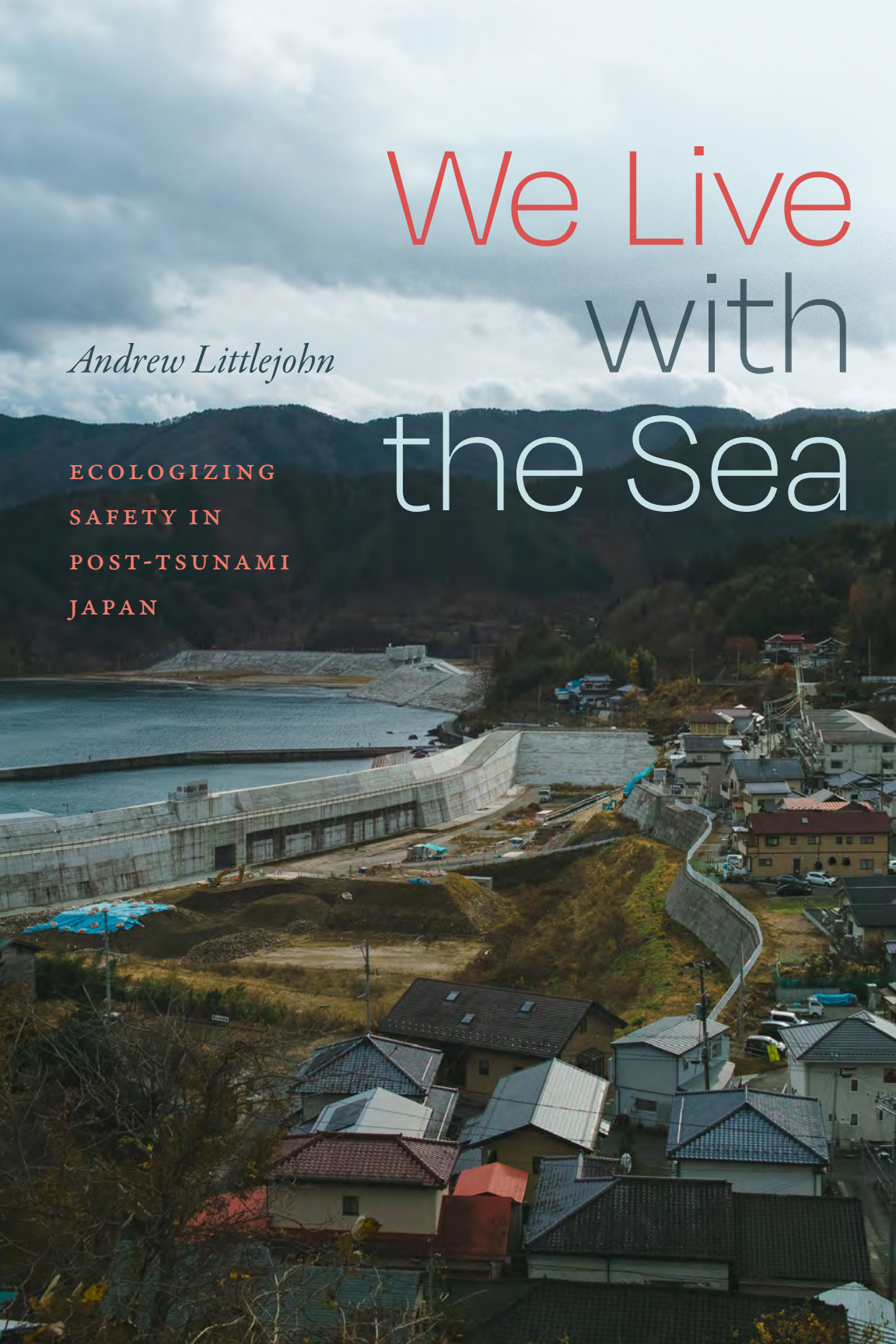
We Live with the Sea

Andrew Littlejohn

ECOLOGIZING SAFETY IN POST-TSUNAMI JAPAN



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ANDREW LITTLEJOHN

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Contents

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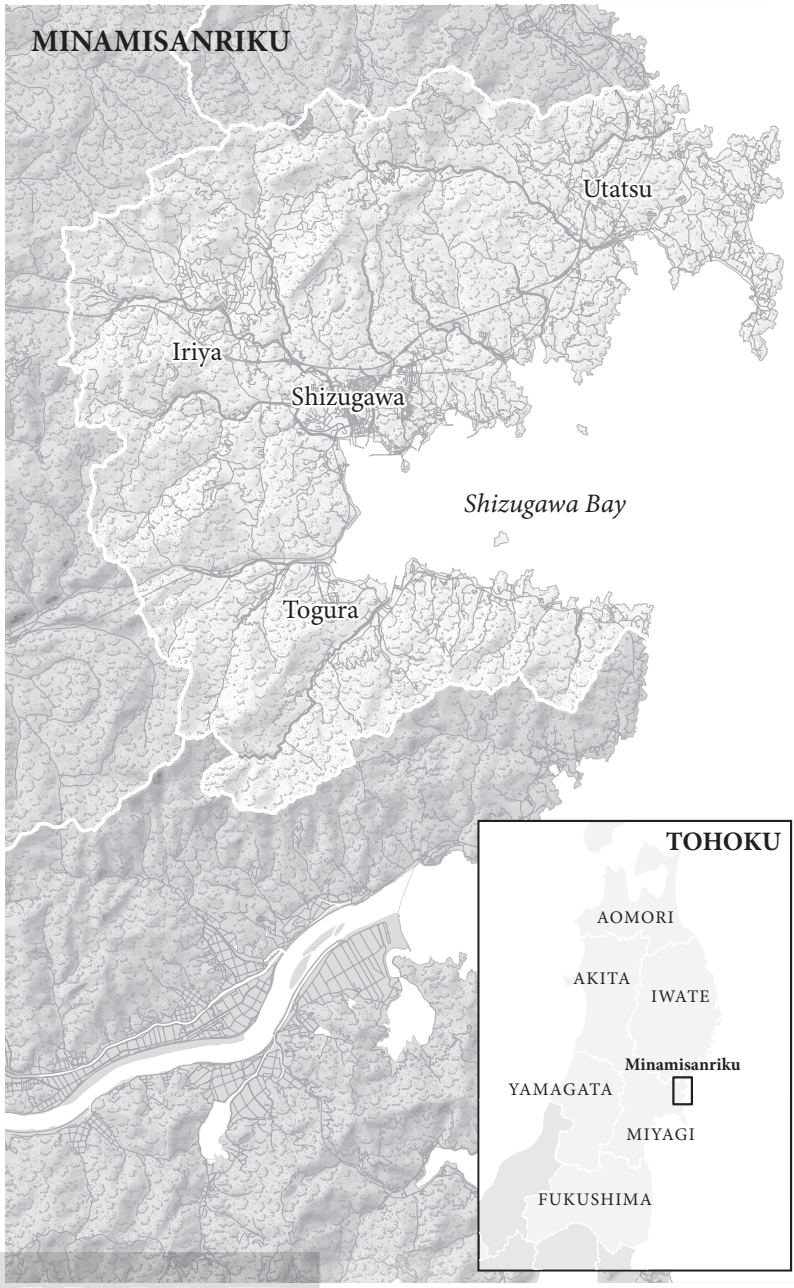
INTRODUCTION

"Living with Everything Together"

There is a deafening roar etched into many hearts, and the memory of the black sea invading.
—YOSHIKI TAKAHASHI, *3 nen-me no 3.11: Minamisanriku kara no tegami* [The third year of 3.11: A letter from Minamisanriku], 2014

Across Japan, concrete ramparts defend inhabited coastlines from the ocean. In many areas, vertical seawalls and dikes prevent the sea from penetrating the places people live. In others, sluice gates regulate its entry and egress from territories reclaimed from wetlands or from the sea itself. Japanese authorities have been constructing such defenses since at least the 1930s. Their stated purpose is to protect lives and property from seaborne hazards such as storm surges and tsunamis. But for those living behind these walls, such threats remain an indelible part of life along the coast.

Take, for example, a middle-aged woman I'll call Kiyoko, who I first met in the summer of 2013. Kiyoko is an aquaculturalist who makes a living cultivating seaweed, scallops, oysters, and other oceanic life. She lives in a hamlet in Minamisanriku, a town in northeastern Japan's Miyagi prefecture. Minamisanriku sits near the southern end of the Sanriku Coast (see map I.1): a stretch of northeastern seaboard running from Miyagi to Aomori, where Japan's mainland meets a narrow body of water separating it from the island of Hokkaido. Sanriku is a coastline characterized by dendritic inlets or "rias": submerged portions of unglaciated river valleys that flow from inland mountains into the Pacific Ocean. These bring minerals that fertilize the bays at their mouths, contributing to ideal working conditions for aquaculturalists like Kiyoko. But in these bays, suspended above the boundaries where tectonic plates converge, those ideal conditions also come with perils.



MAP 1.1 A map of Minamisanriku town.

One cold afternoon in March 2011, part of one plate slipped under another beneath the ocean east of Minamisanriku. The resulting earthquake measured 9.1 on the Richter scale. Among the most powerful ever recorded, it was strong enough to slow the earth's rotation and move mainland Miyagi prefecture several meters eastward (Aldrich 2019, 21). They say in Minamisanriku, "when an earthquake happens, prepare for a tsunami" (*jishin ga attara tsunami no yōshin/yōjin*). After such a violent quake, Kiyoko knew one was coming. Her husband set course immediately for deeper water, where the peak should be shallow enough for him to ride out safely. But instead of heading to higher ground, she decided to return to their house, a few hundred meters inside one of the valleys. "Our home is some distance," she told me. "So, I didn't think that a tsunami would come [that far]." After all, a seawall and sluice gate protected them, built by the government in response to earlier disasters.

