

Sensing Disaster

LOCAL KNOWLEDGE AND VULNERABILITY
IN OCEANIA

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Prologue

“SOMETHING WAS NOT RIGHT”

Monday, April 2, 2007, was a cloudless day without a hint of wind. From the village of Tapurai on the northern tip of Simbo, the forested profiles of Ranongga and Vella Lavella Islands filled the horizon. The seas were calm too, which is always welcomed, since Simbo is frequently battered with northwestern squalls or southeastern trade winds, making the 20-kilometer trip to Gizo, the district capital and center of commerce, a rough, dangerous journey in the small, open skiffs used to make the crossing. A local boat had already departed from Lengana, the largest settlement on the island, for Gizo. It was heavily loaded with passengers and their cargo of sweet potatoes, bananas, coconuts, and the profitable eggs of Simbo’s famous megapodes. The tranquil ocean had attracted a group of men in their dugout canoes to leave the protected lagoon between Nusa Simbo and the larger main island to fish the two reefs called “man reef” and “woman reef,” which lie a few kilometers off the southern tip of Simbo. Others were already fishing for pelagic species such as rainbow runner or kingfish around Patuia, a group of rocky pinnacles that jut up from the ocean off the southwest coast. Inland, women and their daughters were heading out to their gardens to engage in the endless task of tending the swidden garden plots.

Monday was also a full moon. That meant *boka* (*Serranidae* spp.) fishing would be good since they aggregate during full moons and spawn in some of the passages and reef drops around Simbo. Like most adults on Simbo, Daniel, the pastor of the United Church in his village, knows the distinct locations of these aggregation sites, and he decided to go fishing using a handline technique called *pazu patu*, a drop-line method in which a baited hook is attached to a stone with a strip of coconut leaf and sunk down to the deeper reefs a few hundred meters off the coast. Aided by a cloudless sky and clear midnight moon, Daniel loaded his dugout canoe with several fishing line coils, spare hooks, palm-sized stones, and a dozen small squirrel fish he had caught the day before and would use as bait. Like most fishers on Simbo, he would use only his bare hands to handle the line. Loaded and ready, he quietly paddled off alone from Tapurai's sand beach into a moonlit sea.

The people of Tapurai, Daniel's village, were excited to be hosting a bishop from the United Church. It was the first day of Easter Holy Week, and the bishop had spent the night and would be giving the sermon that day in the small church tucked up against the hill at the back of the village. Daniel's section of the village would be serving the bishop breakfast, so he left early, around midnight, to fish through the early morning under the clear moonlight and hopefully provide fresh fish for the morning meal.

The fish were biting. Floating in water 10 or so meters deep, he was able to haul in two large *boka*, plenty for the breakfast meal. Although it was already after daybreak and he needed to get back to the village to prepare the meal, he tried his luck once more and dropped a baited hook into the cobalt-blue water, letting it sink to the rocky reefs below. Just as he tugged the line to release the stone and free the baited hook, a large fish took his bait. Calm yet excited to have a fish hooked, he gently but firmly hauled in the line by grasping it and alternating one hand at a time while pulling. As he fought the fish, he heard the trees rustling a hundred or so meters away on shore. "What's that?" he wondered. After a few minutes, and still methodically pulling in the line of the large fish, he noticed something odd—the ocean under his canoe and all around him started bubbling like a "pot of boiling water." Just at that moment the fish broke loose from his line. That is when he knew "something was not right." He had fished the waters around his village his entire life and yet had never seen the ocean

bubble in that way. Impulsively, he coiled up his line and started paddling toward shore. As he gained a clear view of his village, he was astonished and horrified: the fifty or so tightly packed houses, including his own, had been reduced to rubble.

Around the east coast of Simbo another fisher, Dovala, was paddling his dugout inside the narrow lagoon near Qaqa village. This part of the island has a barrier reef a few hundred meters from shore. It protects a shallow, iridescent blue lagoon where fishers will target snappers, triggerfish, and other reef fish that hide in the coral heads and other rocky features that dot the lagoon bottom. With his line in the water, Dovala noticed his canoe swaying as if a large fish were bumping the hull. This sometimes occurs when fishers visit the offshore reefs to catch pelagic species and sharks pass too close to their canoes. But Dovala was inside the lagoon, where there are no large sharks. He also noticed as he gazed into the crystal-clear water that coral heads and rocks on the bottom were rolling around. It dawned on him that it was an earthquake when he heard the palm trees on shore swaying violently back and forth.

He had heard stories from the elders that waves can sometimes form after earthquakes, so he coiled up his fishing line and paddled toward shore. As he paddled, the shoreline seemed to recede as water began rushing inland underneath the coconut palm groves that fringe this part of the island. Suddenly the current switched directions, and water backwashed away from the coast, forming two waves a meter or so high. He was able to paddle through the first wave, plunging the bow of his canoe up and over the foam, but the second wave was larger and caused him to capsize. Now in the frothing water, the current was fierce. Somehow he was able to find his dugout canoe and hold on to it. Gripping the canoe with all his might, he was washed around for what seemed like an eternity. As the ocean began to settle down, he ditched his canoe and wrapped his arms around a nearby coconut palm. Soon after, the seawater drained away, and he found himself dangling in the air 3 or 4 meters off the ground, clinging to the coconut tree midway up its trunk. He was soaking wet, terrified but alive. A few hours later he joined his family on high ground above the lagoon. They had witnessed his horrifying struggle unfold.

Durie was paddling her canoe toward Lengana, a village on the west coast that sits deep inside a protected bay and a few hundred meters from

the seaside. When the earthquake hit she “saw the hills and trees shaking violently and the ocean water ‘boiling’ around her.” Fortunately she was close to the coast, so she held on to the mangrove trees. “After the quake, I continued to paddle along the coast and didn’t think much of it. Suddenly, I heard a loud sound, similar to that of a raging wind. I looked up at the sky expecting to see dark storm clouds, but the sky was very clear. I was terrified. I didn’t know what was going to happen, but I was afraid it was the end of the world.”¹

Then Durie saw the monstrous ocean wave rushing toward her. Frozen in panic, she didn’t know what to do. She stood up, held on to the roots of the mangrove trees, and facing the tsunami, she waited:

After a couple of seconds, the massive wave hit me, throwing me off my canoe. Even the mangrove trees were uprooted and thrown ashore. I didn’t understand what was happening to me. I did not feel anything and fell unconscious. . . .

Regaining my consciousness, I found myself under a pile of debris—tree branches, leaves and logs. Only my head sticking out, my whole body was buried under the mud. I could not move. The next tsunami wave, luckily, carried the debris away and I could free my arms. I saw that my arms were cut open, bones protruded out and I was bleeding heavily. Still, I dug my body out of the mud and dragged myself towards the village. All the while, quakes continued to shake the ground, and large rocks were rolling down the hills. Narrowly avoiding the rocks, I made it to my aunt’s house. I asked for some water. As soon as I drank, my body collapsed. My aunt and other villagers carried me to safety.²

Joni was inside his house in Tapurai when the ground began to shake. Like most dwellings on Simbo his house sat on short stilts and was made from sago palm leaves, woven onto battens and layered to create the walls and the two panels of the gabled roof. The quaking started slowly, gently swaying back and forth. Then it began to shake more violently, jerking in different and uneven directions. One man said it felt like the island was “a basket hanging from a post, blowing in the wind.” The movements rapidly became so strong that Joni was thrown to the floor. When it stopped, he stood up and felt a little dazed. He walked outside and was surprised to see people sprinting toward the hill behind the village. Confused, he stayed put for a minute or two, then he heard a roar, like an approaching helicopter,

emanating from around the rocky point to the north of the village. Suddenly a huge ball of foamy ocean appeared, swiftly wrapping around the point and plowing over the beach into the village. He ran for his life toward the hill. But the frothy water was too fast, and it overtook him. Joni remembers how violent the water felt on his body as it engulfed him, banging him against debris, tearing open his left arm. As he was swirling in the mayhem all he could think about was his wife and three young children. Luckily he was an experienced diver, and he had the ability to hold his breath for several minutes underwater. Only a handful of men on Simbo specialize in free dive spearfishing the reefs and passes around the island and have learned to conserve their breath as they lie motionless on the bottom waiting for fish to approach.

