The Battle for Heimaey

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THE BATTLE FOR HEIMAËY

LAVA

In 1864, a little more than a century before the Heimaey eruption commenced, distinguished environmentalist George Perkins Marsh had warned against harmful human impact on the Earth’s ecosystems. It was necessary, he said, to resist, to reinstate the equilibrium between humanity and nature, to protect forests, and to plant new ones. Otherwise nothing would be left but bare rocks, and all the life that had flourished on them would vanish. At the same time Marsh emphasized the limitations of human action in the face of nature—including volcanoes: “No physicist,” he claimed, “has supposed that man can avert the eruption of a volcano or diminish the quantity of melted rock which it pours out of the bowels of the earth.” It was commonly assumed that a glowing stream of molten lava would go its own way. Until 1973, that is.

Fires and Freezing

On the morning of January 23, as many of the boats bringing the evacuees from the Westman Islands were mooring in Þor-

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lákshöfn harbor, the Westman Islands Council gathered for an emergency meeting on the top floor of the bank building in the middle of the village. Plans had to be made for damage control, and a response to this unprecedented situation. Everyday political divisions were set aside. From time to time, as they discussed the situation, the councilors stood up to peer apprehensively out of a small south-facing window which offered a clear view of the fiery volcano.

At the same time, a group of experts had been called to the University of Iceland’s Science Institute, in Reykjavík, to discuss “practical measures to prevent damage to people and infrastructure” on the Westman Islands, especially the harbor. Three main ideas were discussed: raise dikes to divert the lava flow; cool the edge of the lava; or use explosives to blast open the crater edge in a more favorable direction. The minutes of the meeting include that, “Reference was made to the moral support to be derived from experts with measuring devices,” and “The meeting was transformed into a flurry of preparation, as time and daylight were at a premium.”

Following the meeting in Reykjavík, three of the experts — one of them a Westman Islander himself — speedily made their way to Heimaey by helicopter. After familiarizing themselves with what was happening, the three returned to Reykjavík later that same day. Another meeting was held at the Science Institute the next morning, January 24. Among the resolutions reached was that they “should be in contact with locals on the Westman Islands and try, in consultation with them, to check or restrain the lava flow.”

Later that day eleven experts went out to the Westman Islands, bringing their morale-boosting measuring devices. Some of them collected samples and tried to form an idea of what kind of eruption this was and what might be expected to happen next. Others considered where and how protective

2 Minutes of the Board of the Westman Islands, January 23, 1973, Westman Islands Archives.
measures could be applied. Would Heimaey split up, explode, or sink into the sea? Would the eruption last for weeks, months, or years, as in the case of Surtsey?

On January 25, more experts flew to Heimaey, including the renowned Icelandic geologist Sigurður Þórarinsson, who had long had an interest in Mount Helgafell, having decried the damage done to the mountain by gravel quarrying in 1950 and wondered, as late as 1972, what would happen if it erupted. A young geologist who accompanied them, Ari Trausti Guðmundsson, later wrote a short article describing the experts’ reactions, especially their bewilderment.4

The experts were provided with accommodation by the harbor, in a workers’ hostel, another one of my old haunts, belonging to one of the fish-freezing plants where fish were normally gutted, processed, and frozen for export. I had worked at the freezing plant for a few summers, the last being in 1969, to work off debts I had accumulated during my stay at the Laugarvatn school. The winter had been difficult, and by spring my debts were heavier than usual. When I phoned home to the Westman Islands looking for work, the foreman, a friend of my father, remarked sarcastically: “So you’re about to graduate! Are people like that any use in a freezing plant?” It was far from clear at the time that I would pursue an academic career, but perhaps I was already a dud in the context of fish and guts.

The foreman’s suspicions were partially born out on my very first day. My job was to load the fresh fish onto a conveyor belt that delivered it to the floor above for filleting, packing, and freezing. I was staying with relatives close to the foot of Helgafell. Exhausted after the first day of backbreaking toil, I overslept the next morning, and had to walk, shamefaced, down past my boyhood home at Bólstaður to the freezing plant. Fortunately, I managed to keep my job and settle my debts. I knew the foreman had dry humor and, perhaps, he was simply using the opportunity to comment on social class, the people who

left their hometown to acquire degrees, positions, and money. Would they ever return?

Now the freezing plants, the key workplaces of Heimaey, were out of function. An army of rescue workers, mostly men, from both Heimaey and the mainland, struggled to save the storage from the freezers, loading boxes of high-quality fish onto vessels destined for the mainland. Also, some of the most expensive and valuable machinery of the plants had to be removed and taken away, in case the eruption would destroy the fishing plants. The workers had to be provided with food and places to stay, and solutions were often invented on the spot.

Shortly after Sigurður Þórarinsson and his colleagues settled into their rooms at the freezing plant, there was a clattering of ashfall and lumps of lava on the roof. One after the other, the doors on the scientists’ floor were flung open. Sigurður hurried out into the street, wearing a hard hat. His intention, like that of the other scientists, was to get “as close to the eruption as their sheepskin-lined coats would allow,” wrote Ari Trausti. Sigurður “did not pause. Rushed downstairs and out, with his coat half-on.” After him hurried another geologist, waving Sigurður’s boots and calling out to him. He caught up with Sigurður, in his stockinged feet, out on the road. Sigurður shoved his feet into the boots and, armed with his long experience of Icelandic volcanoes, hurried off to meet this latest crater that had taken people by surprise. The eruption had not, it was now clear, begun in the crater of Mount Helgafell after all. Instead, a new crater had formed and was erecting around itself a new mountain that would be named, “Fire Mountain.”

At Kirkjubær farm, some reporters accosted Sigurður and another well-known geologist, Arne Noe-Nygaard from Copenhagen, as they watched the new mountain being born. The wind direction was favorable, but lumps of lava whizzed down to crash onto the ground between the men as they talked. Sigurður was used to reporters’ questions and spoke with caution, unwilling to say much about future developments but suggesting that the eruption might last two to three months. Arne astonished the reporters by saying: “*Vi måler tiden efterpå* — we
measure the time afterwards’ and the reporters wrote it down and nodded.”

_The Kitchen Experiment_

It was clear from the start that the harbor, the beating heart of the community, was at risk from the lava flowing from the new crater, Eldfell. Of the three ideas advanced by the experts from the University of Iceland’s Science Institute — to divert the lava flow with dikes, blast open the crater edge in a more favorable direction, or cool the edge of the lava — there was time to try only one, as the lava would soon reach the harbor. Tensions ran high. On a geological time-scale, things were happening extraordinarily fast, and it was vital to make the right decisions before the shape of the island was irrevocably changed. It was time to think about the larger picture and the future. While efforts soon began to bulldoze up ramparts to protect the east side of the village, the proposal to blow an opening in the edge of the new crater was postponed for the time being. To save the harbor, they would try to cool the lava’s advancing edge.

It was Þorbjörn Sigurgeirsson who came up with the innovative idea of pumping seawater onto the lava, in an attempt to divert it from the harbor. He had first thought of this idea a decade earlier on Surtsey island, where he had made preparations for trying to cool the lava and influence its path. He had noticed that the lava tended to snake long distances along the shoreline in both directions when it met the cold sea, instead of flowing straight into the ocean depths. Could we, he asked, affect the shape of our new island neighbor? Curve it into a harbor? The experiment didn’t materialize, as the lava flow stopped.

In the Westman Islands another story is often told of Þorbjörn’s proposal. Þorbjörn, as the story goes, got the idea after he ate a meal of fish served in the traditional way, with melted suet. He was struck by the sight of the suet spilling off his plate onto the table. I imagine the table had a plastic top with a metallic frame, a modernist fashion at the time. The molten mass

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initially flowed directly towards the edge of the table, but as it cooled and congealed it started to flow out to the sides. The molten suet had changed its course. Þorbjörn seems to have leapt to the conclusion that if the lava front could be similarly cooled, it too would change direction. With all the rooms at the freezing plant taken, he was staying in the Westman Islands fire station and the eruption response team there reacted favorably to his suggestion of an experiment. They agreed to try pumping cold water onto the lava, initially using fire engines, and then fireboats. Westman Islands Civil Defense took action, and on February 8, in the eruption’s third week, the first three pumps were deployed.

Þorbjörn was a man who went his own way. It was strictly forbidden to venture onto the advancing lava flow alone, being that there were many dangers, not least those from emissions of noxious gases and flying lumps of glowing lava. Yet Þorbjörn would be out in the early morning, observing the flow of the lava and making notes on its direction, taking readings, making calculations, and mapping out the changing landscape in his mind. It was vital to listen to the groaning of the lava and the thunderous rumblings of the volcano — to hear what the mountain had to say — and down at the harbor every other sound was drowned out by the din of the powerful water-pumps. After his morning stroll Þorbjörn spoke to the teams working in the lava field, gave them instructions for the day, pointed out dangers to be avoided, and told them where to direct the water. No doubt there was a lot of consultation, but Þorbjörn’s guidance was crucial.

Who was this man who walked through the burning lava field every day, usually on his own, with woolen mittens on his hands and a hard hat on his head, determined to save the harbor, whatever the objections of both experts and ordinary people? Þorbjörn was a farmer’s son, the eldest of five brothers, born in 1917 in northern Iceland. After early schooling in a rural

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school, he went to Copenhagen to study physics at the Institute of Theoretical Physics, founded by Nobel-prizewinner Niels Bohr, now named the Niels Bohr Institute. During Þorbjörn’s time as a student, World War II broke out and Germany occupied Denmark, but he managed to complete his MSc degree and then make a daring escape from the Nazis via neutral Sweden. In 1945 Þorbjörn went to Princeton University in the US. On his return to Iceland he embarked on research into radioactivity and was an active participant in Iceland’s Nuclear Science Commission, established in 1956. In 1954, Þorbjörn was among those who planned the foundation of CERN, the European Organization for Nuclear Research, located near Geneva, Switzerland. CERN is home of the Large Hadron Collider and other particle accelerators used in research on various unanswered questions about the nature of the universe. In later years, Þorbjörn returned to Princeton to pursue research on cosmic rays.

During the Surtsey eruption, while he pondered cooling the hot lava, Þorbjörn had practiced swimming and scuba diving in the cold sea surrounding the island. Later, when he undertook to chart magnetic fields over Iceland, he trained as a pilot in order to be able to fly all over the country to make his observations. His pilot’s license proved useful during the Westman Islands eruption, as he could fly back and forth between the islands and Reykjavík at his own convenience. He was universally regarded as stoical and level-headed. On a flight out to the Westman Islands with Valdimar K. Jónsson, Þorbjörn, in the pilot’s seat, twisted and turned the light plane from side to side, “zigging and zagging; sometimes he turned in the direction of the south pole, and sometimes the north pole,” as Valdimar put it. On the way out to the islands, as he stood up and stretched out to grasp a bag he had brought with him, he inadvertently knocked the elevator control with his rear end. The plane went into a sudden dive, but Þorbjörn calmly resumed his seat and

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brought the plane back onto a level course. Valdimar felt compelled to admit that Þorbjörn had been “a little absent-minded” on that occasion. But that was not necessarily deemed a flaw, more a sign of his capacity to be deeply absorbed in the task at hand, and not to be distracted by trivia.

Hlöðver Johnsen, another of his close collaborators during the eruption, also tells an amusing anecdote about Þorbjörn and the men risking their lives on the lava:

[O]ne time, when some of the men were having difficulty connecting water hoses atop the half-molten lava, in scorching heat and clouds of steam, a man was standing at a distance, watching. One of them called out to him: “Come here, you bastard, and help us out.” And the man didn’t hesitate, he did all he could to help, and did well. They managed it, as usual, and the men set off back to their digs at the fire station, where they told the others about the weirdo who had been wandering about in the lava field. He’d lent them a hand, admittedly, but he certainly wouldn’t be back, as he’d set off in the opposite direction, out into the lava field, and vanished into the murk. They were asked to give a more detailed description of the mystery man, and it transpired that it had been The Man himself, Þorbjörn Sigurgeirsson. And of course he turned up again, safe and sound.9

The geologists and other experts who were observing events on the Westman Islands were often asked their views on the probable course of the eruption, and whether such cooling efforts had any chance of success. Þorbjörn had expressed his opinion, and convinced others to try what he suggested, but not everyone was persuaded. One dissenting voice in particular stood out.

9 Hlöðver Johnsen, Bergið klifið: Minningar veiðimanns (Reykjavik: Almenna bókafélagið, 1986).
The Aquarium

The French geologist Haroun Tazieff, known for his writings as well as for his dramatic photographs and films of eruptions, visited Heimaey island as the pumps began their work and a report of his journey appeared in the French daily Le Figaro on February 21. There, Tazieff maintained that the village on Heimaey was “virtually doomed” should the eruption continue. The Icelandic ambassador in Paris noticed the report and mailed a copy home to Iceland that same day. The following day, the Associated Press sent out a report much the same as the Figaro article. On RUV radio news in Iceland, Tazieff was reported as expecting the village to be destroyed. Another eruption was foreseeable in the village itself, he said.

Tazieff was described in the radio news report as “one of the most renowned volcanologists in the world” who had “spent time on Heimaey island doing research for UNESCO.” He had descended into a deep volcanic crater in the Congo, crawled through caves in the bowels of the earth, and walked alongside flowing lava in many places around the world, according to an interview in daily Icelandic newspaper, Morgunblaðið, with “the famous volcano man Tazieff.” What was the correct response to this authoritative voice? Should the people striving to save the village and the island from destruction simply give up, one month into the eruption? At the University’s Science Institute, Tazieff’s challenge was taken seriously. The same day that his views were broadcast, the Institute called a meeting to address the issue.