Beyond this protective infrastructure, the bay water began to recede as the approaching tsunami gathered everything into itself. Around 40 minutes after the earthquake, the wave overflowed the seawall and entered the valley. Kiyoko saw neither happen. She understood her peril only when a neighbor shouted, "a tsunami is coming, run!" She made hurriedly for the nearest slope with several others who had remained in or returned to the hamlet. The wave followed them, black from churning the soil beneath into itself. As she mounted the slope, Kiyoko turned and looked back. Below her, she could see an elderly neighbor struggling to climb the hill. The water was approaching swiftly, so she headed back down to help. But when Kiyoko was no more than a few meters away, the tsunami reached the woman, pulling her into itself before she could extend her hand.

More than 22,000 people died that day, 831 of them in Minamisanriku. Like Kiyoko's neighbor, some fled late and were engulfed in their homes, workshops, and waterfronts. Others fled to evacuation points in areas inundated during past tsunamis and again by this one. Why flee to such places, or not at all? When asked, survivors often blamed the seawalls. By dividing people and sea, they created a false sense of security, people said—which, in turn, meant those living by the sea had forgotten other ways of ensuring safety based on their knowledge of it. In Minamisanriku, a group of twenty-four survivors wrote that they had "seen the limits of preventing disasters through hard infrastructure like seawalls" (Minamisanriku-chō Shinsai Fukkō Chōmin Kaigi 2011, 9) as a result. We need to learn to "live with the ocean" (*umi to ikiru*) again, they argued, rather than rely on concrete to protect them.

But concrete also had advocates. Since the 1960s, Japanese politicians, bureaucrats, and industry leaders have poured public funds into protective infrastructures. The modern Japanese state was arguably built on such projects. Concrete generated vast profits for construction companies, campaign funds and votes for politicians whose constituencies included those companies, and lucrative post-retirement positions for bureaucrats in the bodies that manage infrastructures (McCormack 2002; 2022). In recent years, spiraling national debt, environmental degradation, and corruption scandals have undermined the legitimacy of this "construction state" (*doken kokka*). Between 1998 and 2011, successive governments cut annual expenditure on public works more than half, with the Democratic Party of Japan promising to redirect spending "from concrete to people" (Mulgan 2013). However, the logics undergirding infrastructure expansion—including the equation of disaster resilience with infrastructural robustness—have endured.

Within months of the disaster, prefectural officials began planning an unprecedented new system of tsunami defenses. Comprising not only seawalls but also fortified embankments, planning restrictions, and more, it resembled what—borrowing a phrase from historians of tsunami countermeasures (Shuto and Fujima 2009)—I call a "total system" of safety. Why "total"? Because the system would expand the reach of infrastructural logics to encompass almost all aspects of coastal life.[1] It would not only harden borders between land and sea with new seawalls up to fifteen meters high. Unlike prior efforts to ensure safety, the system would also rearrange and police Sanriku's internal flows and divisions through new secondary defenses, legal prohibitions, and cultural measures meant to cultivate compliance—for example, forbidding residents from returning to the coastline; relocating them to new, purpose-built districts on higher ground; and turning inundated areas into industrial zones for further investment and development.

This book is about the survivors who resisted this system and why they did so. It is also about the alternatives those survivors proposed, from planting protective forests to repurposing "animal trails" (*kemonomichi*) etched into the hills as escape routes. Many had suffered severely during and after the disaster. They were people whose friends and family died or who witnessed death, like Kiyoko; people who spent months sleeping on the cold floors of crowded evacuation centers and years in cramped temporary accommodation; people who saw their towns reduced to debris; and people who—as a local fisherman called Yoshiki Takahashi (Katō 2014, 18)

put it—could remember "the black sea invading." They were people like a man who lost both his mother and his family home yet condemned "the destructive force" of reconstruction, which "felt, in a sense, more dreadful than the tsunami" (Kahoku Shimpō-sha 2015, 47). What to make of sentiments like this was the puzzle that initially motivated my research. Why would people who had experienced disaster resist things that should prevent it from happening again?

Safety infrastructures like seawalls might reduce threats to human life, although this is controversial.[2] But such infrastructures—and the restructuring of space and society they support—also come with costs. "Safety infrastructures," as the name suggests, refers to objects, networks, and systems intended to promote protection from or reduce exposure to risk. Infrastructures are often understood as objects or networks facilitating flows of goods, people, or information: in other words, "matter that enable the movement of other matter" (Larkin 2013, 329). The kinds of safety infrastructure I describe here—which I call "modernist"—certainly permit some degree of mobility. But they work primarily by *preventing* movement. They divide and, by dividing, prevent specific kinds of relationships between the spaces and subjects who emerge from that division.

However, one resident told me, in Sanriku, "we can't live with things divided [*bundan shita katachi de*], we live here with everything together [*zenbu issho ni shita katachi de*]." For him, and many others, new walls threatened to rupture more entangled organizations of human and nonhuman beings and fields found along the coastline. Following the Miyagi-based folklorist Yamauchi Akemi (2016), I call these organizations "Sanriku worlds."[3] In her essays, Yamauchi—a trenchant critic of post-tsunami reconstruction—describes Sanriku as comprising a distinct "culture area" (*bunkaken*) whose "world views" (*sekaikan*) differ from elsewhere in Japan. Of course, the region grew through connections with those other areas. The very idea of "Tōhoku" as an imagined unity is arguably a product of how modern infrastructure projects—such as railways—sutured its diverse territories. However, for many residents the way they conceive, relate, and arrange the things composing Sanriku imbues it with a kind of "cosmic depth" (Kahn 2019, 471) and difference: things like mountains and waters; the (shell)fish and algae whose life cycles structure working life; the *kami* or spirits who reside on land and underwater; and geological entities like the tectonic plates whose volatile movements have reverberated not only through Sanriku's landscapes but also its ideas and practices. For Yamauchi (2016, 62), like many others I spoke to, Sanriku's redevelopment was

advancing so fast after the tsunami that the worlds born from exchanges between these beings and forces might even be lost.

I say "worlds" plural because not everyone perceives, conceives, and interacts with these domains, entities, and forces the same way. There are many overlapping and interconnected worlds in Sanriku. What to one resident is a sacred island might be only rocks and trees to another (although they would probably recognize that island's sacrality as "cultural"). These differences do not mean that Sanriku worlds exist in isolation, however. They overlap, shape each other, and are shaped by forces originating beyond their collective boundaries, such as the state's own world-making projects. What I call Sanriku worlds have grown through "partial connections" with each other and with other worlds, even worlds beyond the borders of what we call Japan.

Furthermore, Sanriku worlds are bound together by a common tension—namely, the tension between the logics more or less common to them and those imposed on them from outside after the tsunami. In Sanriku worlds, for example, many people live through intimate, daily engagements with an ocean umbilically connected to mountainous territories inland. For them, earning a living entails observing, caring for, and maintaining relationships with the sediments, minerals, and even spirits that flow through these connections. It can even involve accepting a degree of vulnerability to them (Ueda and Torigoe 2012, 21). "Lives require livelihoods" dependent on other forms of life, a local researcher summarized to me. "Without these, it doesn't matter if one lives." However, this interweaving of human and other lives was invisible to seawall planners, as were the new lives flourishing in the tsunami's rubble, including around the remains of broken defenses. The struggles that unfolded between various levels of the state and survivors everywhere from neighborhood meetings to municipal and prefectural committees were confrontations between worlds, their members, and those members' relations, old and new, actual *and* possible. Put slightly differently, they were confrontations between world-making projects seeking to divide or differently relate entities—to sunder people from the sea or learn to live with it in another, perhaps better way—in response to the havoc the tsunami wreaked on 3.11.

Of course, seawall critics still cared about safety. Those living in Sanriku always have. When you work at sea, only "a plank separates you from hell" (*itago ichimai shita wa jigoku*), after all. But historically, to paraphrase Tsing (2012), safety in Sanriku was an interspecies relationship, even an interspirit one. People sought it through interpreting, manipulating, or

collaborating with the other beings sharing their volatile oceanic environment (Takahashi 2023, 14). They kept watch for sudden, noisy gatherings of crows and pheasants; the mass disappearance of mice; cats withdrawing suddenly into the house; or the appearance of mysterious lights at sea, which had all heralded past earthquakes. They listened to the "cries of the sea" (*umi nari*), some of whose voices—those resembling a gun or a distant steam engine, for example—spoke of coming earthquakes, tsunamis, or storms (Shizugawa Chōshi Henshū-san Shitsu 1989b, 346–47). And in their shrines, homes, and boats, they made offerings to the *kami* or deities whose wills directed the waters, blending prayers for large catches (*tairyō*) with those for safety (*anzen*).

