10). Hynek asserts that UFOs fall

into the former category, but that an inherent conservatism in science resists any explanation of phenomena that exceeds current scales. Referencing the ideas of philosopher of science Thomas Goudge, Hynek writes, “Throughout history any successful explanation scheme, including twentieth-century physics, acts somewhat like an establishment and tends to resist admitting new empirical observations (unless they have been generated directly within the framework of that explanation scheme). . . . ‘For,’ Goudge continues, ‘if the establishment assimilates the new observations into the present explanation scheme, it implies that the empirical observations are not genuinely new.’”

40. Tobias, “Japanese Tsunami Dock Came Bearing Lessons.”

41. “Dock Ashore at Agate Beach,” Oregon.gov, www.oregon.gov/OPRD/PARKS/pages/agatebeach_dock.aspx. According to historian Margaret Schotte, the nautical logbook emerged in fifteenth- and sixteenth-century Europe. Its purpose was anticipatory as well as documentary: it helped the captain record important information, such as the ship’s speed and location, so as to assist in future voyages. Shortly thereafter, the practice of keeping logbooks expanded, and the information contained within them became “standardized, pooled, and exchanged deliberately with ‘virtual communities of observers dispersed over time and space’” (2013, 286). Then, in the early- to mid-seventeenth century, the logbook’s function expanded further to include a “daily record about distant geography, climate patterns, and geopolitics, to say nothing of the events—economic, social, even legal—that occurred on board ship” (284). The eighteenth century saw a decline in logging amid concerns about its efficiency; though it remained standard to keep logbooks, their records tended to be less comprehensive and were thought to be less reliable.

42. “Dock Ashore at Agate Beach,” Oregon.gov, entry for June 5, 2012.

43. Arguably, the humanness that emerges in the film might be thought of as an assembling of living (e.g., the tapir) and nonliving (e.g., rock, bone) things, as well as a practice of (inter)scaling that is not limited to humans but rather is performed, in varying ways and to varying degrees, by other intelligent alien and machine (re)actors in the film, including the alien monolith and the sentient computer HAL 9000. To become human is more than a genetic legacy: it is also the embodiment of practices of scaling.

44. “Dock Ashore at Agate Beach,” Oregon.gov, entry for June 8, 2012.

45. Millman, “Tsunami Relic Puts Beach on Map.”

46. Rene Chen, “Washed-Up Dock Stirs Awareness in Oregon,” *Japan Times*, March 20, 2013.

47. Pallone, “Dock from Japan Leaves a Lasting Impression.”

48. Oregon State University Hatfield Marine Science Center, *Oregon State University Hatfield Marine Science Center Strategic Plan* (Corvallis: Oregon State University, December 2006), <https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/5036/HMSCStratPln1206.pdf?sequence=1>.

49. “The Story of the Tsunami Dock” *Upwelling* (Hatfield Marine Science Center newsletter) 10 (August 2013), http://hmsc.oregonstate.edu/files/main/upwelling_v10_1_2013.pdf.

50. Tobias, “Japanese Tsunami Dock Came Bearing Lessons.”

51. “OSU, City of Newport Plan for Exhibit Featuring Piece of Tsunami Dock,” *Oregon State University News and Research Communications*, September 12, 2012, <http://oregonstate.edu/ua/ncs/archives/2012/sep/osu-city-newport-plan-exhibit-featuring-piece-tsunami-dock>.

52. *Ibid.*

53. Chen, “Washed-Up Dock Stirs Awareness.”

54. *Ibid.*

55. Tobias, “Japanese Tsunami Dock Came Bearing Lessons.”