Þorbjörn, who had organized the pump brigade and who could be unceremoniously blunt at times, at the meeting got straight to the point: “What are we supposed to think of this H. Tazieff?” he asked. “As a scientist, a photographer, or what? […] If we don’t respond we’ll be seen as accepting his views.”

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10 Minutes of the Science Institute, University of Iceland, February 23, 1973.
12 Minutes of the Science Institute.
According to the Associated Press report, Tazieff had stayed on Heimaey at the local aquarium, along with other visiting experts. “We slept on the floor there, surrounded by twelve fish tanks,” he said. “During the night, as the volcano raged and the thundering din resounded around the doomed village, we observed big fish swimming towards us, their teeth glinting. I have never experienced another such night.”

Established in 1964, the aquarium was an exciting place for children and teenagers, especially at feeding time. The strange worlds in the fish tanks were microcosms of the North Atlantic that surrounded Heimaey and fishermen would sometimes donate specimens of rare species they caught alive at sea. The aquarium was run by Friðrik Jesson, a gym teacher at the elementary school, and his wife Magnea Sjöberg. Friðrik, who demanded discipline in both the fish tank and the gym, seemed to have developed a relationship with the wild catfish, as if he had domesticated them. When the eruption began, he and his wife refused to abandon their sea creatures, moving into the aquarium and providing lodging for a few scientists as well, rather than leaving the island.

Tazieff had audaciously ventured up onto volcanoes. His bravado in the vicinity of erupting craters and glowing lava was well known from one of his documentary films, Le rendezvous du diable (1959), released in English as The Devil’s Blast. But his reputation for a cool head was undermined by a story told in Iceland that during his night among the fish Tazieff had woken up in terror, gazing straight into the horribly fanged maw of a gigantic wolffish (Anarhichas lupus). After that he was adamant about wanting to get off the island and about the doomed fate of Heimaey. Perhaps the wolffish wasn’t the best of roommates. Writer Stefán Jónsson once remarked of it: “No other fish has such a deep-seated will of its own — and under the hooded, rounded brows are blue eyes, hard as nails and glittering with something that is either divine or demonic.”

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Was the wolffish afraid as well? Did the fish sense the tremors and the thundering din, like the horse that was startled on the first day of the eruption? Nobody seems to have considered that possibility. At that time, feelings were regarded as an exclusively human domain. Other animals—or “animals” in the parlance of the time, as if we humans were not animals, too—and all other living beings were seen as insensible and incapable of feeling pain. Ethical principles applied only to humans.

It was an interesting chance that placed some of the visiting scientists in amongst the fish. Aquaria, like the decorative but informative botanical gardens created in many cities, represented in tangible form the dominant attitude in science that assumes a dichotomy of man versus nature. The aquarium was separate from the human world, while subject to human influence, with humans alone able to understand what went on within it. They “read” the book of nature, able to understand the living conditions of the fish, the relationships between the different organisms, the food chain, and so on. I have maintained elsewhere that many of those who address the future of the oceans have a tendency to regard them as giant aquaria, and therefore imagine that we stand apart from them.¹⁴

To some extent, the battle with Eldfell and the lava flowing from the new crater was similar to managing a fish tank. Both are microcosms of humanity’s conflict with a subjugated Earth that serves human interests. The Science Institute had even proposed to drop explosives on an erupting volcano, an idea that typified the twentieth century’s relationship, or lack thereof, with Earth. Human beings placed themselves at the imaginary Punctum Archimedes, looking down on the earth from afar, keeping it mentally at arm’s length, while considering its content and revising it at will. Archimedes would have been thrilled. Or would he? The Ancient Greek sage is probably best known for discovering the principle that bears his name:

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the law of buoyancy, which states that an object immersed in liquid is buoyed up by a force equal to the weight of the liquid it displaces. Would he have swung himself up into the tank with the wolfish, and enjoyed the spectacle as the displaced seawater gushed out onto the floor?

**Fiery Lava**

Þorbjörn’s diaries from the time of the eruption recently came to light.\(^{15}\) They comprise four small notebooks in which he made scribbled notes of readings taken as he walked about the burning lava field, and observations recorded after he returned to his lodging. He assessed the situation, determining where the greatest danger lay and what had been achieved (fig. 17). His handwriting varies according to the circumstances, sometimes

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tired out after a long day, or night, walking in the lava. His notes are not always in chronological order, the reason for which is unclear, but it is disconcerting for the reader. Perhaps he simply grabbed whichever notebook was at hand and scribbled his notes wherever he could, focused above all on writing down the important points, the ones which might prove useful in the following days. Why should he care about anyone who might try to decipher his notes when the eruption was over?

The disorder of his notebooks probably accords with the chaos that reigned out in the lava field during the eruption, including all the factors that Þorbjörn had to keep in mind in order to achieve his goal; the constantly changing conditions, which must be addressed; and the absolute imperative of not giving up. For that very reason his diaries are, in their way, vital documents, alongside the detailed formal reports that were written about the salvage and rescue operations on Heimaey. Þorbjörn does not, admittedly, provide anything in the nature of a personal narrative; he doesn't mention his feelings, disappointments, or victories, nor report on his interactions with other people out in the lava field. His focus is all on the essentials: The work of cooling the lava by a combination of means, as he experienced it in the hard toil out in the lava field, surrounded by pumps and the men who were operating them. On occasion he was roused in the middle of the night, if the lava suddenly gushed forward. On March 10, for instance, he notes: “Called out at 4 a.m. Lava flowing into the sea right by the harbor wall.”

As the work of cooling the lava continued, Þorbjörn took temperature readings and samples of gases, and recorded photographic evidence using film and still photographs, carefully noting the time and location. Interspersed with these details are references to flights over Surtsey island, or to the mainland. His days were crammed with activity. In view of the huge task confronting him, and how much was at stake, one can only admire his cool head and patience.

It was not easy to find one's way in the lava field, the “New-found Land” or Terra Incognita, as explorers and cartographers called unknown territory in the Middle Ages. Familiar land-
marks such as “Shoulder Stone” had been swept away in the eruption, and the clouds of smoke and steam over the lava were often so thick that Þorbjörn and his colleagues lost their bearings. The shifting landmarks in the lava field were sometimes given names by the men working there. Some names were derived from someone on the island.

Humorous tales are sometimes told of seafarers who tried to navigate using clouds as their “landmarks.” Like clouds, the landmarks in the lava were mutable and ephemeral. One of these was Flakkarinn, “The Wanderer.” This huge rock had split away from the rim of the Eldfell crater during a massive explosion in the middle of the night in late February. It then started its progress down the lava field, making a getaway, like the stones that Þórbergur Þórðarson pictured in his book *The Stones Speak.* In the Middle Ages people spoke of the *homo viator,* a pilgrim travelling in a quest for salvation; here was a whole mountain on the move — with no apparent goal. Some of the men working in the lava field tried hitching of the ride on the Wanderer. The wandering “mountain” juddered beneath them as it careered onwards, they said, as if propelled by a malfunctioning engine. This denoted the extraordinary relationship these men had with the Earth.

The first victory in the battle with the lava was a joint achievement by bulldozers, firefighters, and fireboats, won at the harbor in late February. A stream of lava heading straight for the harbor was halted at a manmade barrier. Those who observed the pilot boats spraying seawater onto the edge of the lava field were convinced that the harbor had been successfully defended by this method — at least for the time being. The scientists felt that they now knew what had to be done. As confidence increased, some fish processing was resumed. Some of the Heimaey boats, as a result, would return, occasionally landing their catch, in this case mainly capelin for “melting” or grounding as fish meal.

Interestingly enough, a fortification erected in the sixteenth century, to defend the assets of the King of Denmark against English merchants and foreign raiders, played a useful role in the battle for Heimaey. Skansinn, “The Fort,” was a high stone
wall built in 1586 for King Frederik II and rebuilt after the “Turkish Raid” of 1627, when Barbary corsairs captured hundreds of Westman Islanders to be sold into slavery in north Africa. That Skansinn proved itself a sturdy obstacle to the lava flow of 1973 calls to mind the roads made by inhabitants of Fogo in the Cape Verde archipelago that unexpectedly made history in 2014, when the volcano Pico do Fogo began to erupt. There, though, the impact was different, as the roads invited the lava straight into the villagers’ homes. As in the Westman Islands, ever since the days of colonial rule, many generations had unknowingly played their part in the disaster, be it for good or ill—just as may be said of people all over world today.

**Drilling into Magma**

Geothermal sources of energy play an increasing role in Iceland, partly because the damming of wild rivers is contested by environmental groups. An ambitious Deep Drilling Project was recently launched to explore deeper sources of energy with exceptionally high temperatures at the Krafla volcano in northern Iceland. In the spring of 2009, drilling progressed until 2066 meters in depth, when the machinery got stuck. It turned out the drill had, unexpectedly, reached into the mixture of molten and semi-molten rock between the Earth’s surface and the mantle around the planet’s core. The drill, an extension of humans much like the white cane of a blind person, had ventured into...
a magma reservoir, a rare occurrence despite thousands of geothermal drilling projects worldwide.

Keeping in mind the threats posed by major magma extrusions (i.e., volcanoes) throughout history, some of those involved no doubt wondered if drilling into magma would be catastrophic. Some may have pondered what such a capture of fire by humans, no less remarkable than the playing with fire at the dawn of humanity, would involve. What would be the consequences of such an intrusion, a conflation of the familiar rhythms of human life and the deep time of the Earth and the solar system? Surely, this was a far more spectacular scientific advance than the “domestication” of a lava flow during an eruption — and with totally unpredictable consequences. Would the stunning opportunity to touch magma and study it before it cooled and lost its magmatic qualities disrupt the flow of time? Hadn’t this encounter with magma violated the long-standing barrier between the dead geologic interior of the planet and its living, cultured surface?

“THE HOUSES HAD NO TIME TO BURN”

While the battle for Heimaey progressed, I remained in Manchester, attending lectures in the imposing house which had been home to Friedrich Engels in the nineteenth century at the height of the Industrial Revolution. Now occupied by the University of Manchester’s Department of Anthropology, where I was a student, this house must have been where the comrades Marx and Engels hammered out their Communist Manifesto, whose ideas would reverberate around the world, shaking up human societies with the power of an erupting volcano. While the Industrial Revolution was central to their theories, they could have had no idea that one of its consequences would be an insatiable demand for energy, or that this demand would sow the seeds of our current environmental crisis. Certain elements of their ideology may hold lessons for us, in particular their analyses of inequality, the laws of capital, and the global financial system. But in their day coal and oil were simply resources,
elements of the economy, while the focus was on growth, and human control of nature. They foresaw the end of capitalism in a revolution of the proletariat, but that would have made no difference to human progress down the primrose path to the everlasting bonfire. Perhaps the Industrial Revolution and the steam engine blew smoke into the eyes of Marx and Engels, and the Marxists who followed their lead.

I had initially wanted to write my thesis about the society of the Westman Islands and its proximity with the sea. The department was not sure what to make of my idea, as anthropological studies then tended to focus on societies of nomadic herders in East Africa, for instance. Now that the Westman Islands community was in crisis, and I had no wish to take the crisis as my subject, I would have to shelve the idea. I don’t suppose I would have known where to start, as an individual or as an anthropologist. Did anthropology have any contribution to make in such circumstances? Did I have any contribution to make? Wouldn’t I be too focused on myself and my own relatives, given the circumstances?

Far away in England, I made do with the news of the eruption that I could glean from packages of newspapers sent by my parents. Sometimes there was a letter with the papers, and occasionally I phoned home for an update. My father kept up with developments through his job: He worked at a petrol station in a new suburb of Reykjavík, where he met a lot of Westman Islanders. Dad was a sociable, helpful man, who made friends easily. Many of the evacuated islanders were living in Reykjavík for the duration of the eruption, and they often dropped in at the petrol station to exchange news. During Dad’s shifts the station was a hub of activity. The family joked that it was part of the social service. Mum was in frequent contact with relatives who had remained behind, who recounted their adventures and told her about the fate of the homes that fell prey to the falling ash or the advancing lava, one by one.

The last mistress of the house at Bólstaður, Íris Sigurðardóttir, had never been at ease alone in the house, although she had no objection to being on her own in other places. It was as if...
there were some mysterious presence in the house, not found in other houses. Now Íris was in Reykjavík. She would never return to Bólstaður, which had been her family home for over a decade. Her husband Hafsteinn Ágústsson soon went back to the island to take part in the salvage operations. He seized the opportunity to retrieve the family’s furniture, clothing, and crockery, and transported their household goods to the mainland aboard the boat which had evacuated the extended family that fateful January night. The old worker’s cottage of Bólstaður was left standing empty and deserted.

In the Path of the Lava

In the middle of March, lava engulfed a large section of the east village. The teams manning the hoses that cooled the lava were repeatedly forced to withdraw before the capricious advancing flow. The following days marked a turning point in the story of the battle with the lava, which was inexorably advancing in two parts of the east village. The part regarded as doomed was known as Death Valley. According to one press report, “[t]he lava is moving so fast that the buildings don’t even have time to burn.”