The tsunami did not prompt calls to revive such practices. But it reminded people of something forgotten in the rush to modernize the Northeast: "human beings exist within the workings of nature" (*ningen wa shizen no itonami no naka ni aru*) (Umibe no Mori wo Tsukurō Kai, n.d.). And this, in turn, led survivors to propose alternatives to the new infrastructures that would divide land, sea, and their inhabitants. I theorize these proposals as attempts to "ecologize safety." I take the concept "ecologize" from Bruno Latour (1998; 2013), who defines it against various aspects of modernization. One of these is the aspiration to order and control "natural" entities differentiated from us, providing means for our ends (or things that we can use and abuse to achieve social and economic goals). To ecologize is to reject this aspiration and the vision of a disentangled human society that underpins it. In Latour's (2012) words, it "sees the process of human development as neither liberation from Nature nor as a fall from it, but rather as a process of becoming ever-more attached to, and intimate with" a variety of natures. "Ecologizing safety," similarly, involves seeking it not by dividing ourselves from other things but through *undividing*. That means cultivating productive intimacies with other members of our worlds—old, new, or yet unrealized—that can themselves become infrastructural.[4] As such, it complicates the humanism—and humanitarian efforts—underlying projects like the total system, not to decenter the human but to better protect it.[5]

Tsunami survivors showed me many examples of what ecologizing safety might mean. One of 3.11's many tragedies, however, is how little difference their proposals made. In Minamisanriku, most sites that inspired alternatives are gone, like the ruins of older walls or the pools, created by the tsunami, where frogs sang in the summers after. Today, the valleys are silent, concreted over in a manner a local conservationist described to me

as "sinful." The places where people once lived are now wastelands or industrial zones, and in the rivers traversing and harbors bordering them rise embankments and walls that will supposedly protect the town. I intend this book as a record of why many survivors resisted these transformations, which might retrospectively seem inevitable; a record of other possibilities that existed in the tsunami's aftermath; and an account of the victories (however small) people did achieve. I also intend it as an answer to the question that first motivated my research. Modernist safety infrastructures premised on division might reduce harm to property and, to a lesser extent, people (although, again, this is uncertain). But they can undermine the very things they claim to protect: those people's lives and worlds.

This leads me to my wider argument. Modernist safety infrastructures do not simply buttress existing spaces and subjects. They materialize and armor particular definitions of what spaces and entities are and how they should relate while foreclosing other possibilities—literally, by placing them behind walls. By thinking alongside people resisting such foreclosure, I examine how attempts to "ecologize safety" can point us toward other, more sustainable ways of thinking about safety, infrastructure, and humanity. Strategies like seawall-building are often motivated at least partially by genuine humanitarian impulse in a world of intensifying hazards. By showing how pushback after 3.11 was grounded in different ways of understanding and protecting the human, I argue for "a new humanistic politics" that might undergird efforts to live safely, and not only in Sanriku. An entangled humanism, "open also to the posthuman . . . that will allow us to survive, to live after whatever catastrophes lie in store" (Fischer 2014, 349).

In the chapters that follow, I delve into the worlds threatened by new infrastructures and the alternatives that survivors proposed to them (alternatives that, I propose, can help us to rethink "infrastructure" itself). In what remains of this introduction, I first expand on four themes whose understanding is central to the stories that I will tell: namely, "entangled humanism," "partitioning the sensible world," "safety infrastructure," and "ecologizing safety." In describing how my points of view on these themes dialogue with existing theoretical and empirical literature, I show how Sanriku residents' responses to the tsunami and what followed it can not only inspire how we consider "safety" but also implicate a crucial area of debate in contemporary social theory: the human and its environmental, ecological, or more-than-human dependencies. Having done this, I briefly describe the organization of the book.

"ALL THOSE THINGS ENTANGLE"

In early 2015, I interviewed a young man whom I'll call Suzuki. He grew up in one of central Minamisanriku's waterfront districts. Since the tsunami, he had been working for a nonprofit focused on *machizukuri* or "town-making": a form of urban planning based on bottom-up community involvement (Sorensen and Funck 2007, 1). Intrigued by the concept, I asked Suzuki: what is the town, and what does it mean to make it? He thought for a moment and then replied:

> SUZUKI: Not looking at single points, there are things that connect them . . . everything becomes entangled [*subete no mono ga karande kuru*]. The things here, the space that is here, the time that is flowing here, and other things, everything becomes entangled, and [the town] is those things compounded [*sore ga fukugō shita mono*]. If you take only one part and say, "I will make the town," it won't work. What matters is cultivating nature [*shizen*], and cultivating human beings, who are one part of nature. And making an environment where that can happen better, not in terms of having a more affluent life, not affluent in a material sense, but an environment where the spirit can become as rich as possible [*dekiru dake kokoro ga yutaka ni nareru kankyō*].
>
> ANDREW: What kind of environment is one where the spirit can become rich?
>
> SUZUKI: [. . .] How can I describe it, you see, a single cell doesn't propagate, lots of cells link with each other, and spread . . . lots of cells, like a person, or there could be a single wild tree, or a fish in the sea, all those things entangle with the others. Then, they make a good environment for each other.

In Suzuki's explanation, human well-being—or "spiritual richness"—was neither born from material wealth nor from one's individual inner life. Rather, it derived from connections with other things. Treating people, fish, or trees as developing independently of their mutual imbrications was therefore a mistake: all of them contributed something vital to each other's forms and the environments within which they develop together.

The existing town is certainly full of entanglements, sometimes literal. Ride a boat into Shizugawa Bay, for example, and you will see many lines of buoys bobbing on the water (figure I.1). Between these are strung ropes,

FIGURE 1.1 Buoys floating in Shizugawa Bay.

from which hang other ropes. Some of them pierce oyster collectors made from dozens of scallop shells, which people on land—often older men and women, who do not work the boats—carefully thread by hand. Others disclose seaweed grown from the seeds those same people insert into their coils during the mid-winter. Through these literal entanglements, the individual and social lives of aquaculturalists intertwine with and shape the environments of many other living things. Clusters of oyster shells provide habitat for sponges, anemones, worms, barnacles, and other tiny organisms. The oysters living in those shells, in turn, consume nutrients washed into the bay from woody mountains upstream; nearby, the seaweed aquaculturalists cultivate also acts like a forest canopy, preventing light from penetrating and slowing ocean currents (Shi et al. 2011, 413). Few phytoplankton can live in the still, dark understory this creates, shaping which entities gather where underwater.

In turn, the entities entangled with these ropes also shape aquaculturalists' social worlds. Their life cycles and needs dictate people's daily and seasonal activities, as well as social relations and even, according to some, subjectivities (as "ocean people" [*umi no hito*] instead of farmers, for instance). Those organisms also nourish and shape people's bodies (although, in the age of supermarkets and convenience stores, less than before)—not always positively, of course. The back brace worn by one of

my interlocutors, his spine worn from tending silver salmon, suggested as much. But positively or negatively, bivalves and seaweeds and suchlike not only "carry with them the complex entanglement of temporality and labor through which they are grown and harvested" in everything from volume to taste (Gasparri 2019, 308). They also participate in the production of other bodies and their shared worlds. And as Suzuki told me, this has implications for those worlds as thought.

These are just a few examples of the entanglements through which Suzuki and others described making a living in Sanriku. Not all were aquatic; the coast is somewhere mountains meet sea, after all. Walking through a bamboo forest in 2015, I experienced how living with mountains had also shaped Sanriku worlds. My guide, a woman in her 60s or 70s, would stop every few meters, pointing into the brush either side of the path and calling out names—*tara no ne*, for example: the shoots of a woody plant known as Japanese angelica-tree. That one in miso soup, this one for tempura, she explained, citing more names than I could scribble. After a while, we came to a point where grassy fields spread gently over a plateau. Here, she began searching for *warabi*: a bracken fern whose fronds curl like a wizard's staff. "I don't need to go to the supermarket," the woman concluded. "I can just come to the mountain"—a mountain that, in turn, also supported the sea and those who work in it.

Not all Sanriku's entanglements are so idyllic, of course. Anyone who has watched a fisherman slit open a salmon's stomach to reach her eggs knows how intimate relations can also be violent. The point, simply, is that Sanriku is somewhere life-as-lived makes it difficult to conceive of things as developing, flourishing, or remaining safe independently of each other and the mutual ecologies that they co-create and within which they continually interact. As Allewaert (2008, 341) describes in her study of the plantation zone, Sanriku's entanglements trouble ways of thinking that prioritize the differences between the human, the animal, the vegetable, and the atmospheric rather than their connections—a list to which we might add the piscine, the aquatic, and the ocean. People living in Sanriku understand themselves as connected to nonhuman beings and forces as well as each other, rendering entanglements, bonds, or connections, some of the leitmotivs of local discourse. And this understanding leads them to privilege vectors of connectivity: things and processes crossing (supposed) borders, like the rivers whose currents bind "land" and "sea." This also means that, in Sanriku worlds, protecting lives requires a more entangled humanitarianism—that is, a humanitarianism understanding of how the

lives you want to protect depend on and are entangled with other forms of life.

Such a humanitarianism, however, troubles what entanglement theorists in anthropology, philosophy, and science and technology studies have called "the logic of industrial modernism" (Roberts 2017, 595)—a logic that treats entities and spaces as bounded, autonomous, not integrally related. A corollary of this logic is sociocentrism, or the assumption that one can explain "social" processes—those characterized by human interactions—exclusively through reference to other social ones. Sociocentric theories treat the human as "the only entitled" subject in a world of passive or mechanical objects (Connolly 2017, 16). Theories of entanglement, by contrast, reject the dualism of subject and object, arguing that human agency and subjectivity require entanglements (Kipnis 2015, 47)—like the ropes knotting human and nonhuman lives together—that human "being" is itself a product of these relations, and that nonhuman entities also exert agency within entangled worlds.

To give an influential example, Bennett (2010, 23) argues that our realities are not only, or even primarily, outcomes of human actions. They are instead products of "conjoint" or interaction within more-than-human "assemblages," she writes, meaning contingent and ad hoc groupings of diverse elements: human and nonhuman, "social" and "natural." From this perspective, a disaster like 3.11 appears neither natural nor manmade (or, put differently, must always be understood as both). It resulted from planetary processes, like tectonic subduction, interacting with hydraulic flows, the structure of built environments, and the actions of coastal residents, to tragic—and political—effect.