At one point his head popped up above the surface, and he was able to take a deep breath. After several minutes, the tumbling and churning slowed. He felt his body come to rest on hard ground. As he gained his bearings, he realized that he had been deposited on the sand beach near shore. Stunned, bleeding, and soaking wet, he was stark naked. The wave had torn his clothes completely off.

Tuma was preparing food in her cookhouse. Like most of the women in Tapurai that day she had not left the village earlier in the morning, as she typically would on Monday, to tend her household's garden in the hills of the island. Simbo women travel to their household plots several days a week to weed, plant, and tend the sweet potatoes, greens, cassavas, or yams that form the staples of Simbo meals. Rather than adhering to the typical rhythms of daily life, Tuma, like many women on that day, was helping prepare food for the bishop. When the quake struck, she was sitting on the floor squeezing the white meat of freshly grated coconut through mesh into a metal basin that would be used to cook fresh fish. Like many others in the village, she shouted "Nunu!," the Simbo word for earthquake, as the earth shook. Having felt numerous earthquakes in the past, she hunkered down on the floor to avoid falling.

When the quake stopped, all she could think about were her twin girls. So violent was the shaking, she feared that they might have been hurt. The two young girls had left the house a few minutes earlier. As she called out, they came running toward her, unharmed. Soon after, a neighbor who had been on the beach during the quake ran by, yelling that the sea was



Figure 1. The destroyed site of Tapurai, a village of fifty households, ten days after the disaster. (Photo credit: Hermann Fritz.)

coming up and that they should escape to the hills behind the village. She tightly grasped her children's hands and ran.

From the safety of the hill just behind Tapurai where the church sits, many villagers watched in horror as their village was destroyed and some of their brethren were swallowed up by the sea. The rushing water that swept over the village arrived from three directions in three separate waves, the biggest one raging around the point to the north of Tapurai. The center area of the village was the last section to be inundated as the walls of water converged, bouncing against each other. This caused the water to rise quickly, lifting the leaf houses and sweeping them away. The fierce current formed a deadly swirl of timber, sheets of corrugated roofing, and other debris.

Nearly every dwelling was torn apart, leaving the village strewn with wreckage (see figure 1). Eerily, a few houses remained almost fully intact and were pulled out into the sea by the current. One house floated to a shallow area of the island's magnificent, turquoise lagoon, where it came



Figure 2. An intact thatch house that was lifted by the tsunami and floated out into Simbo's lagoon, where it came to rest. The photo was taken ten days after the tsunami, by Hermann Fritz, a researcher from Georgia Tech University who visited the island to record the physical effects of the tsunami. (Photo credit: Hermann Fritz.)

to rest with only the leaf roof visible above the water's surface (see figure 2). The sea floor underneath the house was a jumble of rubble that was a vibrant coral reef before the tsunami.

When the water drained from the village site back to sea level, most of those who had been swept up by the water lay on the ground among debris, exhausted and unable to move. Worried about their loved ones and fearing that the water would rise again, some of the men ran to the survivors and carried them to the safety of the church. Of those retrieved, a dozen or so were injured, and several were no longer breathing. A few were bleeding and had suffered major injuries, but all told only seven people perished in Tapurai

Of the seven individuals who died, only one elderly woman succumbed while trying to reach the hill behind the village. The others were all seen either returning to their houses after reaching high ground or staying in

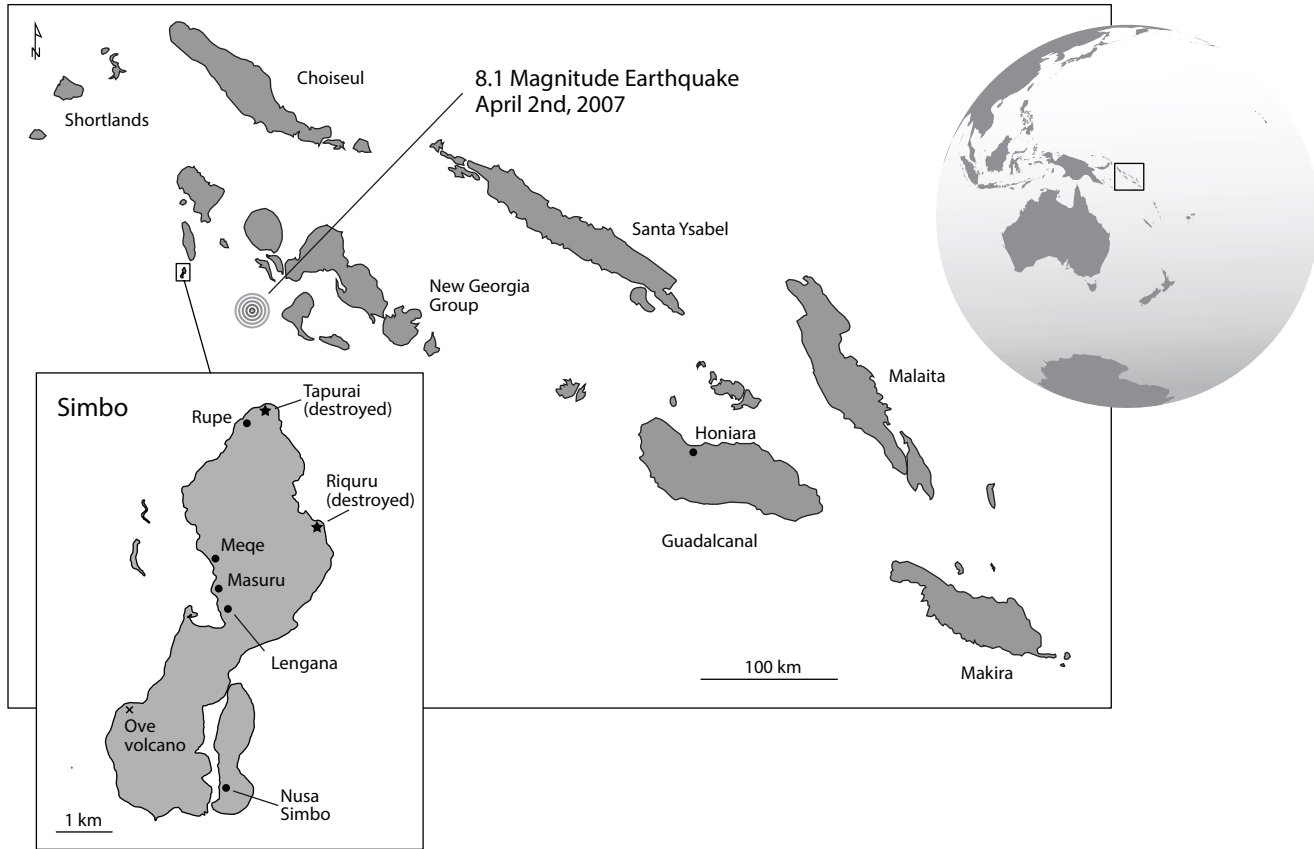
them after being encouraged to flee. As one man explained: “I was with Luka when the earthquake struck. He went out on the veranda after it was over and sat down. He said he was dizzy. We saw the water starting to rise and people were yelling to run away. He didn’t run away; he ran inside his house. He sat down on top of his wooden box where he stored his money. His mind was inside of his box. . . . I yelled to him that we should run. He didn’t say anything. He just sat there. I ran away.” Luka’s body was found later in the debris. The tin roofing material of his house had struck his forehead, splitting it open and killing him. In another case, a husband and his wife argued over what to do after the earthquake. The wife pleaded with her husband to run and leave their money inside the house. The Friday before he had just collected 10,000 Solomon dollars from a bank in Gizo. He rejected his wife’s pleas, and he was caught by the water and killed. The wife ran away in time and made it to safety. In another case, a woman brought her child to the hill and ran back to her house to retrieve the money she had saved up from charging villagers to watch DVD movies at her house.