On March 22, Pastor Þorsteinn Lúter Jónsson summoned the remnants of his Lutheran congregation on Heimaey to mass in Landakirkja. The islanders called it the Fire Mass (fig. 18), referencing the famous Fire Mass held in 1783 by Pastor Jón Stein-grímsson, whose detailed descriptions of the catastrophic Laki eruption were well known. Pastor Jón had urged his parishioners to repent their sins if they wished to be delivered from destruction. Tradition tells us that the lava in 1783 halted when it reached the church, sparing the building and the faithful gathered, praying, inside it. Wrote Pastor Jón:

Both myself and all the others in the church were completely unafraid there inside its walls. No one showed any signs

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of fleeing or leaving during the service, which I had made slightly longer than usual. Now no length of time spent talking to God could be too long. [...] From this day onwards the fire did no major damage to my parish in this way.\textsuperscript{20}

At Pastor Þorsteinn’s Fire Mass in 1973, “It was a congregation of exhausted men, unshaven and dressed in woolen sweaters and overalls, who attended church that night [...]. In the chancel some of the men stood holding lit candles. Pastor Þorsteinn gave an impassioned sermon.”\textsuperscript{21} The congregation sang the Icelandic version of Gerhardt’s hymn \textit{Entrust Your Way}, expressing willingness to confide one’s fate to the hands of God in times of travail. Among those who attended the Fire Mass that night was Sigurgeir Örn Sigurgeirsson, the only person to die in the eruption.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Fig.18}
\caption{The “Fire Mass” in Landakirkja, March 22, 1973. Photo by Sigurgeir Jónasson.}
\end{figure}


\textsuperscript{21} Ibid.
Landakirkja was a sturdily built historic building dating from the eighteenth century. Its massive stone walls rested on bedrock that, until now, had never been disturbed. The church was a vital element of island life and played an important role in my early memories. I had been christened here, and, in due course, confirmed. Like other confirmands, I had attended Sunday masses as part of my instruction and taken Communion. The mass in Landakirkja at the height of the eruption was psychologically empowering, but neither the mass nor the prayers of the congregation could halt the advance of the lava. “That was a horrific night on the Westman Islands,” wrote a reporter:

The lava was flowing so fast you could see it move, in part of the village; it smashed houses in an instant and then engulfed them. Window panes were constantly shattering, roofs and walls were pulverized; the deafening din was like the houses wailing. Nothing could be done.22

Black humor offered many who were on the front line a way to cope with their anxiety. As the lava rushed inexorably onwards, and one building after another burst into flames, a ball of flaming lava crashed through a skylight in the western part of the village. As the fire took hold, the householder phoned the fire station to request assistance, as he was unable to put the fire out. The fireman quipped: “Have you got a booking?”

Most Westman Islanders who were monitoring the progress of the eruption, whether on the ground or from afar, attached particular significance to the electric power station. I was aware that the efforts to safeguard this essential building might well be doomed to failure, and I kept up with news of it as long as possible (fig. 19). It was an impressive concrete building in the modernist style with a hipped roof, which had brought a cosmopolitan touch to the little fishing community. Its powerful generators supplied electricity to the entire community all year, around the clock, like the sun that reliably rose and set

every day. Behind it rose the Heimaklettur cliffs, with their own hipped roof.

To Westman Islanders the power station stood for progress and human potential in the age of technology, calling to mind other, bigger power stations and ongoing technological advances — even flights to the moon. But in the end the men fighting to save this beacon of the future had to admit defeat. Some of those who watched as the building succumbed to the lava shed tears. Every light on Heimaey went out. Darkness reigned, as if the island had been transported back to the ancient times. The modern world had symbolically crashed and burned, vanquished by the flow of lava.

*Bólstaður Goes Up in Flames*

A person’s habitat — the hearth, the home, the manor, the castle — has both economic and emotional significance. It is the world and the environment in which people function in all societies. Even those who are constantly or seasonally on the
move, for whatever reason, have a camp or a hearth. Perhaps it would be more correct to say that the environment, the people, and the community are one. Nowadays that unity is constantly being sundered and the concomitant trauma leaves no-one untouched.

On Heimaey in late March, the pressure was so great that few people on the island took the time to stop and observe individual buildings being consumed by fire and lava, but when some unusually important building was in danger a crowd might gather. On the night of April 1, the fishing boats that had been slowly returning sailed out of the harbor, as it was impossible to tell whether the harbor mouth or the harbor itself might be closed off. On April 2, the lava destroyed my Bólstaður and the nearby buildings (fig. 21). The event was reported in the newspaper in Reykjavík the following day.23

Fig. 20. The advancing lava a week before Bólstaður (shown by arrow) was destroyed. Photographer unknown.

the battle for heimaey

My mother heard the news that Bólstaður had been consumed from her nephew, Siggi, who was operating a crane as part of the lava-cooling operations. Siggi owned the only crane on the island during the eruption, and he and other men were working night and day, transporting the pipes that carried the cold water out onto the lava, as well as fetching valuable machinery out of danger.

On occasion the thirty-ton crane maintained a delicate balance as it transported heavy machinery dangling from its sixty-foot boom. But Siggi knew what he was doing. One day he took a short break to show a workmate the house where his grandmother had lived. Siggi’s father, Óskar, had grown up in Bólstaður, and for years he had himself been a frequent visitor to our grandmother, Auðbjörg. A few days earlier, a bulldozer had crafted a temporary road for the cooling team onto the new massive lava behind the house, as if the house were safe. Now Siggi heard that Bólstaður was in imminent danger from the lava. As he and his friend approached, they saw a huge rock come flying down from the lava flow, right through the house. The old house “disintegrated and was destroyed in a moment,” Siggi reported. My mother did not necessarily say much, but when she did it was always to the point. When she heard the

Fig. 21. The eastern part of the village of Heimaey, April 2, 1973. Photo by Eiríkur Þ. Einarsson.
news of Bólstaður, “it gave her a disagreeable feeling,” she told me later: “It made me feel strange in my body.”

As I explore footage from the days of the eruption, stored in the film archive of Icelandic State TV, I notice a few seconds of coverage of the Bólstaður neighborhood. The camera slowly follows the lava front around Bólstaður. I notice that a bulldozer has carved a road onto the lava piled up behind the house. This must have been to provide access for the cooling team. I was not aware of this. It seems to indicate that the experts thought Bólstaður was reasonably safe. A few hours later, the house and the road disappeared.

Of Bólstaður, I recall the dark and dampness in the basement and attic, and the light and warmth on the ground floor. I recall listening to stories from Grandma Auðbjörg, and visits from my grandfather Gísli, who in the last years of his life came to the Westman Islands each year from the East Fjords for the fishing season. I recall the family eagerly listening to the radio in the tiny best parlor, card games in the dining room, playing ball in the garden, visiting the neighboring homes, sledding down the road, and so much more. At the basement entrance there was much to catch a little boy’s eye. Dad would pluck the puffins caught from the cliffs, sharpen skates, paint car hubcaps, make various things, humming a random melody as he worked. Sometimes he would dig out a primus stove and a saw and sear some sheep heads in the flame before sawing them open to reveal the brain, tongue, and so on — traditional delicacies that I really didn’t like.

Our habitat tends to play a dominant part in our consciousness. It is no coincidence that concepts such as economics and ecology derive from the Greek oikos, meaning house. Likewise, the Latin domus, meaning building or home, is the root of many words, such as domesticate, literally to “bring into the home.”

It is no exaggeration to say that Bólstaður, and the other buildings destroyed by lava or ash, had a “sudden death” and Westman Islanders have found that an appropriate way to put it. One local man raised a flag in front of his home as the final moment approached, and when the house had breathed its last
breath, he lowered the flag to half-mast in its honor. The police objected that his action was in contravention of Icelandic flag law, but the men nearby clustered around to defend the flagpole. And then the house was gone.

THE FIREWALKERS

Would it prove possible to domesticate the fast-flowing lava, to lead it, not into the house, but away from our habitat? Would Þorbjörn Sigurgeirsson and his pump brigade be forced to admit defeat, as George Perkins Marsh might have predicted? Four years earlier humans had taken a “Giant Step” on the moon, and it seemed as if we could achieve anything we wanted. Or had the human drive to conquer nature, dominant since the Industrial Revolution, finally met its match?

The efforts of the Westman Islands fire brigade to cool the advancing lava were working. But by the time the eruption had been going on for two months it was clear that the fire pumps could not cope with the strain. Following a series of explosions in the crater, a new stream of molten lava spewed out to flow in two directions: towards the harbor to the north, and towards the houses in the eastern quarter of the village. There, the buildings were overcome one after the other, going up in flames or collapsing under the weight of ash and molten rock. The scale of the task was far beyond what ordinary firefighting could cope with.

Professor of Engineering Valdimar K. Jónsson, whose field was heat and heat transfer, was called upon to help. The chair of Iceland’s Natural Disasters Compensation Fund asked him to compile a list of pumping equipment which would be suitable for the large-scale lava-cooling efforts on Heimaey. He had returned to Iceland a few months before the eruption, after many years of working and studying in the UK and the US. The plan was that Valdimar would go to the United States to select the appropriate pumping equipment and piping.

In 2014, two years before Valdimar died, I sat down with him to discuss the eruption. We were good friends, although we saw
ourselves as belonging to different generations, as well as to different fields of scholarship. We had met through our work at the University of Iceland, representing our respective disciplines on committees, and sometimes taking opposing views. The university has long been divided along traditional lines, with natural sciences on one side and humanities and social sciences on the other. Suðurgata, “South Street”, the road dividing the university campus, stands for that rupture — a sort of North Atlantic Ridge between the two “tectonic plates” of thought, floating on fiery magma. Suðurgata is something of an accidental black spot, both literally and metaphorically. It is a real danger to life and limb, as well as an obstacle to free dialogue. Yet both Valdimar and I knew what it was like to move from a small community, one a little rough and unfinished, to the neat and tidy environment of the university campus with its elitist traditions. I think he identified with John Lennon as a “Working Class Hero.” I know I did.

Realpolitik in the Cold War

Valdimar had kept up with the progress of Þorbjörn and his pumping team, but their efforts made him smile a little to himself: “That’s not good thermodynamics,” he thought. Many Westman Islanders also had their doubts about the soundness of the lava-cooling theory. The Homeowners’ Association of the Westman Islands, for example, felt that priority should be given to helping people resettle elsewhere. Nevertheless, Valdimar agreed to lend a hand. He rapidly compiled his shopping list and made ready to go to the US. As he was waiting to board his flight at Keflavík Airport, he was paged on the public address system, informed that time was now of the essence, the eruption was intensifying. The pumps and other equipment on his shopping list had already been located and would be sent immediately by air. Valdimar hurried back to Reykjavík, a little puzzled about who had providentially stepped in to help. One of the Americans who had helped find and gather the new pumping system

was physicist Charles B. Moore of the New Mexico Institute of Mining and Technology. Moore had visited Iceland during the Surtsey eruption in 1963 to study the lightning in the pillar of volcanic ash and smoke. His photos of the spectacular bolts of lightning within the clouds of volcanic smoke were widely published.

Immediately after the eruption began, the US government offered Iceland a range of emergency equipment and technology. In the ongoing “Cod War” between Iceland and the UK, Iceland had two means of attack—one using the infamous trawl-wire cutters, and the other involving more diplomatic methods as a fellow-member of NATO—and the US had proved to be a useful ally. But Iceland’s relationship with the United States had been complicated by a statement from the new left-wing Icelandic government, when it took office in 1971, that the treaty regarding the US naval air base at Keflavík, an hour outside of Iceland’s capital, should be reviewed. The base, established just after World War II when the US and the UK occupied Iceland, had always been controversial. By the 1970s many Icelanders felt that the US military presence, far from protecting the island from a possible Soviet incursion, in fact made it a potential target. The future of Iceland–US cooperation was uncertain. The government thus found itself in a predicament with regard to the emergency assistance offered by US authorities. They accepted the offer of a rescue helicopter but hesitated to go further.

The Icelanders were “fully capable of dealing with this challenge without requiring outside support,” a minister from the radical People’s Alliance Party, who was the former editor of a left-wing newspaper, declared in late January.25 He lashed out at those who “concentrated day after day on maligning the Icelandic authorities, Civil Defense, and the hundreds of people who have worked day and night to resolve the problems—at the

same time singing the praises of any assistance provided by the military at the Keflavík air base.”

Þorður Sigurgeirsson, who had come up with the idea of cooling the lava, vehemently opposed to the American base at Keflavík himself, no doubt faced his own conflicts on the subject of accepting US technical aid. But Westman Islanders of all political stripes simply thought the government was shilly-shallying. A left-wing leader among the islanders was asked to telephone their government minister to urge him to expedite the acquisition of the pumping gear. The Cold War took on its own strange forms on this little North Atlantic island.

No doubt personnel at the US Embassy in Reykjavík had been closely following these debates. Once the Icelandic government decided to accept the Americans’ offers of help, Ambassador Frederick Irving was ready to act. His wife, Dorothy J. Irving, has described the impact of the water pump issue on family life at the ambassador’s residence: “A young scientist at the university,” she said, had requested that Sveinn Eiríksson, the Westman Islands Fire Chief, meet with the ambassador, as so much was at stake. The Americans, Sveinn believed, probably had suitable pumping equipment at their disposal. “I’ll do what I can,” replied the ambassador. Sveinn gave the ambassador the shopping list that Valdimar had compiled — and so began what the ambassador’s family would call “the spring of pumps and pipes”:

For three weeks every meal, even breakfast, was interrupted by, “It’s a call from Washington, or San Diego, or Norfolk.” It became an expected part of our mealtime. So expected that when one Sunday dinner was interrupted by a call from our Washington daughter, we spent five minutes exclaiming to her how wonderful it was to have a call from the States that wasn’t about pipes and pumps, hose lengths, or delivery days. Finally, she forcefully interrupted our enthusiastic greetings.