Entanglement theories have advanced our understanding of how nonhuman beings shape human social and political lives. But they also have their critics. In particular, politics and the political are bones of contention. Theorists like Bennett understand politics differently from sociocentric writers; political action is not unique to humans, she claims (2010, 102): it occurs whenever something alters the distribution of, and relationships between, bodies in an assemblage (Booth and Williams 2014, 189). But rejecting human-centric political theories in this manner makes it harder to theorize political issues where human action takes center stage—that is, issues whose prime movers, agents, or victims are human (Joronen and Häkli 2017).

Furthermore, while Bennett and others demonstrate how nonhuman beings have effects on human social worlds, they rarely attend to the

"techniques or maneuvers" (Knox 2020, 22) through which people learn about and leverage the actions and properties of those beings within their world-making projects. By dissolving the differences between human and nonhuman agents, agency, and politics, finally, theories of entanglement sidestep questions regarding how human actions and projects (like the total system) exert influence over which entanglements are possible and which are not (Storper and Scott 2016, 1128). A question that appears particularly pertinent in an era often termed "the Anthropocene."

In response, this book explores how both the tsunami *and* reactions to it affected Sanriku's actual and possible entanglements—reactions themselves emerging from and enmeshed with wider political forces and ideologies, such as late-modern Japanese industrialism. In doing so, the book not only examines how the tsunami catalyzed transformations within the more-than-human assemblages forming coastal worlds, but it also asks how human beings interpreted those transformations to justify their own world-making interventions. As such, it asks how both disasters and our responses to them form moments in the ongoing, dialectical making and re-making of worlds that are as semiotic as material and what consequences different forms of world-making have for human and nonhuman bodies and their mutual environments.

To make sense of this, I draw not only on entanglement theories but also political philosopher William Connolly's (2017) concept of "entangled humanism." Entangled humanism acknowledges our dependency on other entities and forces without dismissing the idea that something distinctively human emerges from the patterning of our capacities at the individual, group, and macro levels. Even if those patterns are multiple, contingent, contradictory, and themselves depend on or enfold within themselves many entanglements. We don't need to treat human and nonhuman as equivalent to examine their imbrications, in other words. We can attend to differences between beings *and* ask how they interact and coordinate (Tsing 2015, 158). Critiquing sociocentrism, similarly, does not require denying what Connolly (2017, 184) calls "human, collective agency"; rather, it asks for "accentuated attention to how a variety of active nonhuman force fields interact with late modern versions of [that] agency": force fields ranging from the tectonic to the oceanic to the ecological.

An entangled humanist approach not only helps us to better analyze what unfolded in Sanriku theoretically. It also better characterizes the more or less common "ontological regime" (Descola 2014, 273) underpinning the discourse and practice of those living in Sanriku worlds. That is, it

encapsulates how many residents perceived, conceived, and related themselves to other, nonhuman beings, often in contradictory ways. People often argued that the region comprises entanglements both material and spiritual, for example. But in the same breath, they might describe seaweed, scallops, and other oceanic life as "resources" (*shigen*), modeling an anthropocentric market logic that some of them elsewhere questioned. To understand these tensions between entanglement and difference, and how entangled humanism comes into conflict with other perspectives, we must dive a little deeper into the workings of this ontological regime and its relationships with other ones.

PARTITIONING THE SENSIBLE

Contemporary ontological anthropology has focused broadly on two sets of questions. The first set concerns ideas or categories: for example, what beings and forces do people believe comprise their world, what qualities or powers do they attribute to those beings and forces, and how do they understand them as relating to each other (Descola 2014)? By taking seriously the answers that people give, anthropologists have argued that we can subject our own suppositions (including ontological ones) to scrutiny and reinvent our conceptual repertoires (Carrithers et al. 2010, 184). The second set of questions—often characterized as concerning *practical* rather than conceptual ontologies—explores "transformations at the level of the visible" (Jensen 2014) as well as conceptual plane. How do our material worlds emerge through interactions between ideas and entities? For instance, how might physical exchanges between people, scallops, seaweed, and microorganisms *as well as* the ideas they all hold about each other give rise to Sanriku worlds? Or how might shifting ideas about tsunamis and their powers produce new subjects, objects, even worlds through the technological interventions they set in motion? In the singular, practical ontology represents a subfield of ontological inquiry concerned with such questions. In the plural, it is a synonym for and definition of "worlds."

The impact of these questions within anthropology has been so significant that some speak of an ontological "turn." But ontological anthropology has also drawn heavy criticism for being "apolitical" (Bessire and Bond 2014). These critiques are not without merit. However, ontological questions are arguably central to politics and vice versa. Politics rests on creating and controlling difference; it requires entities that differ from

each other (Ricart 2014). If those things don't already exist, political systems must make them. How? The answer is through a process that humanist philosopher Jacques Rancière (2001) calls "partitioning the sensible." This means dividing the world we experience—the sensible world—conceptually and materially into discrete spaces and places and the subjects and objects belonging to them (Dikeç 2005, 174). In his writings, Rancière focuses on partitions between human groups such as class systems. But add nonhuman beings—from tsunamis to seawalls to "nature" itself—into the equation and his concept of "partitioning" helps us to understand how modernist governance makes "worlds," how safety infrastructures like seawalls participate in this, and why those infrastructures often prove politically controversial.

After an earlier tsunami in 1960, for example, Japanese authorities also built seawalls (albeit fewer and smaller than today). They determined the heights of those walls by estimating future seismic intensities and wave heights using data on Japan Trench tsunamis from the last few hundred years (Central Disaster Management Council 2011, 5). The resulting structures repartitioned the coast materially, and, in doing so, they created new spaces and places. For example, by armoring the edges of reclaimed territories, they turned intertidal areas into "land" (*riku*) and "sea" (*umi*). Some of this land became rice paddies populated by farmers, and some became residential and commercial districts with new administrative boundaries and community groups segmented by place or occupation. Look back a little further, and we can see how these new partitions of Sanriku's material and social worlds themselves were enabled conceptually by new scientific ones—for example, the divide between nature and culture (mapped, in this case, onto sea and land), which despite contradicting some Japanese philosophical traditions had influenced the development of scientific and bureaucratic ideologies in modern Japan (A. H. Kimura 2016; Senda 1992). We can think of pre-tsunami Tōhoku, in other words, as emerging partially from how new infrastructures enacted a partition of the sensible creating and created by modern forms of categorization, knowledge production, and spatial planning.

When it overwhelmed those old seawalls on 3.11, however, the tsunami undermined this system of partitions, materially and conceptually. This is why people called it *sōteigai* or "beyond expectations." It called into question the scientific establishment's understanding of oceanic and geophysical processes (and its dividing disaster science from other fields), the conceptual partitioning of nature-sea and land-culture, and the utility

of material partitions—like seawalls—enacting those concepts. The walls and their scientific basis had previously been what Latour (2004b) calls "matters of fact": stable parts of the Northeast's material and conceptual landscapes since the 1960s (S. Kimura 2016). But when the walls crumbled, how to understand sea and society—and their relations with each other—as well as the meaning of protection, became "matters of concern," meaning their definitions and relations were now unstable and open to (re) negotiation.

One of this book's goals is to track how different world-making (or "reconstruction") projects seeking to resolve these concerns—whether by building new walls or pursuing alternatives—sometimes sought to undo existing partitions of the sensible world and, at other times, to create, refuse, or negotiate new ones. Looking at a seawall, we might ask: is the coast a line to be defended by walls or a field where fishermen and fish, deities and divers, oysters and ocean-goers "become with" (Kirksey and Helmreich 2010) each other? Is the sea outside or inside society and vice versa? Safety infrastructures like seawalls concretize the former ideas, partitioning land and sea and altering modes of being corresponding to both to make people and property "safe." By contrast, what I call efforts to "ecologize safety" emphasize interconnection. Instead of "dividing sea and land through high concrete walls," as a group of anti-seawall activists in Kesennuma (Umibe no Mori wo Tsukurō Kai, n.d.) put it, they foreground "coexisting with nature" (*shizen to kyōson*), enacting different ideas about the entities and relations comprising Sanriku.

These debates, returning to ontological anthropology's political import, allow us to reexamine what sort of politics—and political subjects—anti-seawall struggles produced in Tōhoku. What concerns me analytically is not the idea that "everything becomes entangled" (*subete no mono ga karande kuru*) in and of itself. As Joronen and Häkli (2017, 568) critically note, such an argument would merely reiterate the basic assumptions of assemblage theories. What concerns me, rather, is how residents moved from accentuating their entanglements to new experiments with political roles and, ultimately, participation in social and political movements (Connolly 2017, 185). To examine this, I focus on moments when their ideas about entanglements related to political disputes over reconstruction. How and when did the ontological assumptions underpinning reconstruction projects—how they and their architects perceived, conceived the nature of, and assembled entities in thought and practice—become the axis of conflicts between them (or, at least, a relevant context)?

I have already called one project, the total system, "modernist" because it enacted a partition of the sensible deriving from the logic of industrial modernism. It's important to briefly clarify what I mean by "modern." Unlike in Europe, Japan's dominant philosophical traditions have not posited a fundamental separation between "nature" and "culture." For this reason, eco-nationalist scholars often argue that what ails modern Japan is Western intellectual imports (Hopson 2017). Certainly, European thought left an imprint on Japanese modernism. As geographer Senda Minoru (1992, 129) explains, modern geography and, by extension, other physical sciences were European imports that arrived imprinted with ideas such as the binary opposition between nature and culture. Some sciences and scientists remain haunted by spirits incompatible with those ideas.[6] But within modern Japan's partition of the sensible world, scientists rarely attend to so-called social or cultural issues, narrowing their gaze to physical phenomena falling within the perceived boundaries of their field (Senda 1992, 130). Because those scientists' ideas influence Japan's social, economic, and environmental governance (A. H. Kimura 2016, 11), the result is a lack of political attention to more-than-human entanglements that blur rather than reinforce boundaries.