What surprised almost everyone was the behavior of children. Except for one small baby who was in the arms of her mother, no children had been caught by the tsunami. As one man explained:

One of our biggest surprises was that somehow the children knew. Normally the kids of Tapurai go to the beach and play in the early morning. Some paddle around in dugouts canoes, others bodysurf, others just play on the beach, while others swim or float. But for some reason that morning not many kids were down by the seaside. We [the adults] thought that most of the children died [from the tsunami], but that’s not what happened. Only one small child died, who was being carried by his mother but slipped from her hands and fell in the water. . . . The schoolteacher was surprised that the students knew to run. She was from another island and had been assigned to Tapurai and she didn’t tell them to run, they all just ran like crazy. From fear they sensed (*mulongo*) to run. Some adults told the children to run, but most children just ran on their own to the hill. They didn’t even run to their house first and look for their parents. They went straight to the hills and scampered up them.

That Tapurai’s schoolchildren survived unscathed is even more surprising considering that the primary school was located on the beach at the

northern end of the village, the first area hit and in the most vulnerable position for incoming waves. The schoolteacher, a young woman from another island, explained how she directed the students to hide under their desks during the earthquake. She had been trained to do that. When the shaking subsided, she was stunned but unharmed. As she pulled herself out from under her desk, the schoolchildren, without any prompting for her, stampeded out the school building door. Confused and unaware of what was happening, she followed behind the fleeing students as they ran toward the hills.



Map 1. Simbo and the Solomon Islands, with Simbo inset.

Introduction

The scenes in the prologue, reconstructed from survivors' narratives, describe one of the most terrifying phenomena ever experienced by the people of Simbo, a small island of some 13 square kilometers and twenty-seven hundred people lying in the New Georgia Group of the western Solomon Islands (see map 1). On that Monday morning of April 2, 2007, at 7:39 a.m. local time, Richter scales around the world measured a magnitude 8.1 earthquake that shook the seafloor just 50 kilometers southeast of Simbo. According to geophysical models, a massive block of the Pacific plate, the part of the earth's crust responsible for the Pacific Ocean's infamous Ring of Fire, lurched over 20 meters.¹ In this region the Pacific plate rides on top of three local plates, with the fault line passing through an 8-kilometer-wide passage between Simbo and Ranongga, a larger island to the north. It is the only place on earth where two islands sit so closely together on either side of an active fault line.

Within seconds the earthquake lifted the southern half of Ranongga nearly 3 meters out of the water, exposing large areas of live coral reef. Simbo, sitting on the subduction zone across the fault line, sank just over half a meter (see figure 3). In addition to the lifting and subsiding of coral reefs, the quake caused significant damage to structures on



Figure 3. Children playing on Simbo's main wharf in 2011. The earthquake caused Simbo to sink more than half a meter, so the wharf became partially submerged during high tides. It was rebuilt to be above sea level by the national government several years later. (Photo by author.)

the surrounding islands as well as triggering thousands of landslides.² On Simbo large boulders were dislodged and rolled down the north flank of Mt. Patu Kio, the 300-meter-high volcanic cone near the center of the island, causing a landslide.

The slippage of the earth's crust displaced an enormous amount of ocean water above it, sending powerful shockwaves through the water away from the earthquake's epicenter. The geophysical models, informed by field research completed in the area just after the quake, suggested that slippage occurred in such a way that most of the energy was sent north and west, generating an ocean surface wave that spread out in that direction.³ Within approximately three minutes the energy released from the ocean floor reached one of the closest islands in its path, Simbo. As described by the survivors, a series of waves slammed into the island, causing near

total destruction of two villages, Tapurai and Riquru, on the northern end of the island.

Just a few days after the tsunami, international teams of geoscientists visited Simbo to conduct post-tsunami reconnaissance; they measured the tsunami's "run-up," an estimate of the maximum size of the wave. Using survey instruments, the scientists documented freshly disturbed foliage many meters up the hillside on the northern end of the island and estimated that the wave had reached 12 meters in height. All told, these three-story-high waves impacted four other islands in the western Solomons (Gizo, Ranongga, Vella Lavella, and Choiseul) and were felt as far away as eastern Papua New Guinea. Across the region, fifty deaths were attributed to the tsunami, and two people died in earthquake-induced landslides.⁴

Despite the calamitous destruction of Tapurai and Riquru, miraculously only nine people perished. In an astonishing human accomplishment, nearly all the villagers fled to high ground before the waves slammed into the island. Their response was unaided by any modern response or emergency alert system. As a marginalized, economically poor island in a country known for an inept and corrupt central government, Simbo lacks even basic signage like the blue-and-white "tsunami evacuation route" or "tsunami hazard zone" signs that often dot beach areas in US cities like the town where I live, San Diego. Formal disaster monitoring infrastructure or an alert messaging system had not even been pondered as a possibility in much of the Solomons, nor had experts ever visited Simbo prior to the event to increase tsunami awareness or develop disaster preparedness and mitigation strategies.

The Simbo people's spectacular achievement of fleeing to safe ground gains even more weight when compared to that of thousands of people involved in the most devastating tsunami ever recorded: the 2004 Indian Ocean earthquake and tsunami. It was the first tsunami to be captured in detail on video, and it brought the word "tsunami" into the broader global consciousness. The catastrophe is thought to have displaced nearly 21.7 million people in areas close to the epicenter, such as the island of Sumatra, Indonesia, and the western coast of the Malay Peninsula, but also as far away as Sri Lanka, Somalia, and even Madagascar.⁵ In total more than fifty thousand victims are estimated to have died, many thousands

of whom not only did not flee the approaching water but instead were attracted to the strange movements of the ocean and gathered on the coastline and beaches.⁶ Some even went out and explored the exposed reefs and rocks as the incoming waves loomed across the horizon.

There were, however, a few miraculous survivors. The media as well as disaster experts and scientists studying the disaster reported how a handful of Indigenous groups—the Moken in the Surin Islands of Thailand; the Ong, Jarawa, and Sentinelese of the Andaman Islands in India; and the Simeulue Island peoples of Indonesia—escaped unscathed by reaching high ground before the tsunami struck.⁷

Amid so much calamity and death, these Indigenous groups were championed for their capacity to respond without a modern alert system. The narratives and writings that emerged from the academic literature and media outlets brimmed with admiration. In most cases, their successful response was explained in rather unproblematic terms: these Indigenous peoples' "ancient wisdom" and "connection to nature" had enabled them to escape the impending tsunami. One newspaper article commented, "The Moken did not have expensive advanced technology to warn them about the killer waves. They survived merely because of their close relationships with and observation of nature and because they heeded their ancient wisdom."⁸

In fact, as I discussed this book project with scientists, professionals, colleagues, friends, and family, their reactions were similar, in that many *expected* Indigenous peoples like Simboans or the Moken to respond effectively. But as my fieldwork unfolded and I listened to numerous accounts of the tsunami, I found that the Simbo people had quite the opposite interpretation of their own behavior. Rather than expecting that they would respond adequately, many Simboans were puzzled, indeed surprised, at their own capacity to flee. Many had no explanation at all for their own individual behavior, and there was certainly not a self-evident explanation to which everyone gravitated. For many on the island the most fascinating and difficult to explain reaction was of their own children. As described in the prologue, Simbo children were some of the first to run to safe ground without even consulting their parents. Not only did Simbo children avoid death; so did the animals. I was told repeatedly that not one single dog, cat, pig, or chicken was caught in the tsunami. Even a large sow and her

small piglets who were penned near the water's edge broke free, clambering over the barricades and escaping to safety.

Although the tsunami experience in many ways exceeded Simboan categories of judgment and understanding, it also engendered a number of different theories and explanations. As will become clearer in the following pages, I was inspired to employ the English word "sensing" in the title of this book during a conversation with a close Solomon Islander associate who described the tsunami experience as a case of *mulongo*, a term found in a number of the languages in the western Solomons including the Simbo language. I gloss the term in English as "sense, anticipate, interrelate," although as I listened to descriptions of *mulongo* it became apparent that it involved domains of Simbo life that the English equivalents failed to convey. *Mulongo* is not just the capacity to sense that something is odd or extraordinary; it also involves the correct judgment to act appropriately.