26 “Það eru afrek þjóðarinnar sjálfrar, sem skera úr um alla framtíð hennar,” 
þjóðviljinn, February 2, 1973, 16.
“Whoa, Mom, Dad, wait a minute. I’m calling to tell you I’m engaged.”

Sometimes major family events had to take precedence over the interests of NATO, the Westman Islands harbor, and the Icelandic nation.

Through the mediation of the US Embassy, arrangements were made to send forty-three powerful pumps and the necessary metal water pipes to the Westman Islands as rapidly as possible. They arrived at the end of March, transported by four military heavy-transport aircraft, including three Lockheed Starlifter C-141s and one huge Lockheed C-5 Galaxy, said to be the largest plane in the world at the time. The vast transport capacity was needed for the many tons of equipment.

The American water pumps were installed by the Heimaey harbor and were connected so as to maximize efficiency and provide a continuous water supply. They were set up in four separate units, to ensure stability and reliability. Some were suction pumps, bright yellow in color, while others were high-pressure pumps, painted green. Valdimar K. Jónsson was assigned to manage the installation of the pumps, meet the thermodynamic requirements of the task (i.e., estimate how much water was needed to cool a given quantity of lava), and ensure that the pumps functioned properly, delivering the required water to the right areas of the advancing lava flow, in accordance with Þorðbjörn Sigurgeirsson’s instructions, as the lava moved. Various other operations also required coordination, such as running repairs to the pumping mechanisms, connecting the pumps to the water supply via pipes, and bulldozing up earth barricades to facilitate water-cooling the edges of the lava and prevent landslides (fig. 22).

Plus, food and accommodations had to be provided for all the people involved in the operation, numbering up to seventy-five at a time. Some were housed in the aquarium next door to the

27 Dorothy J. Irving, This Too Is Diplomacy: Stories of a Partnership (Bloomington: AuthorHouse, 2007), 132.
fire station. Others found rooms at the nearby HB Hotel, or in a fishermen’s hostel by the harbor, or at the power station — until it was engulfed in lava. Some sheltered in abandoned houses. For months these were the habitats, places, and ground that the teams striving to save the town and harbor bonded with.

Fire versus Water

The arrival of the new pumping gear marked the commencement of a new period in the Battle of Heimaey, as it was sometimes called, as well as a whole new chapter in the ongoing story of humankind’s battle with volcanoes. The American pumps were activated, one after another, at the beginning of April. They could provide a thousand liters of water per second, up to a height of 100 meters above sea level. In calm weather, the stench and smoke of the diesel and gasoline engines hung over the quay. The din was intolerable at times. Some of the pumps pumped seawater out of the harbor, while others propelled it onwards, far out into the lava field. Designed to pump fuel in short
spurts, the machines were strained to their utmost by pumping seawater continuously for weeks at a time. Naturally, components failed under the stress and had to be regularly replaced. The machinery was in the care of a team of mechanics and technicians, some from the Westman Islands and others brought in from Reykjavík, who strove to keep the pumps running, in the hope that the cooling project would be a success and that the eruption might soon come to an end. The plan was to pump water around the clock for weeks, or even months if necessary.

The question was, would it work? Would pumping cold seawater onto hot lava, at temperatures up to many hundreds of degrees, slow or stop its advance, which was sometimes as fast as walking speed? If so, it would be a magnificent feat of engineering ingenuity. Running the pumps was one thing, but it was quite another to ensure that the water flowed unhindered through the heavy, rigid metal pipes across a bed of scorching lava that was constantly shifting. The aluminum and steel pipes moved around and had a tendency to break or leak as the lava heaved beneath them. Earlier during the eruption, the islanders had discovered that they could use plastic pipes, which had been brought to Heimaey originally for other purposes. Provided that cold seawater flowed through them continuously, the plastic pipes did not melt in the heat. Sometimes small holes were drilled in the pipes, allowing a little water to trickle out and thus cool the plastic and the lava directly underneath it. The plastic pipes adapted to the unstable lava much better than the metal ones and, in the end, plastic pipes comprised three-quarters of the pumping network. Here, as elsewhere in this unprecedented project, resourcefulness was key, as the participants had to work closely together in order to achieve the best results.\(^{28}\)

Roads were bulldozed up in the lava field, leveling the rough, fresh lava and making it more accessible. Yet in this weird and wandering landscape, a road might move by dozens of feet from one day to the next. Sometimes the bulldozers towed jangling water-pipes behind them into areas too hazardous to enter on

\(^{28}\) Valdimar K. Jónsson, interview, Reykjavík, January 2014.
foot. Then my cousin Siggi’s crane would swing them the final yards, as close as possible to the red-hot lava, only about five hundred feet from the crater’s mouth. A total of over seven miles of pipe were laid. In a little hut close to the crater, two men were on watch duty. It was their job to observe sudden spurts in the lava flow and tell the lava-fighters below where the lava seemed to be heading.

The lava-cooling project brought many newly invented jobs, and a need for new terminology. The bunustokksmenn, meaning flowpipe men, were responsible for laying the pipes from the pumps on the quay up onto the lava, while the sprautarar, sprayers, directed the jets of water onto the advancing lava as well as glowing patches. The word bunustokkur, flowpipe, had been used previously for the system of pipes that distributed natural hot water from geothermal supplies to heat the cold houses of Reykjavík; now that relationship was reversed, as the pipes transported cold water onto the scorching-hot lava.

Both the flowpipe men and the sprayers, who worked out on the lava field, were known as the Suicide Squad or Death Squad. They were engaged in a life-or-death struggle. As one eyewitness reported, “In the worst spasms the teams and their water pumps were thrown into confusion, as hoses and tools were engulfed by the lava.” The ghoulish name was not inappropriate, but the members of the teams I have spoken to disliked it — and who can blame them? Perhaps it is more apt to call these brave men who risked their lives atop the glowing, flowing lava “firewalkers.”

Being on the move in the lava could entail mortal danger. As the cold water gushed onto the lava, huge clouds of steam rose up, blocking the view, so it could be hard to keep one’s bearings. In many cases, the men could only find their way by following the kinks and curves of the water pipes, up to the edge of the crater, or back down towards the harbor. Protective goggles were a necessity, to safeguard their eyes against injury from tiny flying particles of lava or ash.

The firewalkers often had to pick their way delicately forward over a thin crust of solidified lava atop a still-molten mass, as
if they were on the thin ice of a just-frozen lake. If they slipped and fell, they could suffer burns to their hands and wrists, and therefore as a preventive measure they made sure to keep them well wrapped up. They could not remain in one place for long, as the lava would burn through their boots. Each man had several pairs; as one pair gave way to the heat and the jagged edges of the lava, they would have fresh footwear ready to put on. Many wore over-sized boots, with two or three pairs of socks, and some carried a flask of water to pour into their boots and socks to cool their feet. Nonetheless, a number of men needed medical attention for burns to their feet. Young men with nerves of steel, who as boys had leapt from stone to slippery stone down by the seashore, prided themselves on scampering nimbly across the glowing lava — until the soles of their shoes melted.

A major risk for the firewalkers came from flying lava bombs flung high into the air, which could crash down to Earth far from the crater. Such bombs are lumps of hot, glowing lava, ejected by the volcano and molded into spheres as they fly through the air. On occasion lava bombs rained down between the firewalkers and the safe territory below, trapping them in the hot lava field. It was even more dangerous to try to escape than to remain where they were. The men had hard hats for protection, but these were hot and sweaty, and they often removed them and wore ordinary headgear instead. Many of the firewalkers had narrow escapes from the lava bombs, but it was their astonishing good fortune that this hazardous job led to no deaths or major injuries.

It was a crude masculine life. Only one local girl, it seems, joined them on the lava. Sixteen-year-old Sigriður Högnadóttir started work in early March on the old Skansinn fortifications, where she was put in charge of pumps and helped the men move hoses and machinery around. But she did not stay there long.

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30 Gunnhildur Hrólsdóttir, Þær þráðinn spunnu (Reykjavík: Frum, 2015), 382.
as the firewalkers are said to have been so concerned about her wellbeing that she was transferred to safer work, in the kitchen. The ash that rained down on the village, accompanied by toxic gas, was disturbingly reminiscent of a war zone. This was a period of retreat and disappointments, as the lava continued to advance. The people working on Heimaey became thin-skinned, hypersensitive to the criticism they encountered when they visited the mainland. Personnel of the government’s Natural Disaster Compensation Fund were sometimes met with abuse when evacuated Westman Islanders spotted them on the streets of Reykjavik. Homeowners from the island seemed to feel that the salvage teams should be watering their plants for them as they hurried from house to house boarding up windows and draining water systems. When Westman Islanders attended a meeting on the mainland to discuss compensation for their losses, it was suggested that they send good wishes to the salvage teams on Heimaey, but the proposal was resoundingly defeated. Some of the rescue workers recall avoiding places where they would meet fellow islanders:

We had felt it was right to combat the advancing lava and resist; but with the wholesale destruction of the past few days many of us were, at heart, beginning to have doubts. And the idea was even starting to get to us, that maybe it was right, what people were accusing us of — that we were wasting public money […]. A certain feeling of guilt was coming over us, slowly but surely.\(^{31}\)

But still, was it working? Þorbjörn Sigurgeirsson was well aware that his experiments with lava cooling were controversial. Doubts were frequently expressed, and the newspapers published caricatures of scientists armed with tiny water-pistols aimed at the glowing hot lava. The lava-cooling project required massive organization, finance, and manpower. So, it is not

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surprising that this remarkable experiment was the subject of public debate. As a rule, this debate varied from light-hearted raillery to serious discussions of the issues, but on occasion the reaction veered close to outright bullying, as Þorbjörn himself remarked to a colleague.32 He was a surveyor and pioneering thinker, renowned for his ambitious research. In addition, he was a political radical, a hard-left socialist in the highly polarized political climate of the Cold War. He became an object of envy and hostility. The operation in the Westman Islands naturally kept him very busy, so he did not have much time to write about the process, and little survived other than his detailed description of the cooling operations and a scientific analysis of the thermodynamics of lava and the progress of the eruption.

The biggest victory in the battle for Heimaey was won when the American pumps succeeded in cooling an extensive area of lava around the big rock named the Wanderer, finally putting a stop to its roaming. Valdimar K. Jónsson likened the cooling process to driving nails down into the lava: Each stream of water cooled the lava around it, so that it solidified more quickly, slowed down, and formed a solid protective layer.33 Ironically, the twenty-year-old pumps which played such a crucial role had been deemed obsolete when they were gathered from US military armories. In Iceland, they proved that they were not defunct, at least any more than was Mount Helgafell.

Absolution
It is tempting to see the lava-cooling project on Heimaey as a harmless and unique event in humanity’s struggle with nature. The human being, standing alone, armed with science and powerful machinery, repels a force of nature which had previously been deemed unconquerable. According to the zeitgeist, human capabilities, tools, and machinery could resolve all problems. Volcanic activity was just another challenge and, sooner or later,
people were sure to defeat that too, like other enemies of progress.

But the lava-cooling experiment was contingent on other factors. In a sense it was a consequence of global events. The big pumps that made the crucial difference were the offspring of the Cold War, built in 1953, with an original function of accompanying US military forces in order to carry out refueling in the field (fig. 23). Part of the US military arsenal, in Iceland they were known as invasion pumps. Some of them may have played a part in toppling lawful governments and installing dictators.

Many University of Iceland students went to the Westman Islands, together with their tutors, to take part in the battle for Heimaey. At that time, when student life was imbued with radical ideas of changing the world, of Flower Power and student revolt, it is hardly surprising that left-wing students were unimpressed by the pumps contributed by the Americans.
I understood where they were coming from. I’d been one of the long-haired rebels and had published radical papers. I’d been a founder of the “O Party” that ran for parliament in 1971 as a protest against the status quo. I’d organized demonstrations against the Vietnam War and the racist rebel state of Rhodesia, which is now Zimbabwe. On the very day that the eruption commenced on Heimaey, US President Richard Nixon announced the imminent end of the Vietnam War, which had been going on for nearly two decades with a peace agreement that would be signed within days. Now Icelandic students would have to turn their attentions elsewhere. But as a Westman Islander, it was hard for me to turn against the invasion pumps simply for being American. Perhaps the pumps, in the battle of the lava, would earn absolution for their past misdeeds, for their equivocal and dubious past. In the end, in spite of everything, I would have to give the pumps my blessing.

“No Lives Were Lost”

As early as February, people battling the eruption had noticed bubbles in the domestic water supply on the island, as if the water were boiling. Volcanic gases were seeping through the earth to collect in hollows and basements, sometimes via the drains. The few people, mainly salvage teams, who remained on the island were warned not to go about alone and not to lie down to sleep without an open window to admit fresh air.