The roots of Japan's industrial modernism go deeper, however. Contrary to the essentialist arguments of eco-nationalists, multiple, sometimes contradictory strands of thinking about nature coexisted in pre- and early modern Japan. Some of those strands contained ideas resembling the European Enlightenment's human exceptionalism. Influential Tokugawa era (1603–1868) thinkers, for example, saw human beings as playing a special role in the natural order. As "the crowning glory" *of* nature, they argued "humans had not just a right but a duty to develop [its] resources for their own purposes" (Morris-Suzuki 1998, 53). Furthermore, instead of seeing nature as an amalgamation of local organisms and ecologies, early modernist thinkers developed an abstract notion of national nature, exemplified by images of cherry blossoms, changing seasons, national deities, and national ancestors. Actual local ecologies were even devalued, because what mattered were not specific cherry trees in particular places but the tree's image or platonic ideal (Thomas 2001).

In sum, pre-Meiji Japan already contained more than enough intellectual resources for an industrial modernism elevating human interests over those of other beings. Add European intellectual influences into the mix—as well as a perceived need to "enrich the nation" (Morris-Suzuki 1998, 50) enough to rival Western industrial powers—and it is unsurprising that

such a modernism also came to dominate contemporary Japanese governance. Like their Western counterparts, Japanese modernists have crafted a partition of the sensible (mostly) separating the human from the nonhuman, subordinating ecological to political-economic imperatives and—by elevating an abstract ideal of "Japanese" nature over the diversity of local ecologies—regional to central interests. This, like modernist regimes elsewhere, has enabled the ongoing destruction of entangled worlds.

By contrast, many claims by Sanriku residents regarding their entanglements might be called "nonmodern" (Blaser 2013, 548) or, in Latour's parlance, ecologizing. As I've already said, this is not because they exist "outside" or preceded modernity, which they do not. Rather, they are partially nonmodern because they recognize relations other than those integral to modern Japan's national "nature," including relations transcending the partitions enacted by its industrial modernism, such as the entanglements between people, trees, fish, and their mutual environments described by Suzuki. These entanglements are "parts that have-no-part" (Rancière 2001) of the Sanriku perceived by the bureaucrats and scientists tasked with planning its recovery. They co-constitute it, materially, but remain invisible and uncounted: a kind of excess existing outside how those actors partition the world in discourse and practice. By making that excess visible within debates over recovery and reconstruction, I argue that Sanriku residents indirectly mobilized against the ontological regimes underpinning modern bureaucratic and scientific practice.

This leads me to a different perspective on 3.11's politics than many authors (and, by extension, on disaster politics more generally). There is a growing body of literature on the tensions between citizens and state actors in Tōhoku (Aldrich 2019; Delaney 2015, 2023; S. Kimura 2016; Samuels 2013; Sternsdorff-Cisterna 2019). While these studies have enriched our understanding of reconstruction, they rarely engage its ontological dimensions (a notable exception being Weston 2017). One reason might be that most of them assume a common world (or a world commonly understood). This is one whose parts are already delineated and where power flows—often unidirectionally—across their points of connection (Ricart 2014). The politics that I describe, by contrast, involve projects *literally* reconstructing parts and relations and how they vied for dominance: projects whose actualization had cascade effects on Sanriku's other-than or more-than-human ecologies as well as the human lives entangled with them. This illustrates something often elided in disaster studies: how postdisaster reconstruction can be less a process of restoring

a common world than a political battle over the possible worlds imminent in the rubble.

Such battles are not unique to disasters. Our worlds are never stable, after all. They are filled with categories and things falling apart and being reassembled (including, in the conceptual realm, by anthropologists) (Bessire and Bond 2014, 450). However, events like 3.11 do illustrate powerfully how disasters can become particularly politicized. On the one hand, many things and relations unravel simultaneously, rendering both legible as a matter of (potentially political) concern. On the other hand, the need to prevent future disasters often produces world-making projects that fundamentally reassemble local realities—projects transforming entire coastlines, and with them ecosystems, for example. In northeast Japan, one such project produced struggles between those pushing modernist safety infrastructures and those proposing alternative visions of what safety and infrastructure might mean in entangled worlds—between humanitarianisms grounded in different visions of not only the human but also, crucially, of infrastructure.

FROM CONCRETE TO PEOPLE?

In the summer of 2015, I interviewed a late-middle-aged man active in local recovery efforts. We sat on the ground floor of his new house, located on a hill high above the small, verdant valley where he had lived before the tsunami. I asked him about the plans to erect a massive wall where that valley meets the sea (figure I.2). "We don't need it," he replied bluntly. "I once asked an official from the prefecture. 'You say you will build an 8.7-meter seawall, but this is land where people can no longer live, right? What are you going to protect with it?'" The state had forbidden people from returning by declaring the entire hamlet a "disaster danger zone" (*saigai kiken kuiki*), after all. "My own house was washed away by the outgoing wave (*hikinami*)," he continued, recalling how it disappeared in the shadow of a nearby island. "While watching this, I thought, however much we humans advance our science or technology, we can only live within the limits that nature (*shizen*) permits us. That was the lesson." But as the plans to build new seawalls showed, "officials haven't learned it."

Debates over the value of infrastructure have characterized much of modern Japanese politics. As I briefly described earlier, the postwar period saw the rise of a "construction state": an "iron triangle" of politicians,

FIGURE 1.2 A sign marking the height of a new, 8.7m seawall.

bureaucrats, and industry chiefs who colluded to channel government money—mostly held in post office accounts, pension funds, and insurance schemes—into self-serving public works projects (McCormack 2022, 167). Their main instruments were the so-called National Land Development Plans. First created in the early postwar period, these initially funded vital infrastructure. But from the second plan (1969–1976) onward, pork-barrel projects came to dominate. Subsequent governments continued to increase investment in those projects. By 1993, Japan was allocating as much as 43 percent of the national budget to public works (McCormack 1995). The fifth plan, covering 1998 to 2020, included new bullet trains, highways, airports, bridges, dams, and innumerable smaller local facilities, such as athletic grounds and cultural centers (McCormack 2022, 168). In the late 1990s, however, such projects began to stall, as the economic downturn produced a shift, per a government slogan, "from concrete to people" (Mulgan 2013).

While infrastructure projects were declining in Japan, however, their politics were beginning to occupy anthropological imaginations elsewhere. The late twentieth century saw a broad turn in the discipline toward theorizing connections between societies and the flow of people, things, and ideas across them. In the early twenty-first, scholars turned to infrastructures as both the material conduits mediating these flows and signifiers in themselves.

On the one hand, they argued that infrastructures form the invisible, underlying basis of modern social, spatial, economic, and political organization (Blok et al. 2016, 3). On the other hand, they described how those infrastructures function symbolically, participating in the performance of things like modernity, development, or state power (Larkin 2013). These two functions often come packaged. Roads or cables actively perform their promise to connect people. Infrastructural breakdown or nonexistence, meanwhile, creates and demonstrates to the disconnected their marginality.

Recent ethnographies have gone further in theorizing the relationships between infrastructures' technical and politico-aesthetic aspects. They show how restructuring environments infrastructurally also reshapes social and political ideas and practices (just as partitioning the sensible physically transforms it ideationally). According to Nikhil Anand (2017), for example, infrastructure projects such as roads, sewers, and marketplaces were not only products of modernist thought. They also helped to constitute it, enabling the categorical distinctions integral to modernist rationality. This included distinctions like the separation between the natural and the social but also between the technical and the political or the private and the public (Anand 2017, 7). Such projects thus became more than symbols or substrates. They acted as "ontological experiments" (Jensen and Morita 2017) shaping *and* shaped by modernist modes of partitioning the sensible world.[7]

As I described earlier, those projects had decreased in number after the bubble burst. But the tsunami created an opportunity to resume investing in infrastructure—this time in the name of improving safety. The new protective systems proposed included infrastructures such as seawalls, river walls, and raised inland roads doubling as defenses (in many cases, arranged in layers creating multiple levels of redundancy). They also included and depended on various new legal, administrative, and cultural measures—for example, measures forbidding people from rebuilding in inundated areas. Once resettled, other measures would interpolate those people's lives, from improved warning and evacuation procedures to "cultural" objects and practices—such as memorial events or tsunami heritage—intended to remind them what happened and cultivate their compliance with restrictions. Together, these hard and soft elements would combine to form what historians of tsunami mitigation have called a "total system" (Shuto and Fujima 2009, 268) of protective infrastructure, restructuring coastal space and society by comprehensively categorizing, carving up, and armoring its elements.

Like Jensen and Morita (2017, 617), I argue that such systems are ontological experiments. They reorganize relations between human beings and

non- or more-than-human beings and environments, affecting all parties materially and as thought. And like Anand (2011), I see their component infrastructures as creating new fault lines within and between actors and fields of various kinds (including the sea and its manifestations, like tsunamis). However, the infrastructures I analyze achieve this neither by conducting social and material flows nor through their intended and unintended breakdowns, which have received the bulk of ethnographic attention (see, among others, Anand 2012, 2017; Anand et al. 2018; Björkman 2015; Fredericks 2018; Larkin 2008). This is because the objects and systems that I call modernist "safety infrastructures" function not by enabling movement but by establishing divisions, preventing flows that would cross the spaces they partition.[8] If infrastructures are both "things and also the relation between things," as Larkin (2013, 329) puts it, safety infrastructures are "relations that separate" (Strathern 2001, 211). They enact constitutive divisions like those Anand discusses—between technics and politics, society and nature—figuratively and literally, placing people and territories on one side of partitions separating them from what they are not and where they should not be.