In the disaster literature *mulongo* might fall under what scholars refer to as "Indigenous ecological knowledge."⁹ Indeed, within anthropology and the social sciences and natural sciences more generally there has been a dramatic surge of interest in Indigenous ecological knowledge that is linked to theoretical and empirical advancements in disaster research and environmental scholarship more broadly. The global community is increasingly coming to recognize the disconcerting trend that disasters are becoming more frequent and expensive.¹⁰ From the Indian Ocean tsunami to massive hurricanes like Katrina, Sandy, and Maria, or China's Wenchuan earthquake and Japan's "triple disaster" (earthquake, tsunami, nuclear), there has been a sharp increase in the number of disaster events, and although improvements have been made in decreasing the overall lethality of disasters, the economic, social, and political disruptions they cause are growing.

Many in the scientific community link the growing intensity of extreme climatological events to the greatest existential threat our species has ever grappled with: climate change. The relentless uptick in average global temperatures, which now appear on a path to exceed 2.0 degrees Celsius above preindustrial levels, portends a future with increasing extreme floods, wildfires, and storms. Couple this with the realization that we are entering the sixth great extinction event and the widespread lack

of political will to wind down the burning of fossil fuels, a future of more dislocation and suffering looks unavoidable.

Moreover, the idea that planetary geophysical systems such as weather systems and oceanic currents are now linked to human activities has compelled a major rethinking of what we consider “natural.” There is even some evidence that earthquakes might now be influenced by anthropogenic climate change.¹¹ Rather than understanding “natural” processes impervious to human affairs, many are now proposing that we understand the planetary system as a human-nonhuman imbroglio that requires new analytics and approaches rather than those developed by the conventional distribution of labor demarcated by “natural” science and “social” science.

With the frequency of disasters increasing and environmental degradation reaching planetary proportions, the knowledge and practices of Indigenous peoples have come to be viewed by some as valuable and untapped resources that provide insight into mitigating global environmental ills. A wide range of experts, including ecologists, natural resource managers, and other natural scientists, argue that Indigenous knowledge and practices are important for understanding ecological hazards, reducing disaster risk, and mitigating vulnerability.¹² Indigenous ecological knowledge has emerged as a key resource that is now embraced by major international organizations such as the Intergovernmental Platform on Biodiversity and Ecosystem Services and the Intergovernmental Panel on Climate Change (IPCC).¹³ Indeed, the concept of Indigenous ecological knowledge has circulated widely enough in policy and academic circles that it is commonly abbreviated IEK.

It was through the IEK literature that I became familiar with disaster responses in Indigenous communities. Nearly 6,000 miles away in my office in San Diego, I read the case studies and literature reviews about IEK so as not to arrive on Simbo blind, as Lieutenant John Shortland did in 1788 when his Royal Navy convict transport ship, the *Alexander*, chanced upon the island, which at that time was unknown to Europeans (for details about this see chapter 3). But when I finally arrived in Simbo and listened to the survivors’ accounts of their disaster response, I found myself in a situation that Anna Tsing describes as a “productive misunderstanding.”¹⁴ Many of my Simbo interlocutors could not understand why I expected them to respond appropriately to a tsunami, and many were clear that they

did not have IEK in the form that the academics or laypeople expected. There was only weak evidence that Simboans had “ancient wisdom,” or what social scientists call “intergenerationally transmitted knowledge,” about past tsunamis. My Simbo associates and I both found ourselves in a state of misunderstanding. Rather than rushing to mobilize IEK and explain Simbo’s response, I instead listened closely to survivors to explore and possibly bring into view those aspects of their response that initially may not have been obvious. Thus, one of the threads running through this book, and central to any good ethnographic account, is not just to understand more deeply the Simbo people’s miraculous achievement in sensing an approaching disaster and acting in time to save their lives but also to destabilize and render more explicit our own assumptions and expectations about Indigenous disaster response.

Undoubtedly the widespread acceptance of IEK both in scholarly writings and among disaster mitigation experts is a positive turn. Yet as I discuss in chapter 1, much of the bureaucratic, scientific, and popular writing on IEK in disaster research and environmental-oriented social and natural sciences accepts the validity of IEK only when it can be verified through peer-reviewed scientific knowledge collected by experts. Indeed, the rise of interest in IEK within the wider scientific community has in large measure relied on this asymmetrical positioning of science and local, nonexpert knowledge.¹⁵ The implicit effect, arguably, has not been to facilitate a space for the possibilities of IEK and other modes of being more generally but rather to further entrench scientism, where science is assumed to be the ultimate arbiter of any knowledge claim.

I not only trace the emergence of IEK as a concept in the scholarly literature; I also direct my attention to the ways in which it is mobilized and put into action by disaster experts. In chapter 6 I detail tsunami preparedness workshops conducted on Simbo eleven years after the 2007 disaster that were carried out by staff from the Solomon Islands National Disaster Management Office. Through my interviews with Simboans who attended these workshops as well as the experts who carried them out, I learned that the workshops explicitly embraced IEK as valid and relevant to developing mitigation plans and escape routes for tsunami-vulnerable areas of Simbo’s coastline. But the knowledge gleaned from Simbo survivors was limited to that which could be rendered legible through participatory

mapping exercises. These kinds of interventions are now common practice among disaster experts, yet they are predicated on a specific formatting of IEK that has specific effects; most notably it implicitly flattens radical difference by presupposing that knowledge can be reduced to *cognitive information*. The Simboan survivors who participated in these workshops, many of whom had fled the tsunami without the aid of a formal evacuation plan, were invited to participate and communicate with outside experts as if they were reservoirs of data who hold precious rational abstractions. IEK, when put into action this way, has had the capacity to traverse across and enroll many scientific disciplines and bureaucratic structures and has served as a mechanism to circulate extracted information from Indigenous peoples.

Although these kinds of participatory capacity-building workshops may have the potential to subvert bureaucratic structures and enable Indigenous modes of disaster response, they simultaneously, albeit inadvertently in many cases, may be vectors for encroaching state control. In the case of community-based disaster resilience strategies carried out on Simbo, aspects of their IEK, such as the presence of ancestral power imbued in the landscape and their communication with animals and other nonhuman existents, leaked out of most accounts of their response that left the island inscribed in notebooks, maps, tape recorders, cameras, and GPS receivers to ultimately circulate globally as data in scientific papers or, in the case of the United Nations Development Programme (UNDP), a children's book about the disaster published on its website. In other words, the widespread embrace and deployment of IEK has resulted, at least partially, in what Tuhiwai Smith describes as Western social and ecological theory oppressing Indigenous peoples through erasure, although this epistemic imperialism is far subtler than in the past, when Indigenous peoples and their modes of being were explicitly deemed inferior.¹⁶

Taking up Smith's call to decolonize our methodologies and strive for epistemic democratization, my contention is that all knowledge, Indigenous or otherwise, is best understood as emerging from *situated practices*. Rather than emphasizing a priori distinctions between scientific and Indigenous, fact and belief, rational and irrational, empirical and spiritual, we should instead expunge these labels from our analytic vocabulary and focus on keeping in view all the local knowledge production conditions

and practices. For this reason, I chose “local knowledge” for the title of this book rather than “Indigenous ecological knowledge.” This book is an invitation to follow closely how Simboans associated and tied together a heterogeneous mix of human and nonhuman entities, discourses, and materialities when discussing their response to the tsunami, with the intent to register those aspects of Indigenous knowing and being that are often overlooked, even by those whose intention is to respect and support Indigenous peoples. At the same time, if you have already decided in advance that the “knowledge” underpinning Simbo’s response is only that which can be caught in the net of scientific knowledge, then you should put down this book, since the Simboans’ experience and the repertoire of elements they invoke to comprehend their successful escape do not fit neatly into that definition of knowledge. Rather than seeking an ultimate, comprehensive explanation or theoretical crown that resolves various understandings of Indigenous disaster response, here I develop an account that is intended to multiply our inferences and reflexively engender new questions and complications.