Many people experienced serious breathing difficulties and nausea. Some islanders, mostly men, whose homes had been engulfed in ash burrowed their way in to try to salvage some of their possessions. The silence down there was overwhelming, they reported. All the noise and commotion outside was muffled by the thick layer of ash. Window glass, if it had not exploded in the heat, had melted and curved inwards. When someone had to descend into a basement, if he was sensible, he took a lighted candle down with him—like a canary in a coal mine. If the candle flame went out at floor level, there was probably a layer of toxic gas there. Sometimes the candle flame seemed to float in the air.
Samples of the gases were sent to Reykjavík to be analyzed by a professor of chemistry, who immediately flew out to Heimaey in a state of agitation. He had concluded from his tests that the composition of the gas was highly unusual, and that it posed a grave danger to the lives of those on the island. It contained not only the toxic compound sulphur dioxide (SO₂), but there was also a large quantity of carbon dioxide (CO₂), which scientists speculated later “may […] have been released from sedimentary layers with large shell content” when they came in contact with the red-hot lava.³⁴

Strict precautions would have to be observed. Guidelines for avoiding the dangers of the toxic gases were read aloud at a gathering on February 14, which was attended by almost everyone on the island. Freedom to move around the center of the village was subject to stringent controls. For a time, the village was practically a no-go area.

In late March the gas pollution reached its peak. The gas was not confined to basements, but also collected in other low-lying areas. Sometimes people walking through the village found themselves passing through a cloud of invisible toxins, only known by the fact that their hearts raced and they had difficulty breathing. Some said it was like walking into a glass wall. All they could do was make for higher ground and take some deep breaths. Cats and wild birds fell victim to the deadly gases, and in low-lying places car engines sometimes choked and refused to restart. People were advised to keep away from the high-risk spots, but that was not always practical. Work had to continue on, cooling the lava and building up protective barriers. On occasion people who were overcome by the fumes had to be given oxygen or transported hastily to Reykjavík for treatment. On the other hand, a physician on the island felt that people were being careless about the dangers of the toxic gases and reported that some people even thought the gas pollution was just a myth.

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Sigurgeir Örn Sigurgeirsson, known as Össi, was not one of the firewalkers, but rather a fisherman. He did not fall prey to the flowing lava or the volcanic bombs, but to the odorless and invisible deadly gas. He was thirty years old. Originally from Reykjavík, Össi had lived on the Westman Islands for some years and married a local girl, though by this time the couple had split up. Össi was one of the crew on a fishing vessel known to have gone ashore on Heimaey on March 22. When the boat was ready to sail out again, he failed to reappear, and some days later the newspapers reported that he was missing. Abandoned houses and basements were searched. There were few indications of where he had gone or what he had done. Perhaps he had gone over to the mainland without telling anyone he was leaving, but it seemed more probable that he remained on the island.

Össi’s parents and six siblings on the mainland anxiously awaited news of him. He had told them many times how much he liked life in the Westman Islands and urged them to visit and experience it for themselves. His father called the authorities every day for news about the search for his son. On April 4, firefighters using breathing apparatus that enabled them to search gas-filled premises found a body in the local pharmacy. Össi had clearly lain there for days. The newspaper reported:

The first death has taken place as a result of the volcanic eruption in the Westman Islands. Sigurgeir Örn Sigurgeirsson, a missing crew member from the Sæunn ve, was found dead in the local pharmacy. His death is believed to have been caused by toxic gas. The pharmacy was searched yesterday, as the local doctor reported having noticed someone in the pharmacy the last time he was there. After a thorough search of the premises, Sigurgeir’s body was discovered in one of the rooms.35

Sometime after moving to the Westman Islands, Össi had suffered severe burns in an accident at sea. He never fully recov-

ered, and he became dependent on pain medication. When he came ashore after his last fishing trip, according to the later evidence of a friend, he went to the abandoned pharmacy to search for painkillers. Volcanic ash was piled high up the walls of the building, and Össi clambered in through a window on the upper floor. He must have noticed the dead silence inside the building, described by many islanders. Once inside he was able to open a trapdoor down to the ground floor where the drugs were stored. Before entering he had tied a string to the window where he came in, so that he would be able to find his way back out. But he never returned. As he descended into the airless ground floor, where toxic gases had displaced all the oxygen, Össi must have instantly lost consciousness.

I don’t recall meeting Össi and I only recently learned about his case. Like many others I have sometimes proclaimed the official line, “No lives were lost.” Very little has been said or written about this sole victim of the eruption. Press reports of the only disappearance during the eruption are few and brief. Even after the circumstances of his death were known, there was little coverage of the matter, beyond a report that a man had succumbed to toxic gas in the pharmacy. Perhaps the silence was partly because he had been in the village without permission. For safety reasons, fishermen were not free to wander at will. In addition, he had broken into the pharmacy intending to steal drugs. But during the eruption, the usual rules did not necessarily apply, as fuel tanks, for instance, were broken open with impunity. When food supplies on the island were running low, two village councilors doing salvage work broke into a grocery store to get something to eat. Vehicles, too, were seized as necessary, as owners left them behind on the quay with the keys in the ignition as they were evacuated to the mainland, and rescue workers made use of them as needed. The eruption transformed the Westman Islands into a sort of socialist collective, where everyone was equal and there was little respect for private property. The normal rules of commerce were in abeyance, and money was largely irrelevant.
Some people may have felt that the death of the young fisherman had nothing to do with the eruption. Yet Össi was living under the same conditions as the other islanders, in the shadow of the volcano. The Sæunn ve, on which he was a crew member, had evacuated thirty islanders to the mainland on the first night of the eruption, and Össi may well have been aboard on that journey. He had been a fisherman on Westman Islands boats before and during the eruption. He had lived there, married, and made friends. The accident at sea had led to his addiction to painkillers, but it was the volcanic gas that killed him. The cause of his death was the eruption.

Össi slipped, as we say metaphorically in Iceland, “between the ship and the dock.” Used literally, the term refers to the kind of accident which may take place when a seaman is returning to his vessel late at night. Misjudging his step on the gangway, he may literally slip down between the ship and the dock, to be swallowed up by the sea. Had Össi died doing salvage work or fighting the advancing lava, no doubt his memory would be honored. Instead, he slipped from view.

But he was not quite forgotten. His death was a major shock to the authorities in charge of operations on Heimaey. The Civil Defense committee on the island was gravely concerned about his disappearance. When the initial search efforts had yielded no results, they asked the rescue teams to search again in all the likely places in the village, including the pharmacy. But it is far from surprising that the islanders buried such unpleasant news in the depths of their unconscious. Such a tragic event was best committed to oblivion, under the layers of ash and lava. As time passed people could say, with no conscious dishonesty, that no lives were lost in the eruption.

One of Össi’s shipmates wrote a brief but heartfelt obituary, not simply bidding farewell to an outsider who had been passing through:

My dear friend, I bid you a fond farewell. But the memory of a good companion and friend will live on, though death has divided us for now. [...] You brought brightness wherever
you went. […] Your honesty was remarkable. […] We were together in the Westman Islands for many years, and there we experienced the natural catastrophe, and saw our beautiful thriving community overwhelmed by a volcanic eruption and lava. I would never have thought, when we were at the Fire Mass in Landakirkja, that the end was so close. […] We, your shipmates aboard the motor boat Sæunn VE 60, thank you for the time we have spent together this winter, and we will miss a good and trusty shipmate.³⁶

The day of the Fire Mass, March 22, when the islanders came together in the church to pray, was the day Össi came ashore. After the Fire Mass he was never seen again. Perhaps he headed straight for the pharmacy in search of something to ease the pain of his own burns, and the new pain of seeing his island in flames, with no indication of how long the disaster might go on.

“Outsiders”

After the mass evacuation to the mainland on the night of January 23, many Westman Islanders returned to retrieve what they could of their possessions and their homes, to clear ash off the roofs to reduce the risk of collapse, and to participate in the salvage effort. They were joined by many others, including students I had known at university in Reykjavík. But by mid-April new rules came into effect. Anyone who went to the island — whether as part of the salvage efforts or for other reasons — was subject to strict controls. Civil Defense in Reykjavík issued permits for staying on the island, while local officials were in charge of enforcing the rules and monitoring people’s movements. Locals, like everyone else, were issued a serial number and a badge, to distinguish them from those who had no business on the island. The word “outsider” acquired a new meaning. My father had been an outsider, growing up in another part of the country. Yet he had been a Westman Islander, part of the community, until

he moved away. The label had always been flexible, as Islanders came and went. Now, however, you either had a permit, or you didn’t. It no longer made any difference whether you were a Westman Islander born and bred.

Passenger transport was easily monitored, but the same was not true of seamen, who sometimes went ashore without the necessary permit. Under pressure from Civil Defense in Reykjavík, the district commissioner in the Westman Islands issued a notice requiring every person who went ashore on Heimaey to report to the police. In addition, the harbor would henceforth only be open during the day. Civil Defense authorities on the island were tired of fishermen coming ashore at all hours of the day and night, whenever it suited them. Some pointed out the irony of the fact that the rules were designed, at least in part, to ensure the safety of the seamen when they were on the island. But by April the eruption seemed to be winding down. The dangers appeared much reduced, and in addition seamen were better placed than most people to get off the island in an emergency, as was demonstrated on eruption night, when the fishing fleet evacuated all the islanders at almost no notice.

The district commissioner’s press release was sent out to all media. At about the same time, reports were published of looting on the island, particularly from storage facilities at the dockside. The seamen concluded that they were being accused of theft. After playing a vital role in the rescue efforts at the start of the eruption, they were now being portrayed as criminals in print and broadcast media.

The same day that the commissioner’s announcement was made public, Páll Zóphóníasson, who bore much of the responsibility for security and salvage on Heimaey, learned that seamen had agreed amongst themselves to all sail back to harbor. The police instantly responded, halting a crowd of angry men headed for the district commissioner’s office. Páll made his way between the buildings until he heard the uproar of ten or fifteen police officers, including the police chief facing down nearly 100 shouting seamen. Páll did not like the look of the situation.
Among the fishermen were some well-known strong men, eager to pick a fight.

Páll was a young technical engineer who had been living in Denmark for ten years, and had foreseen staying there, but changed his plans when he was offered the job of municipal engineer on the Westman Islands, just a month before the eruption of Heimaey.\textsuperscript{37} It was a life-changing decision. Now he cautiously advanced towards the mass of angry men and tried to make himself heard. But the noise and commotion made that impossible. Accusations flew on both sides, and it looked as if a brawl might break out. Páll, fearful of what might happen, managed to reach the police chief and ask him for a private word. They withdrew from the fray to confer. They agreed that the police would back off for the moment, while Páll tried to negotiate with the seamen. After a heated discussion, the seamen agreed to Páll’s suggestion that they nominate three men to go and meet with the district commissioner. They would all turn around and go back to their vessels, and in a little while the three representatives would meet Páll on the quay, and they would go together to the district commissioner. They did so, and the dispute was successfully resolved. A statement was issued that the seamen now had freedom of movement.

It is impossible to say what might have happened, had Páll Zóphóníasson not intervened. The dispute had looked likely to escalate into something from a Western movie, or an Icelandic saga of good versus evil, rebels versus authority. It was all part of the Battle of Heimaey. On one level the dispute was a matter of citizenship, though the revolt of this small and homogeneous group was hardly comparable with the nationalistic confrontations that had long plagued Europe and torn apart old-established nation states. Even so, if the eruption had continued on longer, more outbreaks of this nature might easily have taken place.

\textsuperscript{37} This account is based on Páll Zóphóníasson, “Þegar sjómenn gengu á land,” speech, Westman Islands, April 4, 1993.
Some Westman Islanders were financially secure, while others lived in poverty. Many of the islanders had strong bonds with the homes they had built, or where they had grown up. Others did not. Some wanted a chance to put down new roots and start over. Others did not. Children were particularly vulnerable. While the eruption was in full force, 910 children and teenagers from the Westman Islands were invited to Norway for two weeks, under the auspices of the Norwegian Red Cross and the Icelandic Association in Norway. No doubt, this relaxed some of the pressure on their parents and their hosts on the Icelandic mainland, but under the circumstances it may also have created additional anxiety.

New relationships with the earth gave rise to new pressures. Many bonds were sundered by this seething volcano, when families and friends were scattered. Some islanders salvaged their goods, but never returned to the island and had to settle for a distant relationship and virtual membership of their island community. Some marriages could not withstand the strain. Some new relationships were formed in that melting-pot of activity. Some young people found their life-partner on the very first night of the eruption, and although there was no talk of engagement, let alone marriage, at that point, the sea journey to the mainland sealed the bond.

In time some of the islanders became unwelcome outsiders. The permits and badges were disconcertingly reminiscent of the rise of nationalism in Europe, only decades before. And the islanders had much in common with the environmental refugees of the twenty-first century: stripped of their rights, denied citizenship, and forced to break their bond with their place on Earth. I think of herders in Africa forced out by drought, hunters of the far north forced out by the melting of the ice, each suddenly having to adapt to a different way of life. Some have nowhere to go, no footing on the earth. Others find new hope for the future.
Late on the evening of Easter Sunday, April 22, the watchmen at the edge of the Eldfell crater gave warning that a new tentacle of lava was unfurling directly east, across pastures and farmland. People rushed to the east of the island to watch in awe as the powerful lava flow plunged off the cliffs into the sea. Some of the lava flowed westwards, towards the harbor and the town, where it stopped, met by water pipes and solidifying lava. The cooling operation had worked, and the harbor had been saved. The Battle for Heimaey had been won.