In this sense, Japan's new safety infrastructures (see figure I.3) look more like border walls than the roads, pipes, and cables occupying much of the anthropological imagination. As we shall see in chapter 3, officials responsible for seawalls also described them as protecting the "national territory" from outside threats. And the growth of coastal defenses dividing entangled worlds also comes at a moment when disentangled visions of humanity are breaking down, just like the border walls Wendy Brown (2014) describes are proliferating because *national* power is declining. This paradox is well captured by Kath Weston. "As nation-states took measures to fortify their borders with walls, fences, and capital controls at the turn of the twenty-first century," she writes, "social theorists increasingly marked the ways in which boundaries between received categories would not hold" (Weston 2017, 13)—categories also including nature and culture, human and nonhuman. Today, she continues, more and more people are waking from modernist dreams, asking how they might learn to live with environments not separate from but constituting their individual and social bodies.

But states like Japan are not only still building walls. They are building them higher, armoring unsustainable social and economic orders at the expense of both nonhuman ecologies and entangled worlds. This, in turn, can further exacerbate social and environmental breakdown. Placing fixed embankments in some areas, for example, prevents sediment from depositing

FIGURE 1.3 A seawall facing Shizugawa Bay.

within water channels, creating greater flood risk elsewhere (Hoitink et al. 2020, 1). In Louisiana, a system of channels and levees built to facilitate and protect commerce was a major contributor to Katrina's devastating floods (Adams 2013, 22). It does not have to be this way. In northeast Japan, residents proposed other ways of protecting themselves, from the green infrastructure of protective forests to escape routes tracking animal trails into the hills. These projects, emerging from and articulating with local worlds, point to how we might reconsider infrastructure, protection, and the human.

ECOLOGIZING SAFETY

In September 2012, a group of tsunami survivors gathered in a school hall in Kesennuma city, a short drive north of Minamisanriku. They were there to attend a workshop run by the "seawall study group" (*bōchōtei wo benkyō suru kai*), an organization established earlier that year by several residents critical of official plans to reconstruct and defend the coastline. The theme of the meeting was "things that need protecting" (*mamoru-beki mono*). The organizers split the participants into six groups and asked them to consider two questions: what are the things we must protect (*mamoru-beki mono to wa nani ka*) and how should we protect them (*mamoru tame ni dō shitara yoi ka*)? I could not attend myself, but the study group published a summary of the meeting and its outcomes online.

Seawall plans promised to protect two things: human lives (*jinmei*) and property (*zaisan*). Because nobody could live in flood plains, most would defend the latter, defined implicitly in material terms (think of buildings, roads, etc.). But participants in the workshop put forward many other things worthy of protection—most notably, a diversity of entanglements with nonhuman beings and fields. Some spoke of a need to defend livelihoods made with the sea (*umi to tomo ni aru hitobito no kurashi*), as well as religious festivals related to the ocean. Others argued that "respect for the sea" should be preserved and yet others, "communication between people and sea" (*hito to umi to no komyunikēshon*) (Bōchōtei wo Benkyō Suru Kai 2012c, 2–6) essential to everything from aquaculture to *umi-biraki* (literally "sea opening," or the beginning of the bathing season, when a priest sets up an altar on the beach and, facing the sea, prays to it for bathers' safety). In total, the six groups' suggestions contained nearly ten times as many mentions of environments, ecologies, and entanglements as human lives and very few about property.

How did they want those things protected? No group accepted the existing seawall plans, for starters. Some proposed restoring part or all of the lower, predisaster walls. Others imagined barriers that would close only in times of danger, moving seawalls inland, or not building walls at all. According to group five (Bōchōtei wo Benkyō Suru Kai 2012c, 6), for instance, "coexisting with the sea cannot involve a wall between you and it" (*umi to kyōson suru ni wa umi to no kabe ga atte wa naranai*). As a result, the groups also proposed many alternatives to building walls: improving evacuation routes, planting protective forests, strengthening communities, and even building shrines. I call these attempts to "ecologize safety." As already mentioned, Latour (2013, 8) defines "ecologize" as the opposite of modernize. Since what "modern" means varies, how to ecologize will differ by location, subject, etc. But we can identify some commonalities. First, it means rejecting projects that partition human societies from nonhuman ecologies, following the theories of entanglement that I discussed earlier.[9] It assumes, instead, "complicated forms of association between beings" (Latour 1998, 13), human and otherwise. However, adopting such a perspective does not require claiming to know a priori *how* things are connected or which things relate to which. This means that ecologizing also requires new forms of political and scientific activity focused on *exploring* relationality rather than *assuming* boundaries or differences (Latour 1998, 21–22).

As a political activity, ecologizing safety thus resists the form of governance that Scott (1998, 87) and others have called authoritarian high

modernism. Behind this modernism lies a particular way of partitioning the sensible and its components (human and nonhuman) into discrete parts, including sea and society. Those parts can be further subdivided into things like the different categories of tsunamis established by disaster scientists on one side or the groups whose varying locations, roles, and interests comprise the social on the other. Authoritarian high modernism both establishes and creates a hierarchy among these groups (Blaser 2016, 552). In Sanriku, for example, officials, engineers, and disaster modelers assumed authority to determine what disasters are, what society is, and how to protect society from disasters like tsunamis. In doing so, they imposed their categories on things whose relations exceeded their partitions of the sensible. These included things like the ocean and its inhabitants—corporeal and incorporeal—whose exchanges with human worlds do not feature in reconstruction plans. An ecologizing perspective, by contrast, does not assume in advance that worlds and their components are partitioned, thus altering the possibilities for interfering in them. Returning to the previous example, it transforms the ocean conceptually into a quasi-object related to other beings, including human ones, albeit uncertainly. This means that officials, planners, and more must think carefully about how "building back better" (*fukkō*, also translated as "reconstruct") might affect those relations.

What, then, does it mean to ecologize *safety*? First, as the previous discussion suggests, it requires refusing to invest authority to decide what needs protecting in the limited number of groups whose worldviews currently dominate. In Japan, this includes the tsunami scientists, civil engineers, and bureaucrats who assume their models and maps can represent the trade-offs involved in protecting areas (or represent those areas themselves). When residents and other scientists, like biologists, lodged different ways of building back better into these projects—such as not "building" buildings at all but instead repairing people's relations with nonhuman beings like the sea—they staged what I've called "excesses" within official partition of the sensible, that is, things or relations that the latter does not, or cannot, account for and which those residents also argued should be repaired or protected (in this case, from the seawall projects themselves), whether due to intrinsic value as ends in themselves or their value within human-centered visions of Sanriku worlds.

This leads to my second point about what ecologizing safety entails: expanding what can or should be protected. Many tsunami survivors argued that nonhuman entities, domains, and forces, as well their entanglements with them, were also "things that need protecting" (*mamoru-beki mono*).

Some also sought to preserve "emergent" ecologies (Kirksey 2015) created by the tsunami. Ecologizing safety builds on the recognition that such entities and more-than-human relations matter—both in and of themselves and to people—and are also not easily distinguished from human networks and relationships. In entangled worlds where the *differences* that make humanity depend on *continuities* with other beings and forces, where damage to ecologies ends and damage to human beings begins is uncertain (Latour 1998, 21). This means that protecting the latter also requires protecting the former or, at least, proceeding with caution and care regarding it. When I talk about ecologizing safety, I am thus referring to modes of attending to and caring about relations extending beyond the human and through which the human or the social become what they are—and become differently in different places and times.

In writing this, I do not mean to imply that entanglements are always positive (a notion Elizabeth Roberts has recently written against; see Roberts 2017), nor do I mean to suggest that everyone living in northeastern Japan opposed safety infrastructures. Some supported seawalls, just as earlier generations of fishermen initially embraced port developments that, ironically, caused the species they most depended on to decline (Takahashi 2023, 31). Others wanted lower heights or other locations, as I have noted. However, even those who were in favor of them at first could turn against the walls when their impact on other beings and entanglements became clear, preferring to accept some vulnerability rather than sunder Sanriku worlds.

Finally, as a politico-theoretical concept, ecologizing safety means not assuming that divisive infrastructures materializing boundaries are the best way to protect things. By exploring the alternatives that residents proposed, this book refutes the modernist idea that we can best protect people by armoring society against a "nature" whose separation from the social infrastructure itself produces. Instead, I follow residents searching for how we might create safety through infrastructur*ing* (Blok et al. 2016) things and relations that already form or might form our worlds—for example, by creating "multispecies infrastructures" from the relations between human and other beings that already form a "taken-for-granted background to life" (Morita 2017, 742) inside Sanriku worlds. This means that ecologizing safety is not anti-infrastructure (or anti-safety infrastructure). It does not posit "ecology" on one side and "infrastructure" on the other (Scaramelli 2019). It strives to open and, indeed, ecologize how and what we understand *as* infrastructure, proposing another kind of nonmodern "total

system": one whose totality rests not on comprehensively dividing and controlling entities but appreciating and thinking about them together.