PLACE AND MELANESIAN LIFEWORLDS

If our intention is to develop a deeper understanding of Simbo’s experience by registering dimensions of the tsunami disaster that typically are out of view, we first must take the time to listen to how Simboans describe their world. Over the years and the dozens of visits I have made to Simbo, my Simboan friends have frequently spoken to me about land, sea, animals, fish, and spirit beings in ways that challenged my assumptions about the nature of these entities. I heard countless stories about the land and the coral reef ecosystems that surround Simbo and how they are populated by existents that are regularly encountered, listened to, and communicated with. Indeed, it is these aspects of Simboans’ IEK that continue to be openly dismissed by Western science and remain provincialized as merely “cosmology” or a “mélange of truth and inaccuracy” when the arbiter of truth remains unreflectively in the hands of scientists.¹⁷

The experiences related to me by Simboans parallel what Melanesians have for a long time been expressing to anthropologists and others who

are patient enough to listen: that the islands and the reefs around them, their *place*, are composed through the regenerative process of interrelating and intermixing of humans, ancestors, land beings, and sea beings.¹⁸ As Kwara'ae (Maliata) scholar David Gegeo noted about place: "It's in our blood."¹⁹ In the Simbo language, the English word "place" could be glossed as *gusu*, which is similar to terms in other Oceanic languages like *voana* (Fiji), *ahupua'a* (Hawaii), and *fenua* (Society Islands), all of which denote "place" as not only a demarcation of what we call biophysical areas of land and sea but also local history, habitation, people's identities, and a multitude of nonhuman beings.²⁰ Yet as Tongan anthropologist and author Epeli Hau'ofa noted, landscapes and seascapes are entangled "maps of movements, pauses, and more movements," but "this intimate association between history and the natural landscape . . . [is] the basis for oft asserted and maligned notion that we are spiritually and mystically related to the land to which we belong."²¹

In chapter 2 I expand on these themes and describe the intimate relations Simboans have with the coastal waters and coral reefs around their island. Like the vast majority of Solomon Islanders, local seafood provides the bulk of the Simbo people's protein. Starting as young children, Simboans spend countless hours swimming, fishing, and paddling canoes as they learn to relate with their island's coasts and marine habitats. But their intimacy with the ocean extends far beyond these activities; it is central to the composition of their history, their understandings of the afterworld, their ancestor spirits, their totem beings: their "lifeworld conditions."

To grasp how people experience and bring place into being, scholars have formulated helpful approaches that conceptualize place as a fundamental form of embodied experience and posit that humans are centrally beings "in-place and em-placed."²² Tim Ingold went further and entered ontological ground by theorizing place as "dwelling," which starts from the premise that inhabiting a landscape or seascape is inseparable from experiencing it.²³ Approached this way, there is no external position by which to contrast humanity with a biophysical world, since people and their landscapes and seascapes emerge through place rather than existing independent of and prior to it.

Importantly, in Oceania place is not created without contestation. As we dwell in and compose our place, this process inherently involves

relations of power and politics.²⁴ Organisms, from simple to complex, may contribute to each other's mutual development but also may block and subvert each other's existence. Predators hunt, tsunamis destroy, people harvest crops, beings make other beings sick. These ongoing, everyday experiences of dwelling in the world are inextricably linked to relations of power and politics both between humans and between humans and non-humans. Indeed, ethnographers become entangled in these power-laden enmeshing processes, as I was during a dispute between two clan leaders (see "Researching and Learning" in this chapter).

Simbo placemaking struggles tend to center on land "ownership." Similar to many locales in Island Melanesia, land on Simbo continues to be under what conventionally has been known as "customary tenure," whereby social groups rather than individuals or the state lay claim to the land and its resources. However, these concepts of ownership are premised on capitalist logics, which treat land as a mute biophysical surface upon which contingent "rights" are overlaid. Indeed, the colonial and postcolonial dispossession of Indigenous lands was grounded in theories of property that legitimized expropriation and the alleged superiority of Europeans.²⁵

As Simbo recovered and rebuilt after the tsunami, these issues of ownership erupted as villagers clashed over land. In chapter 5 we learn about these disputes, and I argue that they were not just about the meaning of land or "rights" to resources, but about what Simbo land and place *is*. In other words, the contestation was not political in the modernist sense, where land plays no role and humans make decisions about who owns what. Instead, these might be better understood as "cosmopolitical" disputes over the island's future and which beings would be included and which might be disposed of.²⁶ To grasp the significance of these disputes during the reconstruction, I approach land as ontologically multiple, as a relational and a material-semiotic assemblage that is composed and stabilized through specific epistemological practices or modes of ordering that are fraught with moral and ethical implications for the humans and nonhumans involved in its composition.²⁷

Disasters have long been theorized as "revelatory crises" or "triggers" that expose deep-seated tensions or core debates and social formations among those affected.²⁸ But I reveal how, when approached as an

assemblage, the Simbo tsunami did not just render the implicit explicit; it was also generative. It imposed new entities (e.g., tsunami waves) and elicited novel practices (e.g., escape to the hills) among survivors, which were then interpreted through local concepts, being transformed in the process. Moreover, the Simbo tsunami provoked responses from national and international agencies that mobilized the global humanitarian aid apparatus. When this occurs, survivors become entangled in the projects, practices, concepts, and discourses of disaster experts and international aid workers. In this sense, disasters are not merely events but sites of production where new entities and concepts have the possibility to reshape the constellation of actors—human or nonhuman—involved.

I argue that in times of disruption we need to attend to those questions and debates Indigenous communities have about their futures by maintaining some level of critical distance from concepts that foreclose alterity and hence the ability of communities like the Simbo people to live their lives as they see fit. Arguably, we need to heed the call of scholars who advocate for expanding our “forms of noticing” toward the distribution of agencies and relations that were previously bracketed as “beliefs” or relegated as ontologically mute objects.²⁹

BEYOND THE TSUNAMI

My account of the Simbo tsunami builds on the anthropology of disasters, a field of study that has produced enormous insights into the nature of calamities.³⁰ Anthropologists have helped reveal how modern catastrophes like the Simbo tsunami are unruly hybrid objects, entangling the past and present, the objective and the subjective, the global with the local, and the natural and the social.³¹ The unruliness of disasters is especially evident in attempts to characterize their temporality. While many accounts, known broadly as “hazards approaches,” assume that a perturbation is the start of disasters, anthropological analyses have made gains by historicizing calamity, wherein the hurricane, tsunami, or technological malfunction that triggers an event is understood as somewhere in the entangled middle rather than the beginning of a disaster. These interpretations have helped reveal how catastrophes emerge through a meshwork of social and ecological

relations that preexist and precondition the triggering event, the response, the aftermath, and the recovery. In other words, the timing of a calamity, its assumed starting point, is not neutral or ahistorical. A tsunami, earthquake, or toxic spill does not “come out of nowhere” to hurt people; instead a calamity is *produced* by a specific yet heterogeneous mix of material, technical, and discursive elements that generate different axes of *vulnerability*. In an Anthropocene age in which human activities have left their traces across the earth system, the “biophysicalness” of the biophysical triggers such as hurricanes, earthquakes, and tsunamis must be put into quotes because that descriptor is inadequate. Even these phenomena are no longer outside of human relations; they are thoroughly inside of them.

For these reasons, the historical processes discussed in chapters 3 and 4 are not “background” information that “contextualizes” the tsunami; they are interwoven into the macramé of the Simbo disaster. As you will read in chapter 4, socioecological preconditions not only contributed to Simbo’s miraculous response to flee the tsunami; they also, tragically, played a role in the deaths that occurred. As the survivors’ narratives in the prologue described, not every Simboan escaped the deadly waves. Nine people lost their lives.

As you can imagine, this was a horrific and troubling outcome of the catastrophe. Simbo is a small island community tied together through kinship, with a unique language spoken nowhere else in the world and a three-thousand- or possibly thirty-thousand-year history of Simboans’ inhabiting their island. But the loss of life was compounded by the well-known and widely discussed fact that it was most certainly *avoidable*. Nearly everyone on the island told me that those who perished were not killed by the tsunami alone. Rather, the earthquake and waves were refracted through a well-known and long-standing phenomenon already operating on Simbo that contributed to the deadly outcome. They were gripped by a particular condition that is referred to in the Simbo language as *bulo poata*, which could be translated as “money crazy.” More broadly, the troubling response of those who perished was interpreted through the idiom of *kastom*, a neo-Melanesian Pijin term found throughout the region that celebrates the opposite of *bulo poata*, those pre-Christian practices of mutual sharing and reciprocal exchange that produce empathy and love among Simboans.