At that moment the sceptics who had dismissed the pumping effort as “nonsense,” as just “pissing on the lava,” fell silent. Þorbjörn pointed out that just that single spurt of lava would have been enough to lay waste the heart of the town and fill the harbor. People came together to celebrate after long weeks of strenuous effort. No speeches were made, no banquets were held, but everyone involved felt a welcome sense of relief, even though the eruption had not yet died down. That moment was in truth the victory. Rather than the “end of the eruption,” it was that day that was the crucial day of the eruption. Afterwards, the cooling effort was gradually scaled down.

One of the consequences of the lava-cooling operation was — to quote American writer John McPhee, who visited the Westman Islands in the 1980s and published a *New Yorker* article about the battle with the lava in 1989 — a specific kind of rock: “Among the natural patterns of lava flows, it was utterly anomalous. In a very real sense it was man-made.”\(^38\) The idea of the new geologic Age of Humans had not been codified when McPhee wrote that succinct description, but his use of “man-made” lava is a telling example of human impact on the face and infrastructure of the Earth.

New and historical connections with Earth were being forged here. On Surtsey, the approach had been different. Ac-
cess to that island, after it suddenly appeared out of the sea in 1963, was prohibited to all but scientific researchers. A decision was made to exclude humans from this natural laboratory in order to observe its evolution. In contrast, on Heimaey island every effort was made to tame the emerging landscape in the interests of the human population of the island, to shape the lava and ash to humanity’s needs. Many years later related disputes would arise, where the traditional boundaries between human society and the landscape took on new forms. Opinions differed widely, for example, with respect to harnessing geothermal energy or building hydroelectric power plants in Iceland’s uninhabited wildernesses, as well as the desirability of restricting visitor numbers at popular natural attractions and historic sites.

_The End_

Eventually Eldfell calmed down and stopped erupting without any human intervention. The final day was June 26, 1973, though Westman Islander Hlöðver Johnsen, who had been assisting the geoscientists, didn’t declare it as being over until three days later. In his memoirs, he wrote that it had been “mainly wishful thinking”: June 29 was his wife’s birthday, and the end of the eruption made a “nice birthday present.” He added that, although he did not feel he had the “standing” to declare the volcano officially dead, he did it anyway. Then he got hold of a rope, with the intention of entering the crater to ascertain that truly nothing was happening there anymore. Hlöðver was renowned for his sprang technique, his skill in climbing down cliffs on ropes to collect seabirds’ eggs in the Westman Islands tradition. When Þorbjörn, the volcano’s unofficial spokesman, returned to the Westman Islands on July 2, Hlöðver was waiting for him: “I told him everything was ready — I’d taken the rope up to the crater, and we should just go straight on down.” At that moment the end of the eruption was officially set in stone. The two men took gas masks, a walkie-talkie, and asbestos socks. Wrote Hlöðver:

39 Hlöðver Johnsen, _Bergið klifíð_ (Reykjavík: Almenna bókafélagið, 1986), 222.
I slid rapidly down the rim of the crater; it was damned hot at the top and there was quite a lot of steam rising, but as I went lower there was less heat, no discernible gas, and I felt better and better with every step down I took. The rope didn’t reach quite to the bottom — I had underestimated the depth — so I ran down the last bit and gave a cheery wave to Þorbjörn, who wasted no time clambering down the rope. Then more people followed. We sat down there in the bottom of the crater — which wasn’t even warm. We had a chat […], and photos were taken, and Þorbjörn suggested that we ought to put some tents up and camp out there overnight.40

Photographs taken on the occasion by my old schoolmate Guðmundur Sigfússon, not suprisingly, show apprehension in the faces of some of those who took part in this highly unusual expedition. Guðmundur recounted the event in a press interview the following day:

We went down at about ten last night. The idea […] was to take readings of temperature and gas at the bottom of the crater, but that proved unnecessary […] Down at the bottom the air quality was good […] We had taken asbestos garments with us, in case […] we needed them, but we left them behind, because there was no need, far from it. We estimated the depth of the crater at about 30–40 meters from the rim. The bottom itself is about 3–4 meters in diameter.41

“It was a wonderful feeling,” added Guðmundur. The following day, July 3, Westman Islands Civil Defense issued a statement that the eruption was over.

Joy was unconfined in the Westman Islands. The relief was overwhelming, and people gathered down at the harbor to celebrate this keenly anticipated day. Fireworks were fired in the direction of the volcano, and sparklers were lit. The time

40 Ibid., 222–23.
had come, people were thinking, to start moving the islanders back home and reconstructing the village, time to adapt to the changed environment. On July 7 the last of the pumps were turned off. Six million cubic meters of seawater had been pumped onto the lava, about as much water as cascades every three hours or so over Dettifoss, one of Iceland’s most magnificent and voluminous waterfalls.

According to an American geological report, this was “the greatest effort ever attempted to control lava flows during the course of an eruption.” It is possible that some parts of the town that were engulfed in lava might have been saved had the primary emphasis not been on protecting the harbor. Could the cooling of the lava have saved my childhood home, Bólstaður? Towards the end of the eruption some geologists maintained that if powerful pumps such as those provided by the Americans had been deployed earlier, dozens of homes might have been saved. There were many ifs and buts, and the outcome was not perfect, but the crucial point was that the harbor was not destroyed by the eruption. In fact, it was improved, providing better shelter for ships and seafarers.

Humans have long worked with rock and stone of various kinds — sometimes on a gigantic scale, as in tunneling and mining. But this was a historical first, humans toiling as the rock was forming in the midst of an eruption. Humans had altered mountains before by building cairns on them, cleaving them asunder, or leveling them. But now it had been proved possible to stop a mountain in its tracks, to halt the famous Wanderer, which had sped down the lava flow towards the harbor, as if intending to sail away.

The Twin Island: Hawai‘i

The story of the successful lava-cooling operation on Heimaey spread like wildfire around the globe. Journalists and scholars

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42 McPhee, “Cooling the Lava,” 144.
visited the Westman Islands in order to ascertain for themselves what had happened and to tell the stories. Individuals who had directed the operations were invited to share their experience to assist in places where similar challenges were faced. Some of the leaders of the Heimaey project went abroad to talk about the lava-cooling exercise. Geologist Þorleifur Einarsson was invited to New Zealand and Valdimar K. Jónsson took part in a seminar at Penn State University in the US, where he had worked for several years before the eruption. Little is known of these events. At Penn State, Valdimar apparently spoke about *A Volcano in Town*.

The subject was naturally interesting to the Americans, as Hawai‘i is one of the most active volcanic regions on Earth, and eruptions there often endanger human habitation. “Iceland and Hawaii in a sense are twins. They are geophysical hotspots, the two most productive in the world,” wrote John McPhee. In that sense, the two islands, on opposite sides of the globe, are bound together by a special connection, as are the people who live there. Today the “twins” seem to have even more in common than before. The tourist industry, which plays an important role for both, is predicated upon the attractions of fresh lava fields and active volcanoes, along with the appeal of exotic tales of ancient warriors. People flood to these hotspots in the millions, like a flow of glowing lava, in a quest for adventure — to escape something at home, or something inside themselves. On the largest island of the Hawaiian archipelago is a young volcano, Kilauea, meaning “spewing,” which has been erupting almost continuously since 1983, to the delight of tourists and geologists. Kilauea was the very volcano that farmer Einar of Skamadalshóll had been reading about in between scrutinizing his soot-seismograms in the weeks before the Heimaey eruption.

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Could the Hawai‘ian islanders learn from the experience of the Westman Islands? After the Heimaey eruption, US military engineers considered storing water in a reservoir, which could halt future lava flows in Hawai‘i. The islanders did not favor the idea, feeling that it would be better to do as the Westman Islanders had done and cool the advancing edge of the lava flow with seawater. In 1986 firemen in Hawai‘i tried to save a building by spraying the lava with water from nearby fire hydrants, but the lava flow was too powerful.

Although it was not clear they would do any good, the US authorities were interested in large-scale engineering solutions, while the islanders themselves tended to apply other approaches. In Hawai‘i it was an ancient custom to present a lei or floral garland to dangerous lava fields, or bring offerings of food, tobacco, or gin to placate them and Pele, the volcano goddess. Such rituals are not unlike the Fire Masses held in Iceland. Were the engineers’ pumping operations no more than magical rituals too?

The authorities in Hawai‘i had also tried other military actions in their battle against advancing lava, sometimes in face of opposition from the local people. In 1935 bombs were dropped on the Mauna Loa volcano, but no conclusions could be drawn about their effectiveness, as the eruption came to an end shortly afterwards. In 1942 bombs were once again used against an erupting volcano when the lava flow headed for the historic town of Hilo, where the first Polynesian settlers on Hawai‘i had landed between 300 and 800. The bombs split the lava flow into two, but the streams reunited farther down the mountainside. While Hilo was saved, this experiment, like many others, yielded limited benefits, and posed major questions. The situation was uncertain, and on occasion it seemed clear that one district of the town would have to be sacrificed in order to save another.

During the Cold War the superpowers used bombs to display their might. In 1958 the US Air Force launched Project A119, with the objective of exploring the impact of detonating nuclear
bombs on the moon.\textsuperscript{45} The bombs the US had in mind were of similar magnitude to the Hiroshima bomb. Nothing came of the plan, but the project remained top secret for 45 years. The Soviet Union was hatching similar plans.

The idea of bombing the crater rim on Heimaey was one of the first three responses of the team of experts called together by the University of Iceland’s Science Institute on January 23. It was given consideration, then postponed, and after more debate finally rejected.\textsuperscript{46} Municipal engineer Páll Zóphóníasson declared on February 7 that using explosives to divert the lava flow would be absurd and that the islanders would never approve such a bombing, which could in any case have unforeseeable consequences and might destroy buildings which remained undamaged from the eruption.\textsuperscript{47}

The story goes that a crucial voice in this debate was that of Stirling Colgate, an American who visited Heimaey and worked with Þorbjörn for some days. Colgate was a complicated man. The heir of the toothpaste corporation of that name, Colgate campaigned untiringly around the world against the growing power of the sugar corporations and the consequent impact on dental health. He was also a professional physicist, and worked for many years at the Los Alamos laboratory, which housed the Manhattan Project and yielded the atom bomb. Now he was on a tiny island in the north Atlantic, watching over a volcano through a February night, closely observing the glowing lava and estimating the possible impact of bombing the crater rim. In the early morning, having finished his calculations, he met


with the rest of the team and made his recommendation: “For God’s sake, don’t bomb it!”

There appeared to be a risk that a manmade explosion in Helgafell could lead to a chain-reaction, and thus spark a far more powerful explosive event, arising from the interaction of molten lava, water, and steam — something like the massive explosive eruption of Mount Krakatoa in Indonesia in 1883, one of the biggest eruptions in historic times. On the second day of the Krakatoa eruption water flowed into the crater, causing a gigantic explosion. About 36,000 lives were lost, and the mountain and the surrounding land subsided into the sea, setting off tsunamis which wreaked havoc on the neighboring islands of Java and Sumatra.

The physicists’ calculations indicated that Heimaey might explode as Krakatoa had done, setting off a chain reaction in the same way. Less heroic measures would have to suffice here, though it was not clear in advance what the consequences might be. It was probably advisable to steer clear of Cold War posturing.

After the eruption was over, Westman Islanders recalled that in 1958 General Electric had submitted a proposal to Iceland’s State Electric Power Works for construction of a small nuclear power station on Heimaey island.48 Looking back, we were glad nothing came of that idea.

Dramatis Personae

Volcanoes possess enormous power, which many people have found out for themselves. As a rule, a volcano will have its own way, whatever humans or other creatures try to do. The volcano on Heimaey, which sent a vast mass of magma from the depths pouring out over streets and fields, into the sea and over houses, is obviously the main character in the drama that took place in the winter and spring of 1973. But many other actors had joined it on the stage, and even upstaged it. The role of the pumping

equipment and the pipes that crisscrossed the glowing lava fields was key. The ungainly, noisy, polluting pumps at the harborside had already performed years of service when they went on their long journey to the far north.

Þorbjörn Sigurgeirsson and Valdimar K. Jónsson, who were first among equals, were not in the habit of flaunting their achievements on Heimaey. As Þorbjörn looked back, he praised others, not himself. When the pumps had been in action for some days a journalist asked Valdimar, sometimes called the “general” in the lava fields, how a professor who normally spent his time lecturing at the university found himself laying pipes. “You have to be in touch with reality,” he replied, “and this has certainly been a huge experience.”

A vast number of other people were involved in the effort, teams of men (and one woman) out in the lava field, caterers, mechanics, crane operators, excavator drivers, technical staff, engineers and geoscientists, all striving to make a difference. The plastic pipes, which were such an essential element of the lava-cooling operation, were produced in the workshops of Reykjalundur outside Reykjavík, a rehabilitation center founded in 1938 to battle tuberculosis, where production continued at full capacity to meet the demand. And in Reykjavík metalworkers were kept busy producing replacement spindles of robust steel for the pumps. Not to mention Páll Zóphóníasson and the other officials on Heimaey, as well as those at Civil Defense. And of course, the North Atlantic Ocean that provided the seawater for pumping. The contribution of those whose task it was to save buildings was no less important. A large team of volunteers and skilled tradesmen prevented buildings from collapsing by reinforcing rafters, clearing volcanic ash off roofs, and boarding up windows. Here, as in the lava field, initiative and innovation were key. The whole team, including the volcano, the machinery, the organizations and individuals, the ocean, and many more factors that made their contributions, wrote a new and

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extraordinary chapter in the long history of volcanoes and the natural calamities that have arisen from them.