In summary, the practices that I call ecologizing safety seek to protect people through preserving existing and promoting possible ecologies, as well as the worlds that have emerged, and might emerge, in dialogue with them. They not only do so in opposition to what Arturo Escobar (2018, xiii) calls "modernity's constitution of a single globalized world," characterized by such things as the nature-culture divide, the restriction of intrinsic value to human beings and their products, and production of ongoing ecological destruction. In their plurality, efforts to ecologize safety also provide alternatives to other modernities that, while founded on different divisions, have the same effects. They ask how we can make ourselves safer through *undividing* rather than dividing, hinting at possibilities for undoing those modernities and their partitions in practice as well as thought. And they do this by working *with* rather than against the nonhuman, assuming neither mastery over it nor complete knowledge of all our actual and possible interrelations—relations that, through my fieldwork in Sanriku worlds, I have spent several years learning to perceive.

ENTERING SANRIKU WORLDS

My arguments build on theories and perspectives from both inside and outside Japan. But this book is ultimately committed to thinking alongside the people inhabiting and still struggling to reconstruct the stretch of northeastern Japan's coastline known as Sanriku. Given that I lived in Minamisanriku town—a municipality of around 12,000 people near the southern end of the Sanriku Coast—this mostly means the perspective of residents there. However, I also traveled often to other coastal municipalities in Miyagi prefecture like Kesennuma and Ishinomaki, where I heard similar stories and observed similar efforts to reject or reduce divisive infrastructure. My arguments regarding infrastructure and ecology have emerged from countless hours spent observing, participating in the activities of, and talking with residents of those places, seeking to understand both the actions they took and how these actions related to their perceptions of the world (or worlds). As such, I have broadly followed an interpretivist approach, or one that "shares the goal of trying to provide a coherent account of interpretations or understandings in order to explain

why people express the opinions" (Cramer 2016, 20) and engage in the activities that they do.

I do not claim that the views I present here are shared by all Sanriku residents. After all, infrastructures dividing worlds are divisive in multiple senses. Some survivors did support seawalls or other aspects of the total system (like higher-ground relocation), as I've said, although, as we will see, what little quantitative evidence exists suggests widespread opposition to the walls. What matters, in any case, is not the exact numbers on one side or another. The book is a "constitutive" analysis (Cramer 2016, 21): one concerned less with the frequency of phenomena than what they are and how they work—in this case, what opposition to the total system was, how it worked, and how it related to other aspects of Sanriku worlds as lived and thought. Many residents have themselves been engaged in the same kind of questioning, and my goal was to think as much *with* them as *about* them regarding how to live, and live safely, in tsunami-prone parts of coastal Japan.

This does not mean that I understood everything they told me. As a British man native to neither Japan nor the Northeast, my account surely contains gaps, not least in the translation and interpretation of concepts. Marisol de la Cadena (2015, 3–4) describes this problem well in her work on Andean ontologies: "I could translate [words], but that did not mean I knew them . . . I translated what [people] said into what I could understand, and this understanding was full of the gaps of what I did not get." To mitigate this, I regularly discussed my interpretations and arguments with key informants. Some of them were born and raised in Minamisanriku and other nearby areas. Others moved there after the tsunami and were also trying to understand the town. I further sought to strengthen my arguments by triangulating observations with those of Japanese social scientific and philosophical literature, focusing on texts by scholars active in or from the region, such as Yamauchi Akemi (who coined the phrase Sanriku *sekai* that I translate as "Sanriku worlds"). All translations from these are my own, unless otherwise noted.

Two other gaps need mentioning. First, many chapters describe the devastation left in the days immediately following the tsunami. But I never saw this in person. My project began a year after the tsunami, when I visited Minamisanriku and Kesennuma in the summer of 2012. In the intervening year, authorities had cleared much of the debris. The shells of collapsed and broken buildings remained, however. Residents often wanted to show visitors like me these fraught objects, narrating both their histories and the stories of other structures removed by clearance programs. My entry

into Sanriku worlds began with such impromptu, unofficial tours of the devastated landscape, with survivors describing what disaster and reconstruction were doing to the places and ecologies surrounding them. Where necessary, I reconstruct images of the immediate post-tsunami milieu from conversations with, descriptions written by, and videos and photographs shown to me by residents, often during such visits.

Second, the reader might wonder why radiation—a major concern in the reporting and scholarship on 3.11, including ethnographic work (Gill et al. 2015; A. H. Kimura 2016; Kumaki 2022; Morimoto 2022, 2023; Sternsdorff-Cisterna 2019; Takahashi 2023)—doesn't feature in the stories I tell. I certainly met many people worried about it. In Kesennuma, restauranters told me how they feared it would reduce demand for seafood. During my travels in Tōhoku, I also met anti-nuclear activists deeply concerned about the impacts of radiation and the risks of restarting Japan's remaining reactors. But in Minamisanriku, where I based myself, such topics rarely came up in conversation. Other issues occupied people's minds, and those issues—most notably, what media dubbed the "seawall problem" (*bōchōtei mondai*)—are what concern me here.

During my first, two-month visit, I interviewed the leaders of several community associations alongside other members of a Harvard University initiative called The Sanriku Project (Bestor et al. 2012, 1). By dialoguing with survivors, we hoped to discover what concerned them, incorporate those concerns into design proposals, and submit these to the municipality. During the meetings and workshops that we held, as well as my own excursions to devastated hamlets, I heard people express many fears about rebuilding their lives and livelihoods without homes, boats, or basic infrastructure. I also heard much criticism of one aspect of reconstruction: the seawall plans. On my very first day, for example, I met a shopkeeper in a Kesennuma district leading a group of residents opposing the walls. They proposed planting trees along the coastline instead to absorb the force of future tsunamis. After driving us along the waterfront, he dropped my companion and me off at our inn. Later that evening, he returned with another member of the group: a middle-aged man who told us how the plans had politicized him. Before the tsunami, he had never taken part in local affairs. But seeing how "decision-makers think that it enough to come in, hold one meeting, call that a 'consultation,' and then make their decisions" angered him. At first, he sat quietly, head bowed and back bent, but as he spoke, he grew increasingly animated, railing dramatically against the hubris of scientists and their claims to understand coastal worlds. Since he joined,

their group had swelled from ten to around fifty residents; he hoped that they could become a "wave that changes the times" (*jidai wo kaeru nami*).

This early exposure to the passions aroused by infrastructure shaped the questions guiding my research. Since that visit, I have spent seventeen months conducting fieldwork in Minamisanriku and its environs, most recently in the winter of 2020. During the longest contiguous period (eleven months, 2014–2015), I embedded myself with several community groups seeking to influence reconstruction. These included long-standing resident associations (some of them involved with religious activities), new pressure groups, and nonprofits old and new. To grasp the variety of residents' perspectives, I sought out associations in three districts of Minamisanriku directly impacted by the tsunami (Togura, Shizugawa, and Utatsu). I also contacted groups in neighboring municipalities, like Kesennuma, where conditions were similar. My fieldwork with them entailed a range of activities, from passively observing meetings between residents and officials to participant observation in anti-seawall drives. The latter included surveying other residents on behalf of the groups or trying to visualize their proposed alternatives to official policies.

To deepen my understanding, I also conducted semistructured interviews with thirty-nine individuals. I selected interviewees from groups that I was active with as well as other, related organizations, aiming for a balance between genders and age ranges. I also interviewed several consultants hired by the town and a small number of municipal officials. The result was not a representative sample but an attempt to grasp the diverse voices involved in reconstruction (Cramer 2016, 36). Interview lengths ranged from one to three hours; some people I interviewed two, even three times. Not interviewing more local government workers, as well as prefectural and central government officials and their advisers, may justifiably be viewed as an omission. However, since my goal was to see things from survivors' perspectives, I trust it was not a fatal one. Aside from towns, prefectures, and those of published authors, I have anonymized the names of all people and places.

During and after my fieldwork, I adopted a "grounded theory" approach to analysis and theory-building. Grounded theory is an inductive process that involves allowing one's concepts and arguments to emerge from the data (Charmaz 2000). I did not begin with a hypothesis about Sanriku worlds, for example (I was not even aware of the term). I developed my arguments through reading sources, rereading field notes, and coding interview transcripts and other documents to identify patterns and themes

(Emerson et al. 2011). In presenting the results, I have attempted to provide enough evidence—whether in the form of vignettes drawn from field notes, extracts of interviews, or quotations from primary sources—that my readers can judge for themselves whether I have reasonably interpreted my materials and whether the arguments I build are both valid and sound.

The result is not an impartial account regarding what happened in northeast Japan. It is an argument that the policies pursued were damaging and that other modes of protection were and are possible. Some caveats are necessary, however. I do not intend to personally impugn any individuals involved in implementing the "total system." Undoubtedly, the revival of the construction state benefited certain actors, with money flowing into the pockets of construction companies large and small. But as sociologist Oguma Eiji (2013) points out, municipal bureaucrats worked night and day on these projects, often at the expense of their mental and physical health, because they believed they were for the greater good. Many scientists promoting new safety infrastructures also sincerely believed that they would save lives, and in this sense, what happened in Japan was motivated partially by a genuine humanitarian impulse.

Those scientists and officials often struggled to understand why survivors were resisting seawalls and other aspects of the total system. Not all residents did resist, of course, and not all aspects were equally controversial. Many people would have chosen relocation to higher ground voluntarily. But many people—indeed, entire hamlets—would also have rejected seawalls if they had a real choice. This book is about why. And answering why, it suggests, opens the door to other ways of thinking about what our worlds are (or might be), how to protect those worlds, and what it means to recover or reconstruct them after disaster strikes.

ORGANIZATION OF THE BOOK

The remainder of the book is divided into three parts. The first concerns the history of Minamisanriku, broadly speaking. The second describes and analyzes two pillars of the total system: safety infrastructures and higher-ground relocation. The third examines alternative policies and politics pursued by survivors. A conclusion tying the various empirical and theoretical strands together—and gesturing toward possible futures—closes the book.