Thus, to understand the island's vulnerabilities and the local interpretations that arose to comprehend them necessarily requires an analysis of the immediate biophysical perturbation *and* the long-term processes of Simbo's entanglement with capitalist relations and colonial processes. In the Simbo disaster the wave that struck the island and the response and recovery are inseparable from earlier shifts in settlement patterns and resource use, colonialization, Christianity, and increasing entanglement in capitalism. Thus chapter 4's principal aim is to trace how pre-tsunami social-ecological relations shifted through time, generating a new repertoire of contemporary vulnerabilities, including the anxieties that now abound on the island about modern currency, capitalist relations, and the perceived erosion of Simbo life. However, I not only use vulnerability as a conceptual resource to help explain the Simbo disaster; I also engage with it critically. I ask: "What does vulnerability help reveal?" "What might it displace?"

SITUATING VULNERABILITY

Vulnerability has emerged as a key organizational analytic within disaster studies and more recently in the global environmental change literature.³² Yet there continues to be widespread debate about whether the sources of harm engendered by a severe biophysical perturbation are exogenous or endogenous to the community or society in question. Critical scholars working with the tools of political ecology assert that extra-local processes of colonialism or neoliberalism produce vulnerable communities or individuals through historical-material processes.³³ Mark Schuller's account, for example, of the horrific 2010 Haitian earthquake unearthed the long history of Haiti's underdevelopment and especially the rise of humanitarian nongovernmental organizations (NGOs), which in the decades prior to the earthquake had divided up the country into their own semi-sovereign fiefdoms, undercutting the ability of the state to mitigate the disaster or effectively coordinate the aid effort.³⁴ Other scholars have employed Foucauldian-inspired analytics of governmentality to evince how the vulnerable internalize and willingly conform to exploitative social norms, ethical standards, or environmentally destructive activities.³⁵

In contrast to these critical approaches, an influential body of literature broadly known as “resilience thinking” theorizes vulnerability as a condition of communities who lack certain adaptive capacities or institutional structures as they grapple with shifting social and ecological dynamics.³⁶ Resilience approaches tend to be more conservative and managerial in that they do not challenge existing power structures and forms of inequality. Instead, they transvalue political contestation and power asymmetries as potential engines of innovation if managed and harnessed toward productive sustainability solutions or disaster management mitigation efforts.³⁷ As noted by Nigel Clark, these managerial framings of complex human-environmental dynamics often are incapable of engaging the potential of radical alterity like that we might find in Melanesia.³⁸

Vulnerability and resilience, however, do more than just provide analytic concepts for researchers to make sense of catastrophes. These concepts are transformed from bullet points on PowerPoint slides by disaster experts and humanitarian practitioners into actions as they carry out projects. From this starting point, I do not approach vulnerability in chapter 5 as an underlying condition waiting to be explicated by outside experts, but instead describe the ways in which vulnerability and resilience as concepts have been mobilized to address disaster mitigation and preparedness. I trace how islands like Simbo are interpreted as “vulnerable isles” that need outside interventions to render them more resilient.

On Simbo, the island’s vulnerable status motivated disaster experts to visit the island eleven years after the tsunami to conduct disaster preparedness workshops. By detailing ethnographically these workshops carried out on Simbo, chapter 6 helps to illuminate the process of how vulnerability has seeped out of academic papers into the offices of disaster experts in bureaucratic and state structures and eventually arrived on islands like Simbo. During this movement and mobilization, vulnerability takes on a particular intellectual shape and undergoes important discursive shifts that have practical consequences. International disaster institutions, in large measure, have recast vulnerability in ways that downplay the exogenous structural determinants and instead emphasize building local capacities and resilience to live and cope in a world of growing social environmental risk. I argue that construing vulnerability as an internal condition of communities like those on Simbo enables external actors to declare

that the vulnerable themselves need capacity building while also rendering wider structures of dominance and power unchallengeable.

Simbo's experience with vulnerability when mobilized by disaster experts is part and parcel of a larger effect of expertise itself, in which experts must compose an object that they can master in order to assert their authority over laypeople.³⁹ When disaster experts actualize vulnerability as an endogenous condition of communities, it then can be ameliorated through manageable strategies such as "participatory disaster mitigation" or "capacity building." Arguably, these actions of outside experts may further delimit the scope within which difference in the world operates, since they overlook, or worse perpetuate, structural forces of domination that impinge on communities, forces that would require a reordering of the global economic structure in order to address them.

INDETERMINATE DISASTERS

As I am sure the reader has noticed, I have structured each chapter of this book to analyze the Simbo tsunami through different analytical lenses. This approach is inspired by the anthropology of disasters, which urges not only a diachronic analysis beyond the triggering biophysical perturbation but also a reflexive stance centered on the question pithily captured by disaster scholar Roberto Barrios: "For whom does a disaster reveal what?"⁴⁰ Barrios's question hints at a useful distinction between an ontology of simple complexity and one of emergent complexity and indeterminacy.⁴¹ Simple complexity posits that phenomena are closed and that an absolute distinction between the phenomena under question and the surrounding world is identifiable. From this external position the relevant variables and relationships can be known and modeled exhaustively and with precision. The goal, then, is to provide increasingly detailed knowledge and to fill in the gaps of what is not yet known. The assumption is that the more knowledge we have, the better we can understand.

My argument here is that gains in understanding about disasters might be better achieved if we approach them from an *ontology of indeterminacy*. From this standpoint, it is presupposed that disasters are complex phenomena (or what ecologists refer to as complex adaptive systems) of

whose dynamics we can never fully attain a totalizing grasp. Unlike more simple systems, there is no external position outside of the phenomena by which to authoritatively frame its components or judge its performance. In this sense, an account inevitably, although only partially, composes the object of analysis rather than transparently revealing and representing some previously hidden code. With emergent complexity the problem is less about attaining the best-suited frame since the notion of single transcendent principle or single framing is rejected as inadequate. Instead, it signals a reflexive and polyvocal register expressed by the question: “What does a particular framing do?”

Here I diverge from the now popular “multiple-world thesis” in anthropology that assumes that different lifeworlds are incommensurate realities.⁴² As noted by Michael Cepak, anthropologists who seek to illuminate the radical and incommensurable alterity of other lifeworlds tend to flatten the complexity of ethnographic encounters in their quest to highlight differences.⁴³ In contrast, my approach is an attempt to bring into view different facets of the tsunami disaster in each chapter, not to reify them as eternally stable objects but to experimentally deploy different framings and assess how they may advance our understanding or usurp injustices or forces of domination.

If we assume that calamities such as the one that occurred on Simbo will always overflow the boundaries in which we attempt to describe them, it is also important to resist the idea that disasters are inexorably chaotic phenomena and that interpretations are impossible. This stance would quickly lead to the solipsism of extreme “anything goes” relativism. Those involved in disasters and those who study them most certainly succeed in stabilizing and organizing their collective experiences and accounts, yet they always must be maintained and nurtured as new ideas, concepts, entities, or actors emerge. At the same time, the themes of each chapter were not selected haphazardly. They address either important questions derived from the scholarly literature as experts attempt to improve their concepts and understanding through theoretical work (e.g., How do historical circumstances precondition disasters?) or key questions proposed by my Simbo interlocutors (e.g., Why do experts think our land is vulnerable?) in their attempts to impose order and organization on their experience of the tsunami and the recovery process.

With an ontology of indeterminacy as a guiding principle, the goal is to turn Barrios's question "For whom does a disaster reveal what?" from a liability or obstacle into a catalyst for generating different meanings and outcomes. Rather than judging these accounts from some transcendent principle or committing, a priori, to the dominance of any single contextualization, my intention is to bring into view new aspects that might have been missed. Although some may construe this approach as "comprehensive," it most certainly is not exhaustive or complete, for there are always more stories to be told about a disaster and more details to be brought into view. Any account, however comprehensive, is limited and partial. Rather than steering toward closure to Barrios's question, the idea here is to increase our capacity to be sensitive to possibilities of how it and other questions may be answered. In a world where climate uncertainties proliferate and new entities such as plastic-munching biota or SARS viruses burst onto the scene, we must be humble about our capacity to grasp emerging novelty and extraordinary events. My goal, then, is stated quite explicitly in the title of the book: it is to produce new modes of *sens-ing disasters* so that we can unsettle established forms of perceiving and knowing and sensitize ourselves to catastrophe in new ways.