In the Heimaey eruption, time may have been the most important factor. Had the eruption gone on much longer, the outcome would have been different. All the efforts made to safeguard the town and the harbor would have been for nothing. And the same applies to our current global rescue efforts. If we do not come to terms with the problem, particularly climate change, the days of Earth as we know it are probably numbered.

Descriptions of the lava-cooling effort are often framed—as I have done—in military terms, as a “battle” or “operation,” and the metaphor is an apt one. It reflects the widespread uneasiness in the twentieth century regarding global environmental issues, issues which remain in the spotlight today, more than ever before.50 Since Heimaey erupted, the global climate has displayed more extreme fluctuations, with towns and cities threatened by flood and storms, and glaciers melting and adding their water to the sea. Humanity, it seemed in the 1970s, could achieve anything, yet the scientific and technological solutions that were available, which were supposed to save mankind from annihilation created new problems and were met with growing criticism. Although nobody knew it then, these are the problems of the Age of Humans.

French volcanologist Haroun Tazieff, who had declared the Westman Islands doomed after a brief visit in February, appears to have left the island without saying goodbye, somewhat to the surprise of the local people. Tazieff returned to Iceland in 1980, during an eruption of Mount Hekla. He made his way up the slopes of the volcano, hoping to make contact with geologist Sigurður Pórarinsson, with whom he had travelled to the Westman Islands in 1973. Tazieff had probably been told that Sigurður would be found, as usual, closest to the eruption site.

After walking some way up the slope, Tazieff spotted a tent. No one else would think of camping in such a place. In the entrance to the tent, a man with a red cap on his head sat cross-legged with a guitar. Tazieff asked him where the famous geologist might be found and was astounded to learn that it was Sigurður himself in the red cap playing the guitar.\textsuperscript{51}

Tazieff has sometimes been described as a reckless adventurer. But, while he may have taken risks in his expeditions, he was not always misguided. Three years after his verdict on the Westman Islands, he took the opposite view in a dispute over another volcano. During an eruption of the Soufrière volcano on Guadeloupe in the Caribbean, a scientist proposed that all seventy-two thousand people who lived in the vicinity should be evacuated. Tazieff disagreed, volubly, and in that case he was right.\textsuperscript{52} The authorities ordered the population to evacuate, and they all loaded up their cars and sped along the narrow road out of the mountains towards the nearest city. But the eruption caused little damage, most of which was due to the traffic chaos caused by the evacuation.

Four years after the Heimaey eruption Tazieff published a brief but interesting piece in *Nature* on the subject of eruption predictions. Tazieff points out that geoscientists have often been gravely mistaken, and so it is vital to learn from experience. In the last six years, he writes, the experts’ predictions have been wrong at least four times and once was the Heimaey eruption. One might expect Tazieff to expand on that subject, but in fact, he mentions it only briefly and superficially, with no reference to his own mistaken prediction. He writes:

The third case happened in 1973 during the last days of the Heimaey eruption. Persuaded by a somewhat inexperienced foreign volcanologist, Icelandic authorities agreed to use fire-
boats to sprinkle water on a tongue of the thick lava flows which over several weeks had progressed at a distressing speed towards the harbor entrance. No arguments could prevent the exercise: not even the evidence that the Atlantic [O]cean itself, with all its water, had not been able to stop the main part of the flows which had crawled over the sea-floor for two months.\textsuperscript{53}

It is not entirely clear who Tazieff means when he references “a somewhat inexperienced foreign volcanologist.” Þorðörn Sigurgeirsson seems a likely candidate, although he was neither foreign nor inexperienced. And Tazieff appears to know nothing of the big pumps brought in later from the US. Tazieff concludes:

The main lesson […] is perhaps to confirm the absolute necessity for a good volcanological interpretation of all the available […] data before expressing any forecast. Volcanologists, just as medical doctors, should be responsible, skilled, experienced, different specialists closely co-operating with each other. And they should keep as cool as a cucumber.\textsuperscript{54}

In 1984 Tazieff was appointed by the French government as Secretary of State for the Prevention of Natural and Technological Disasters. Until the end of his life in 1998 he remained a vocal advocate of environmental issues. In this, as in other matters, he was controversial. The errors and inconsistencies in his accounts of the Heimaey eruption have not attracted particular attention, but in 1991 he caused a sensation when he declared that carbon dioxide in the atmosphere posed no threat, including that ideas about the greenhouse effect were nonsense, that the thinning of the ozone layer was not due to human influence,


\textsuperscript{54} Ibid., 97.
that global warming was an outright invention, and that reports about the dangers of warming were fake news.\textsuperscript{55}

Now, more than a quarter of a century later, many people, including powerful politicians and national leaders, despite the overwhelming scientific consensus that Earth is changing in ways that will make our lives more difficult, still dismiss climate change.\textsuperscript{56} “Welcome to the trampoline!” the jokers say, as Iceland’s glaciers melt and the land lifts, the pressure on Earth’s crust is eased, and the magma beneath is released. And increased volcanism is only one of the many challenges we will face in this new Age of Humans.

\textbf{ACCEPTANCE}

The destructive impact of the Heimaey eruption was not confined to the human inhabitants of the island. The entire ecosystem suffered massive damage. As the hot lava flowed into the harbor it boiled the fish alive. Grass withered in gardens and hayfields. Migratory birds which return to the Westman Islands every year to breed were bewildered in the spring of 1973 upon their arrival. They too had lost their footing on the earth. Yet the bird population did better than one might expect. Puffins, which spend the winter out on the ocean waves and return each spring to nest in the same burrows year after year, dug their way down through the thick ash layer to reach their burrows—just as the humans did to reach their homes upon their return. Puffins, whose breeding grounds had been near the lighthouse, now buried beneath a layer of lava rock, fluttered around their old breeding grounds, finding shelter in hollows in the lava. They could not dig down through the lava to their burrows, but they knew where they were supposed to be. In more recent times, as Iceland’s puffin population has been decimated by climate


\textsuperscript{56} Gísli Pálsson, \textit{The Human Age: How We Created the Anthropocene Epoch and Caused the Climate Crisis} (London: Welbeck, 2020).
change, the little bird has become an iconic symbol of Iceland and a popular souvenir for tourists.

In July 1973, the time had come for the Westman Islanders to decide whether to return to their “Home Island,” Heimaey. While the geoscientists were pretty certain that the eruption had come to an end, it was not inconceivable that it might start up again. The toxic gases remained a source of concern for many, especially parents of young children. Some of the evacuees had made a new life for themselves on the mainland, finding new opportunities and adapting to their changed circumstances. They shrank from the prospect of returning to Heimaey, where huge challenges of reconstruction awaited. When the opportunity to return finally arose, many were undecided. They needed encouragement, to be convinced to relocate again. Some islanders briefly visited Heimaey and looked around, only to be sorely disappointed by what they saw.

Clearing and excavating the town after the eruption seemed an insurmountable task, and the new mountain, Eldfell, loomed menacingly over the town it had ravaged. But in time Westman Islanders did start to make their way home. The mayor predicted, only slightly incorrectly, that within a year seven out of every ten islanders would be back. Their roots and history as well as their bonds with the community, the old homestead, and the island’s natural life were deep. Like the puffins who returned year after year to breed in their same burrows on the Westman Islands, the Westman Islanders needed to find their old nesting places.

Svanhildur Gísladóttir and her husband were among those who were long conflicted about whether to go back. They had renovated their first home just before the eruption. On their first night there, they had only been asleep for an hour and a half with their one-year-old baby when there came a knock on the door and they were told they must leave at once. Svanhildur was seven months pregnant at the time. After the end of the eruption the family had to make a decision about their future. Svanhildur was keen to arrange their three-month-old daughter’s christening, and got in touch with Pastor Karl Sigurbjörnsson, who
would in later years be Bishop of Iceland. Karl had served his island flock from Reykjavík, but now he was back on Heimaey. He proposed that the little girl be baptized at the first service in Landakirkja church since the eruption. Svanhildur was hesitant. Wasn’t everything still “all black” in the town? The pastor admitted that it was but told her that the weather was beautiful there at the moment. The family flew out to Heimaey and the baby was christened in the church crammed with people.

Svanhildur has a vivid memory of walking into the church with the baby in her christening dress and seeing piles of shoes in the lobby. Most of the congregation was disheveled and exhausted, having labored hard to save what could be salvaged from the lava and ash. Now they had taken a break, wading through drifts of black ash to the church, and they had removed their shoes to avoid dirtying the church floor. When the young couple walked down the aisle with their little girl, tears of joy and relief were shed. There was no turning back. In October, once accommodations had become available, Svanhildur and her growing family returned to Heimaey.

Ash and Lava
The Heimaey that met the returning refugees was different in many ways from the “beautiful isle” that so many poets had lauded. But it was time to make peace with the forces of nature. Gradually, the town came back to life. Every new family that arrived was warmly welcomed. Old relationships were renewed. Life went on. But many faces who had been part of the community were now missing, especially those of elderly people who had felt unable to face moving back, as well as those who had lived in the newer districts closest to the volcano, whose homes had vanished under the lava. About four out of ten islanders never returned home.

The first challenge for those who returned was to clean things up, as the town was buried under a thick layer of ash. The light, fine-grained black dust got into everything, but with mechanical diggers, lorries, and shovels the cleaning progressed well. Between one and two hundred people worked on clearing the
ash, starting at the west of town where the ash layer was thinnest, and gradually working eastward toward the districts where houses were completely buried. People came from far and wide to help, including students from Reykjavík, people with family ties to the Westman Islands, and others from all over Iceland who wanted to do their part; military personnel from the US air base at Keflavík; and Europeans and Americans in search of adventure combined with doing a good deed. Misunderstandings sometimes arose, and even cultural clashes. The staff canteen did not offer a large menu, and the diverse group of workers had various culinary customs. Locals, for instance, were taken aback when Americans took *skyr*, a milk curd usually eaten as a dessert with cream and sugar, and used it as a sauce on their meat. And then the sightseers arrived. As one of the islanders remarked: “In the drifting ash we were like Bedouin in the desert; when the tourists arrived we were like penguins in a zoo.”

The town emerged from its ashy shroud in record time, as the clearance teams worked on shifts around the clock. As a rule, they cleared one street at a time, and soon had established an effective routine. The mechanical digger drove over the thick ash layer into each individual plot, then scraped the ash out towards the street. There were four men with each digger, and they dug the ash out by hand where the mechanical digger couldn’t reach it. Pipes had been welded onto the lip of each digger’s bucket, so it scraped the surface without tearing up the grass underneath. Then the ash was loaded on lorries and trucked away.

The ash proved useful on construction projects, especially in the old lava field to the west, where a new district was built. In retrospect many islanders regretted this, wishing that the old lava field had been preserved. A large quantity of the ash was also used at the airport, to lengthen the runway. If Helgafell avenged itself on the islanders for daring to quarry scoria from its slopes, at least it provided compensation in the form of near-endless quantities of grading materials.

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57 Guðmundur Karlsson, interview, Reykjavík, August 9, 2016.
The new lava field was harder to accept. The lava had engulfed part of the town and flowed out into the sea, enlarging the island eastwards. This was unexplored territory, and it seemed to pose more of a threat. It could not simply be removed, like the loose ash. Islanders gradually ventured up onto the jagged new lava, which was still hot to the touch. Families drove out into the new territory to see for themselves. New landmarks had been formed, in addition to those the firewalkers had named during the eruption. The fine old lighthouse had been swept away, but before long a replacement was built nearby.

Visitors to Heimaey often talked about the impressive spectacle of the eruption, but islanders did not share their delight, focused as they were on the destruction the volcano had inflicted. But, despite that, did the new lava field have a beauty of its own? Some were able to make their peace with it within the year, while others took years to accept it, and still others never did. Sigrún Inga Sigurgeirs dóttir, former chair of the Westman Islands town council, recalls going on a walk with her husband near the edge of the new lava field in 1983. Suddenly she stopped in her tracks and said, “Now I’m home.” Her husband gazed at her in perplexity, asking, “What are you talking about?” It had taken her ten years to accept the new face of Heimaey and that evening, she felt that she had “suddenly put down roots, halfway down the mountainside.”

In 1978 the thermal energy of the new lava field was harnessed to provide heating for the town. Water was sprayed onto the thick layer of porous ash on top of the new lava, and as it trickled down towards the still-hot layer of lava beneath, it was converted to steam which rose back towards the surface. The steam was extracted and piped to a heat exchanger, where it heated the water in the town’s central heating system. The thick layer of ash atop the lava provided good insulation, slowing down the natural cooling process, and the heating system operated for ten years. Using the warmth of fresh lava for heating was unprecedented. The project was a remarkable experiment,

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58 Sigrún Inga Sigurgeirs dóttir, interview, January 20, 2017.
carried out on the initiative of Hlöðver Johnsen, the man who had declared the eruption “over” on his wife’s birthday.\textsuperscript{59}

Although everything seemed to be going well, and the eruption’s products were being put to good use, many Westman Islanders remained nervous for a long time afterwards. My bridge-playing cousin Lilla, who had witnessed the very beginning of the eruption and had spent many hours being tossed about at sea trying to reach the mainland, did move back to Heimaey but needed some persuading first.\textsuperscript{60} For many years afterwards, she was always on edge in late January. “Would it happen again?” she asked herself, though she rarely spoke the words aloud. As the anniversary of the eruption approached, she became more and more restless, and it was not until after 1:43 am on January 23 that she could breathe more easily — at least until the next year. On one occasion when a fire alarm went off, she rushed from the house, along with many others. Her neighbors had thrown a few possessions into a shopping bag, as they had on that fateful night, and run out into the street, prepared to leave for the mainland again if necessary.