We first dive into the history of "Sanriku worlds." After the tsunami, many residents critical of state plans sought to "excavate memories of what

kind of town [Minamisanriku] was" (*donna machi datta ka no kioku wo horiokosu*). Chapter 2 performs a similar exercise, using works by folklorists and local historians—particularly *A History of Shizugawa Town* (1989) and *A History of Utatsu Town* (1986)—to excavate more entangled understandings of human–nonhuman relations. In Sanriku, for example, the ocean has long been a space where spirits and bodies intermingle. Drowned humans could become fish or give their spirits to stones; objects from the sea, in turn, could influence social worlds when they washed ashore. Some scholars suggest that claims regarding such histories have been used to further conservative agendas. However, I argue that they provide possibilities for progressively rethinking Sanriku worlds' sundering by the modernist modes of protection that lay in ruins after the tsunami.

The next chapter concerns those ruins and what they revealed to survivors about not only the disaster but also the postwar history of the coast. The tsunami left large numbers of damaged buildings in its wake. Many had been built after the 1960 earthquake and tsunami, when the government first began erecting seawalls. Chapter 3 describes how people integrated the tsunami narratively into their social and political projects by examining how survivors and other parties interpreted these ruins. It shows how different groups mobilized diverging interpretations of "what went wrong," constructing new relationships between past, present, and future. Through preserving tsunami ruins, some survivors believed they could prevent future residents from forgetting the past. They also hoped to shore up the flagging economy through tourism. At the same time, however, state actors would leverage those ruins to buttress a mode of recovery, further burdening their future.

This mode of recovery centered on building new river embankments and seawalls whose heights could reach fifteen meters. Those walls would divide inland from coastal areas, with the interstitial spaces between land and sea raised and concreted over. Chapter 4 begins by describing why this happened. The disaster's unanticipated scale prompted scientists to revisit their assumptions about tsunamis and how they impacted coastal space. Those scientists would subsequently seek to "saturate" the coastline, I argue. Saturation denotes a state where all parts of and parties to a space are accounted for and assigned proper locations, leaving no excess (Booth and Williams 2014, 185). However, residents would mobilize unaccounted-for entities and relations when challenging the plans, lodging other worlds—Sanriku worlds—into them. They argued that new infrastructures would sever human societies from other entities or fields—like the ocean—that

formed part of their world (and vice versa). This led many to agitate for lowering the heights of seawalls, moving them deeper inland, or not armoring coastal edges at all.

Chapter 5 shifts our focus from those edges to inland. In the worst-hit areas, most homes were lost, making rehousing survivors one of recovery's first tasks. Initially, municipalities dispersed those people among temporary housing complexes, sometimes in other towns and cities. They then implemented a policy forbidding residents from rebuilding in inundated areas and moving them to new, higher-ground estates. A major point of tension during this process was the gap between the ideas of officials and survivors regarding how to reassemble human social networks. People fought over the meaning of "community" and its relations with spaces, places, and other entities. The chapter argues that the approach taken by the state not only damaged social relations: it also stripped the most vulnerable residents of the entanglements mediating those relations.

The third part of the book opens by exploring alternative ways of ensuring safety proposed by survivors. Chapter 6 describes these, focusing on three sets of case studies. The first was the struggle to preserve an area of Minamisanriku where the breakdown of older seawalls had seen new ecologies emerge among their ruins. The second was efforts to cultivate coastal protection forests (*bōchōrin*) in neighboring towns, led by locals critical of the seawalls' impact on their ecologies. Finally, the chapter examines attempts to transform existing landscapes into infrastructures of evacuation–for instance, by harnessing more-than-human trails leading to higher ground called *kemonomichi* or "animal trails" or projects like Minamisanriku's Camelia Evacuation Route (Tsubaki no Hinanro), which planted trees marking access to safe elevations. Through dialoguing with work on existing and emergent ecologies (Kirksey 2015), the chapter elaborates on what I mean by "ecologizing safety."

As these examples show, many residents asserted a right to have a say over policy, including people who had not previously engaged in political activism. Chapter 7 explores how their attempts to transform official plans challenged the asymmetry between state and citizen within Japan's partition of the sensible—in particular, how it restricts decision-making power to the former. Those attempts articulated "residents" (*jūmin*) as a collective category of political subjects constituted through their dissensus, illustrating how new political subjectivities can emerge alongside new worlds from the rubble of disasters. However, the chapter also describes how official "participation" mechanisms contained and restricted survivors' agency,

mitigating the impact their ideas about entanglements could have had on the process of reconstructing and protecting the Sanriku Coast.

This sets the stage for the conclusion, where I argue other ways of reconstructing and protecting Sanriku—and, by extension, other places—were and are possible. I explain how "ecologizing safety"—that is, ensuring it through working with ecological entanglements, actual and possible, without assuming mastery over them—can be not only a theory but also a method, and one particularly suited to the historical moment that some call the Anthropocene. Theoretically, I also argue that an "entangled humanist" approach sheds more light than existing theories of entanglement on how nonhuman actors and processes relate to and become embroiled in human social, cultural, and political projects—from the planetary, such as tectonic plates, to those small enough to fit in one's hand, like the oysters growing in Sanriku's underwater farms. Against the prevailing idea in Japanese humanitarian discourse that the state, and maybe some NGOs, are the only legitimate providers of public goods, including safety, efforts like those of Sanriku residents substitute a vision where human safety and welfare emerge from acts cultivating local more-than-human relations: something that we might call an entangled humanitarianism.

Notes

INTRODUCTION

1 My understanding of "total" is inspired by Orlove and Caton's (2010, 402) application of Mauss's concept of "total social fact" to water. Water is "integral, even essential, to many if not most domains or institutions of society—economic, political, religious, leisure," they write, "connect[ing] domains of life such that the water used in one will affect the water used in others." In Sanriku, the same is true of safety.

2 In an overview of factors affecting survival, Aldrich and Sawada (2015, 73) "found no support for the argument that the pre-existing seawalls provided any protection against mortality." By contrast, Nateghi et al. (2016, 15–17) draw on a data set including historical tsunamis to argue that "large seawalls are shown to have been effective at reducing both mortality and damage rate." In the latter study, not all walls appeared equal. Seawalls lower than five meters encouraged development and exacerbated damage, they accept. More critically, the model fit for deaths was lower than for damage, "suggesting that there are possible [*sic*] other key variables . . . that are essential for understanding death rates and are missing from our models." These might include factors like social capital (Aldrich 2019).

3 Born and raised in Sanriku, Yamauchi coined the term "Sanriku world" (Sanriku *sekai*) in a 2016 essay on Miyagi's "deer dance" (*shishi-odori*) rituals. She never defined it. But in her essay, she describes Sanriku as comprising a distinct "culture area" (*bunkaken*) whose "world views" (*sekaikan*) differ from elsewhere. Since publishing that essay, Yamauchi (2017; 2024) has continued using the phrase. She has also given talks on Sanriku worlds in Sanriku itself. But the term has not been widely adopted in Japanese academia.

4 I'd like to thank my editor, Erin Martineau, for suggesting the word "undividing" could characterize the dynamics I discuss.

5 Japan's Ministry of Foreign Affairs (2011) characterizes humanitarian aid (*jindō shien*) as that which is intended to reduce suffering and maintain or protect the sanctity of human life. They explicitly include the provision of official knowledge about and best practices regarding disaster prevention before and after events like 3.11.

6 According to Jensen and Blok (2013, 85), Japanese narratives often exhibit a kind of "techno-animism" where "spirits, robots and animals co-habit" in ways that ignore boundaries between human and "extra-human" domains. They link this phenomenon—which conjoins human, animal, and crucially technological "worlds"—to other practices in Japan, such as honoring the spirits of animals killed during laboratory research and the existence of "spiritual robots."

7 In moments of breakdown, however, they also paradoxically reveal how they also make worlds through relations transcending the binaries they assume and manifest.

8 Scholars of "infrastructural violence" (Rodgers and O'Neill 2012) have pointed out that infrastructures enabling flows can also divide or block. They cite, for example, Robert Moses' use of automobile bridges low in height to prevent bus routes between poor inner city and rich suburban areas.

9 However, we should neither leap from this to dismissing the idea of [entangled] humanism nor neglect how people conceptualize their world's intra- and interrelations *including* through divisions.

CHAPTER ONE. HISTORIES OF ENTANGLEMENT

1 Perhaps most critically, building the plant—which would supply power to Tokyo and its seven surrounding prefectures (Kawanishi 2016)—far away in the North also ensured that any risks created by nuclear energy would not threaten the center.

2 Kawanishi Hidemichi (2016, xiii) also describes the Fukushima power plants as evidence of "nuclear colonialism."

3 "A front yard for the manufacturing of electric and electronics intermediates," according to local economist Koshiba Tesshu (2001, 19). In 2021, only 1.7% of employees worked in agriculture, forestry, and fisheries, with 9.6% in construction, 16.5% in manufacturing, and the rest distributed across tertiary industries like retail and services (Tohoku Bureau of Economy, Trade and Industry 2021, 8).

4 Jōmonism is also methodologically suspect, Hopson (2017, 246) rightly notes, neglecting "ruptures of temporal deferral" between pre-history and present while reifying "the Northeast" as a whole and ignoring its internal diversity (see also Rots 2014; 2019).

5 We need not gloss modernity and science as "Western," for instance. Japan has its own modernity (and postmodernity), related but not reducible to those elsewhere. It also has its own "sciences," embedded within not only international networks but also local bureaucratic institutions. These are better considered hybrid products of interconnections than simple Western impositions (and they often remain somewhat incommensurable with