RESEARCHING AND LEARNING

As has happened to many anthropologists who have studied disasters, the 2007 earthquake and tsunami abruptly entered my life and took over my research program.⁴⁴ Prior to the calamity, I had visited the Solomon Islands seven times, first as a graduate student and then as a postdoctoral researcher, conducting field research in Roviana Lagoon, a region that lies on the southwest coast of New Georgia Island, some 60 kilometers east of Simbo. I had been carrying out exciting research exploring marine ecological knowledge and the human ecology of fishing. In 2005 I secured a postdoctoral position funded through Packard Foundation that involved establishing a network of marine protected areas (MPAs) across Roviana Lagoon and helping form a conservation organization to manage the network.⁴⁵ Throughout this period of research, I never could have imagined that someday I would write a book about a tsunami.

For most of my Roviana research I based myself in Baraulu, a village of about nine hundred people located about 15 kilometers east of Munda. Over the years I had developed deep bonds with a number of people in the village and with members of the Roviana Conservation Foundation, the organization that managed the MPA network. One person I had grown very fond of was Tomi Roe. He and his delightful spouse Alenaru were the owners of a leaf house I rented during my first few visits to Baraulu. Tomi was a reserved, soft-spoken man with high cheekbones and an insatiable appetite for betel nut. He was also easy to spot from a distance because he loved to wear bucket hats with downward-sloping brims. When I asked about his fashion statement he told me that donning hats was common among his kin on Simbo, his birthplace and what he still considered his home. Over the many nights chatting with him I learned that he had married Alenaru when he was in his twenties and moved to Baraulu, her natal village, soon after. Tomi thought of himself as an intellectual of sorts and, unlike most villagers, he was an avid reader. He established his literati status by discussing with me the plots of nearly all of the John Grisham novels. Every evening he would stay awake late with his heavy-rimmed glasses perched on his nose and read under the warm light of a kerosene lamp. Each year before I departed to the United States from Roviana he would request that I bring him on my next visit new, best-selling novels, so I would make sure to fill any remaining space in my luggage with paperbacks.

Over the years we developed a close bond, spending many hours “talking story” on his veranda about our lives, and he often mentioned Simbo. He painted a bucolic picture of his home island, describing how it was blessed with many attractions, including an active volcano named Ove where locals and sometimes tourists would picnic and cook food in steam-spewing holes that had been dug into the side of the volcano. The steam, as I would confirm later, imparted a wonderful sulfur flavor to the cooked fish or vegetables. With eyes sparkling he told me about the island’s soothing and therapeutic hot springs, one of which was found in the lagoon on his part of the island. He bragged how the fishing was much better than at Roviana, especially on the underwater reefs to the south of the island that were named “woman” and “man” reef. Beaming, he would proclaim: “Your arm gets sore from all the huge fish you catch on Simbo!” Having returned to the island only rarely and not able to afford the long boat trip,

he invited me numerous times to travel with him to Simbo and offered to serve as my guide. I was tempted, but it was a long boat trip, the fuel costs were exorbitant, and my crammed research agenda in Roviana left little time to take lengthy side trips.

With friends like Tomi in many parts of the lagoon, my heart sank when emails sent by fellow researchers and colleagues flooded into my inbox the day of the 2007 tsunami. My immediate response was to write an email message to Joanna Pina, the manager of Roviana Conservation Foundation's small office in Munda, sending my blessings and asking about the tsunami. At that time the internet was unreliable in the Western Province, but I thought she might still have access and be able to respond. Her reply to me and my wife gave me some relief, but like so many survivor accounts of disaster that I documented, was chilling:

Hello Matthew and Eden, Yes, there was a big earthquake and also tsunami hit Western Province and Choiseul Province. We were all scared and ran up to the hills because the water rised up. . . . My family and I ran up to the hills and spent two nights, and now we just came down. There are total of 25 people who died in the tsunami and earthquake, but some are still missing, especially in Ranongga, Simbo, Choiseul. All my eating utensils were all broken and fell down, I am very sorry.

Then in her follow-up a few days later:

Yesterday night there was another big earthquake, we are still in the bush, the water still rised up, while I am writing this email the ground is shaking now[.] Please, please pray for us, I am going to shut this office, and run back to my family and we going up to the hills now.

As more information began to trickle out of the Solomons about the tsunami, Simbo made the international news as one of the hardest-hit islands that had suffered fatalities. "Tsunami Wiped Out Entire Island Village" read a headline from the *Denver Post*.⁴⁶ Within a few days I was relieved to learn from Joanna that none of Tomi's close relatives had been harmed. He was from a village on the southern part of the island called Nusa Simbo, which sits on the edge of a protected lagoon. Wanting to help and support the relief effort I, along with the students and other researchers who had worked on the Roviana project, began to activate our

professional and personal networks and seek out ways to send humanitarian aid to the Solomons. At the same time, we all wanted to know how the tsunami had affected our Solomon Islander friends and their families, how the recovery process was playing out, and if we could be of some assistance.

In our effort to learn more about the tsunami, I helped assemble an interdisciplinary team of researchers with experience in the Western Province. This included marine scientists Simon Albert from the University of Queensland and Ben Halpern from the University of California, Santa Barbara, as well as a Japanese medical anthropologist from Kyoto University, Takuro Furusawa. We wrote a successful National Science Foundation (NSF) proposal that was funded by their Human and Social Dynamics Program to conduct a four-year study of the tsunami's social and ecological effects and the recovery process across several islands, including Simbo. Many of our Roviana friends had suggested that we work on Simbo since it was one of the hardest-hit islands and so many of the Roviana people like Tomi had close ties with the island. As I discuss in more detail later, Roviana and Simbo were allies prior to European contact, and there was much intermarriage, entwining the two groups through kinship bonds.

In preparation for the NSF-funded fieldwork, I sent word to Tomi asking if he would be my guide and accompany me to Simbo for my first visit to the island in 2008. He graciously accepted and was excited to return to his island and introduce me to his family and the island's leaders. He would eventually accompany me during my first two visits (in 2008 and 2009) to Simbo and helped ingratiate me with the Simbo community and gain their trust. I kept in touch with him up until 2018, when sadly he succumbed to cancer.

Tomi was a brilliant host. Not only did he have close kinship ties with the leaders of the main clan in Nusa Simbo village, but he also was widely respected. Quick-witted, Tomi helped explain the goals of my research project to Simbo's political and traditional leaders, and I was graciously accepted around the island. Or at least I thought I was.

As Indigenous anthropologists such as Kim TallBear have made patently clear, in many Indigenous communities "research" and the researchers who carry it out are considered instruments of injustice and imperialism.⁴⁷ In most of the Solomons this deep-seated cynicism toward

the presence of Western researchers is almost nonexistent, probably because relatively little research has been conducted in the Solomons Islands and the colonial experience has been relatively less impactful than in settler-colonized settings such as Hawaii, Australia, and New Zealand. Simbo, for its part, has hosted more researchers over the years than most islands in the western Solomons. Since the early twentieth century at least three researchers—Arthur Maurice Hocart, Christine Dureau, and Ross Sinclair—have spent extended amounts of time on the island, yet I have never experienced the resistance to my presence that was articulated in the terms described by TallBear. Indeed, I would like to acknowledge the prior researchers' success in conducting research that has been judged by Simboans as ethical and worthwhile. Christine Dureau in particular continues to be fondly remembered for her kindness, although many Simboans would like her to return so they can become reacquainted with her and her daughter, who lived on Simbo with Christine during the research in the early 1990s.

Despite the lack of deep cynicism toward research on Simbo, researchers should never assume they occupy some neutral, apolitical space where they can satisfy all the various and cross-cutting interests of any community. Elenore Smith Bowen taught us long ago in her brilliant novel *Return to Laughter* that not only can researchers not make friends with an entire community, only with individuals, but our relationships with interlocutors can be wielded for their social or political utility.⁴⁸ As relatively powerful outsiders, our presence is an opportunity for individuals or groups to leverage it to their advantage.

As noted previously, land disputes are a central dimension of Simbo placemaking activities. And as an ethnographer I did not stand outside of these practices; rather I was entangled in them. This is exactly what occurred during my first extended stay on Simbo in 2009. Unknown to me, my presence was drawn into a bitter, decade long power struggle within the traditional leadership of Nusa Simbo over several plots of land. I went to great lengths during my initial visit in 2008 and during the first weeks of my field visit in 2009 to meet and discuss my research with traditional leaders and government representatives across the island as well as to hold community meetings. This was in addition to gaining permission from the provincial government of the Western Province and securing a

research permit through the Ministry of Education of the Solomon Islands government, the agency that processed official research permits.

In the community meetings I fielded many of the critical questions faced by researchers: Who is funding you? Are you earning money from your research? How will we benefit from it? I answered these questions the best I could, explaining how I would advocate on the island's behalf to secure the disaster relief funds that had been promised to them by the central government and that I would bring as many benefits as I could to their island. There was little hostility toward me and the research team, my answers seemed to be accepted, and there appeared to be agreement about granting me permission to conduct the research.

After nearly a week of securing what I thought was permission to conduct research, a bright white envelope was handed to me by a young man as I sat at a table on the bottom floor of Centenary Hall, the building where our team (I, Simon Albert, and two SDSU MA students, Douglas LaRose and Luke Campanella) was lodged during our visit in 2009. It had "Professor Mathew Lauer" printed on the front, and inside was a letter carefully handwritten by a man named Lawrence. It read: "As the Chief of Nusa Simbo, Vela Viru Tribe . . . I am issuing against your delegation under my power a notice of legal order that all your intent program and plan to be carried out in Nusa Simbo customary land will be stopped at once and I ask your team to vacate Nusa Simbo land and leave immediately." Confused and worried about annoying this leader, I presented the letter to the Nusa Simbo chief who had granted me permission to conduct work in his district. As he read the letter he chuckled dismissively and stated: "He thinks he is a chief, but he has no followers. Ignore the letter! I have given you permission and I am the true caretaker of Nusa Simbo land."

Upon further consultation with several other interlocutors about how to manage Lawrence's objection to my research, their advice was to visit Lawrence's house and formally ask his permission to conduct the research. This seemed like a more sensible course of action than ignoring him. So the next day I anxiously walked across the island from Lengana, wading through the shallow water between Nusa Simbo and the main island, to introduce myself to Lawrence and his family. It was a stressful moment. As an anthropologist I had never been so bluntly accused of misconduct. Even though I had been reassured that Lawrence had little influence and

authority, I could not help thinking about how he could damage the legitimacy of the entire project. Needless to say, I was deeply relieved when I arrived at Lawrence's house and he greeted me with a pleasant smile. As I shook his hand and introduced myself, he showed no tension or discomfort whatsoever. We then "storied" about the goals of the project, and I asked his permission to conduct research on Nusa Simbo land. After a short pause punctuated by a common Simbo gesture of sharply snorting through his nose, he proceeded to eloquently and carefully praise the project and the possible benefits it might bring to the island. He then granted me "official" access to carry out the research.

Later in my consultations with the chiefs of the other districts I learned that Lawrence and Goldie had been engaged in a long-term power struggle over land in Nusa Simbo. The acceptance of my presence on Simbo was an opportunity for the Simbo chiefs to exert their authority. I learned that Tomi, my gracious host, had close kin ties to Goldie and that they intentionally avoided discussing Lawrence with me to undermine his authority and bolster Goldie's. The controversy I had with Lawrence is just one example of the acrimonious land disputes that plague Simbo social life as well as the inherently political nature of securing permission for anthropological research. Despite these difficulties, Lawrence and I would go on to develop a cordial relationship even though I had much closer relations with Goldie's kin group.

In total I have spent nearly eighteen months on Simbo. I made visits spanning twelve years (my most recent visit was in 2019), and I formed deep bonds with many people, especially two men who would become my closest collaborators and friends, Nickson Sione and Gideon Tuke. Nickson, born in 1971 and son of the headmaster of Simbo's secondary school, was Simbo's email station operator for the now defunct UNDP-sponsored People First Network (PFnet). PFnet was a network of rural email stations that used solar-powered high-frequency radios with modems. It was operational on Simbo until the building of a solar-powered cell phone tower in 2012 that provides phone and data service, albeit erratically. Because of Nickson's association with PFnet, I was introduced to him almost immediately upon my arrival on Simbo. He was known on the island as well-versed in tsunami disaster and recovery due to his training from PFnet and was one of a tiny handful of people on Simbo who had formally learned about

tsunamis prior to the Simbo disaster. It has been an absolute delight to learn from Nickson over the years, and he has graciously incorporated me into his family and wider kin networks of Lengana and Masuru villages. I was deeply touched when he named his youngest daughter and son after my wife and father.

Gideon Tuke, who was born in Meqe village in 1959, also played a prominent role in the disaster recovery as the chair of the committee that managed the humanitarian aid. For most of my field trips I rented his small guesthouse in Meqe, where we spent countless hours discussing life in the United States and on Simbo. Extremely intelligent and articulate, Gideon received a scholarship to complete two years of seminary school at Eden Theological Seminary in St. Louis, Missouri, from 2003 to 2005. During his stay in the United States he experienced profound culture shock, and it gave him a unique perspective on Simbo life. We were able to bond quickly, as he would tell stories of adapting to the strange American ways. I am truly grateful for being able to meet and build friendships with Tomi, Gideon, Nickson, and many others in Roviana and Simbo.

Building on nearly sixteen months of prior field research in Roviana Lagoon, this book is based primarily on fieldwork conducted during two three-month visits in 2008 and 2009 with Tomi, as well as subsequent visits in June–August 2010, May–July 2011, May–July 2012, January 2014, June 2015, and January 2019. During the first visits I, along with several master's students from San Diego State University and local Simbo collaborators, helped conduct household surveys in which 18 percent of households on Simbo were interviewed on a variety of topics including demographics, adaptations to the tsunami, migration, remittances, time allocation, livelihoods, household income, fishing and agricultural practices, food consumption, and household living standards. We then conducted several follow-up surveys in 2010, 2011, 2012, and 2014, all focusing on the 2007 tsunami experience. In the two villages hardest hit by the tsunami, Tapurai and Riquru, I interviewed members of nearly every household and conducted numerous focus group interviews. I asked a range of questions about historic settlement patterns; customary tenure regimes; and the dynamics of community response, resettlement, and recovery. Ethnographic interviews on Simbo, but also on Ghizo (especially the Gilbertese village of Titiana), Honiara, and Munda, were, of course, critical. I interviewed

dozens of chiefs, community leaders, politicians, aid workers, pastors, NGO staff, youth groups, women's groups, and government functionaries and experts. In addition, I interviewed several geoscientists who conducted the first assessments of the tsunami just weeks after the disaster. Most recently, in 2015 and 2019 I participated in an archaeological project in which I collaborated with Todd Braje and the wonderful staff of the Solomon Islands National Museum. One of our key collaborators from the museum, Grinta Ale'eke, was not only a meticulous archaeologist but also a brilliant cultural anthropologist. She was able to quickly build rapport with Simboans and made many keen observations about Simbo and Solomon Islander life. Her perceptive insights were grounded in her experience growing up as a villager in Kia, a community on the western tip of Santa Isabel. That region was a key target of Simbo headhunters prior to European pacification, and many captives were taken from there and brought to Simbo. Indeed, a number of Simboans trace their lineages back to villagers in Kia. These historical and genealogical relations provided Grinta the opportunity to build close relationships with many Simboans.

Much of this book was written during a sabbatical I was granted by San Diego State University. Unfortunately, my sabbatical coincided with the 2020 pandemic lockdowns. My plan was to visit Simbo before finishing the manuscript so that I could review drafts of it with my close collaborators. The Solomon Islands government, however, closed its borders to international tourism in March 2020, and at the time of writing this book, travel still remains closed to foreigners unless they undergo a fourteen-day, self-funded quarantine. I was lucky, however, in that Gideon Tuke, one of my closest Simbo friends, was working and living in Gizo, where he had somewhat reliable internet access. This enabled me to regularly discuss many of the topics through Facebook Messenger or Skype calls to gain his insights and feedback.