When a pile of old tires caught fire on Heimaey, and a column of black smoke rose into the air, many islanders were convinced that the volcano was erupting again. Some still regularly keep up with reports of seismic activity just like weather forecasts. During the two great earthquakes, each a 6.3 on the Richter scale, in South Iceland in 2008, “when the earth undulated like a stormy sea,” as one Westman Islander put it, people were shaken, in two different senses. Another eruption of Mount Helgafell seemed to be imminent.

\textit{Home Is Where the Heart Is}

Geological events are deeply unsettling and personal for those who experience them. They disrupt people’s lives, turning them


\textsuperscript{60} Aðalbjörg Jóhanna Bernóodusdóttir, interview, Hafnarfjörður, February 2016.
into outsiders, compelling people who have grown up trusting each other, their community, and their environment to leave their homes and move to new and sometimes exotic places, to establish new relationships with the environment and the people already there. In the Heimaey eruption, the bond of the cheerful, hard-working, and resourceful Westman Islanders with their habitat was severed. That relationship was no less important than the bond between fellow islanders. Many homes vanished beneath the lava, while others sustained major damage, some even becoming unrecognizable. A lot of the islanders acquired a new home on the mainland, putting down new roots. This was not easy. Some islanders have said that the eruption ruined their lives. And that is no exaggeration. Although the term was not yet in general use, many were traumatized. Some always heard the rumbling of the volcano as they tried to sleep—in some cases for months, if not years, after the eruption ended. They knew the noise was not real, but that was no help.

My uncle Magnús Bjarnason, who had put his children and mother-in-law on a boat, then turned back to help fight the lava, driven by an “indefinable sense of responsibility,” had not cried since he was a little boy. Yet as he watched the splendid electric power station being crushed to dust by the advancing lava, he felt that all was lost. Darkness fell over the town as the electricity failed, and Magnús made his way home past the churchyard:

As I stood there in front of the lychgate, with its inscription *I live and ye shall live*, something gave way inside me. I leaned against the drystone wall and started to cry [...] I was all alone there in the dark, and I let my feelings out. I turned to God and prayed the most heartfelt prayer I have ever prayed. I prayed for it to be over. I asked questions, as if I stood face to face with Him: Why? And again, why?  

Magnús’s detailed account of his experience is known to many Westman Islanders. I recently visited him and his wife in a home

61 Bjarnason, “Privatissimo.”
for the elderly on the islands. We talked about the early bond between our families and the shattering impact of the eruption. Then he added with a mischievous smile that, following his honest personal account of the eruption, his friends had begun to call him “The Man Who Wept.”

Occasionally during the clean-up effort, vehicles and diggers that were being driven atop the thick layer of ash would suddenly tumble down several meters into concealed buildings that had tolerated the strain until then. *Has the earth split open?* wondered the shaken drivers as they scrambled back up to the surface of the earth. During the eruption, many of the people involved could make no sense of what they had seen or experienced, as reality gave way to the surreal. Advancing lava might flow uphill, as if the law of gravity were no longer in force. In such circumstances, something had to give. The lychgate, with its message of solace and hope, *I live and ye shall live*, came to be an icon for the life-and-death struggle in progress on Heimaey. It is no coincidence that the lychgate was one of the most-photographed subjects on Heimaey in the spring of 1973.

Trauma counseling and psychotherapy were not yet widely recognized or readily available, and those who had lived through the eruption felt that they must resolve their problems themselves, as best they could. The Red Cross offered counseling from social workers during the eruption, but few people took up the offer. The unwritten rules of no complaining while keeping calm and carrying on were still in force. Perhaps that process of self-suppression was a kind of self-defense, comparable to the cooling of the lava during the eruption. In the Westman Islands that had generally been seen as an effective way to cope with grief, for instance when men were lost at sea, or fell from the cliffs when gathering seabirds’ eggs. The islanders had grown up with death always just around the corner, and now the only option was to get on with things and let time heal the pain.

But the two parish clergymen, Karl Sigurbjörnsson and Þorsteinn Lúter Jónsson, realized that their parishioners had a deep need to meet, talk, and pray together. They needed to get their bearings, with the help of God and other men. During the erup-
tion the pastors were given space in a warehouse on the mainland in Reykjavík, along with the evacuated Westman Islands town council and the Natural Disasters Compensation Fund. A café in the warehouse provided a place for Westman Islanders to meet for company and mutual support, and a TV showed live footage from the islands. A tense hush fell as the islanders watched their homes go up in flames, helpless to prevent it. One man could not stop weeping when his home was consumed by the burning lava. A doctor had to be summoned to take care of him.

Iceland’s national radio devoted a special program to the Heimaey eruption. Broadcast every evening, it was hosted by two brothers who were Westman Islanders, plus the writer Stefán Jónsson, who had described the wolffish in the aquarium as “divine or demonic.” Each show ended with a prayer and the sound of the church bells from Heimaey. The radio show was important to the Westman Islands diaspora and brought them together into an “imagined community” like those that led to the creation of nation states in past centuries. Then it was new print media which crafted these imagined communities and connected people long-distance, people who would never meet in the flesh. Without such media, it is hardly possible to imagine the evolution of strong and united societies.

The morning after the eruption started, psychologist Einar Gylfi Jónsson was sitting down to take an examination at the University of Iceland when he heard the news. Like many Westman Islanders, he initially thought it must be a misunderstanding. Perhaps it was the crater on Surtsey island that was waking up? Then he heard on the radio that all five thousand Westman Islanders had been evacuated to the mainland. His immediate response was to sketch a map of the island, with the fissure and the new crater. He was reassured to see that the town seemed to be in no immediate danger. His parents had reached Reykjavík and had found a place near him to stay. They got in touch later

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that day. The following days and weeks were a welter of activity, disrupting Einar Gylfi’s university studies. He felt he must help out, so he volunteered to go out to Heimaey to assist in saving the islanders’ worldly goods from their abandoned homes. When he later received a check in payment for his work on the island, he was affronted: He had gone there as a volunteer.

Einar Gylfi’s knowledge of conditions during the eruption and afterwards, together with his clinical experience, led many people to consult him about their psychological issues after the eruption. They did not talk much about the events of the eruption night, and some had only a hazy recollection of fleeing to the mainland. But most had feelings of guilt. They had the idea that they could have reacted differently, could have behaved in another way, that somehow, they were to blame for the eruption. They were not generally eager to delve too deeply into their emotions. If they opened that Pandora’s Box, who knew what might fly out? It was a psychological “compromise,” according to Einar Gylfi. It did its job, and it worked, up to a point. Ultimately the time came when their defenses crumbled, and people found that they needed to talk through their experiences properly. That shock often only occurred long after the eruption, and out of the blue — like the eruption itself.

Before and After
Today the Westman Islanders’ chronology is based on January 23, 1973. “For us, it was always Before the Eruption and After the Eruption, not BC and AD,” remarks my old schoolmate Jóhanna Helena Weihe. During the Eruption, the interlude between Before and After, was a strange and troublesome time. It was a rootless, timeless period in which most of the islanders were far from home, out of touch with their roots, yet constantly thinking of home, and consumed with anxiety. No doubt many of those who were far away felt they had failed their island in some way, even regretting not being there to share in their neighbors’

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63 Einar Gylfi Jónsson, interview, Reykjavík, December 2016.
64 Jóhanna Helena Weihe, interview, June 2016.
ordeals. Perhaps this feeling of guilt is why many Westman Islanders feel compelled to recall the eruption.

Most of the evacuees who arrived by sea at Þorlákshöfn harbor on the night of the eruption were transported straight to Reykjavík by bus. There, a range of new challenges awaited. More than five thousand “new” townspeople had to be registered, and basic necessities had to be provided. Many of the refugees were able to stay with friends and relatives, while others were housed by strangers who had opened their homes. Within hours all the islanders had a place to stay. Some received assistance from the Natural Disasters Compensation Fund. Many found work, and all twelve hundred children were guaranteed a place at school.

Still, the islanders missed the social safety net they were used to. Often pure chance determined where people found themselves, whether it be in the Reykjavík area or farther away, living in other people’s homes, in a poky basement, or in a comfortable new house. The community of the Westman Islanders stretched all around the country, anticipating the virtual reality of more recent times. The community was real, yet nowhere and everywhere, nebulous, mutable. In addition to other challenges, some families had to settle for being separated for weeks or even months. Many of the men went back to Heimaey to save their own possessions and those of others, to try to safeguard the assets of the town and its businesses, to cool the lava, and finally to sweep the fallen ash from homes and buildings. If some buildings collapsed under the strain, doubtless the same was true of some families.

At the beginning of the eruption the Westman Islanders were bombarded with help from other Icelanders. But as time went on there was something of a backlash. The islanders encountered resentment, even hostility, in schools and workplaces, and out on the streets of the city. “You’ve done well out of the eruption,” scoffed some resentful voices. “You’ve got compensation for your homes, and then some, haven’t you?” Such reactions resemble those that environmental refugees have encountered recently in the US and Europe. They may be welcomed with impressive ceremonies at borders and in airports, with speech-
es and toasts, yet as time passes their hosts may have second thoughts.

“What Boat Were You On?”
The future is uncertain, but the past is fixed and immutable, though new generations may view it differently. In the Westman Islands, as in other places that have experienced natural disasters, people have a strong need to remember past events, to erect monuments, and to write down the story, even though it will never be told in final form.65 One year after the eruption came to an end, hundreds of people gathered in the new lava field that lay over my first habitat, Bólstaður, where a brass band played. Over the years, the annual End of the Eruption event has grown into a major community festival, with a range of arts performances, educational seminars, and talk of the eruption and related subjects. In this way the islanders nurture their memories and rejoice that the story ended well.

The Eldheimar, “Home of Fire,” Volcano Museum plays a vital role in these community acts of remembrance. For many Westman Islanders, the opening of the museum in 2014 provided a welcome opportunity to face the pain that the eruption entailed. Some found they had tears in their eyes as they examined for the first time the wealth of objects on display from the eruption, as the recorded din of the volcano thundered from loudspeakers. Thousands of people now visit the museum every year. As in Pompeii in Italy, which was engulfed by a thick layer of volcanic ash from Mount Vesuvius in 79 CE, visitors to Eldheimar can

look inside a home that was abandoned in haste in the middle of the night on January 23, 1973 that has been excavated from the ash. Displays include visual material about the eruption and a wealth of information about the events. It is possible to see which buildings, when and in what order, were destroyed by the eruption—a subject of fascination to both Westman Islanders and other visitors.

Another monument to the eruption is a virtual one, existing only on the Internet. Ingibergur Óskarsson, now an electrician on the mainland, was a nine-year-old boy when he fled with his family to Pórálakshófn aboard the Leo. Long afterwards he started to compile information about the fleet of fishing vessels that had transported the islanders to safety that night, including the names of the crew and passengers on each boat, and the stories they told. He sent questionnaires out to Westman Islanders and appealed on social media for information on their experiences.

Forty years after the eruption, with the anniversary receiving extensive media coverage, Ingibergur’s information-gathering took off. Many islanders sent him detailed information about themselves and their families, as well as photos and accounts relating to the evacuation, and Ingibergur put all this information online. The vast majority of the evacuees are now documented on the right boat, and the website has become a valuable source regarding the fateful events on Heimaey and the journey to the mainland on the night the eruption began. At social events in the Westman Islands, one often hears the question: “What boat were you on?” Now the answers are accessible online. More and more stories are being told and increasing numbers of people want to hear them.

**Helgafell Returns**

Jóhanna Hermannsdóttir, the owner of the historic painting *Helgafell’s Revenge* which seemed to anticipate the Heimaey eruption, has always maintained a strong connection with the

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Westman Islands, despite decades living in the US, a connection, she has often argued that “runs through” the iconic painting. I learned about Jóhanna and her painting during one of my visits to Heimaey and arranged to call her in the US. She knew my mother from her early years and remembered my house and my grandmother well, known for their close bond, occasionally strolling together in the village, well dressed and hand in hand. This was news to me; I was deeply touched and could easily imagine the scene.

I was aware of the fact that the Westman Islanders wished Helgafell’s Revenge would someday return “home.” During one of our discussions, I asked Jóhanna if she might donate her painting to the islands. The question wasn’t prepared, and I was surprised that I raised it out of the blue. But Jóhanna responded without hesitation. She would be happy to give it away, to be shown and taken care of by the Art Museum of the Westman Islands. Afterwards, I thought to myself, why would I engage in such negotiations, stepping in front of the camera, so to speak, changing the course of these events that I was only recording and describing? Should the narrator place himself right into the scene? In the autumn of 2017, Jóhanna formally donated the painting to the Westman Islands.

Several Westman Islanders, on Heimaey, on the Icelandic mainland, and abroad, including Ambassador Stefán Haukur Jóhannesson, facilitated the painting’s return. Stefán used an opportunity between sessions at the United Nations Assembly in New York to visit Jóhanna in New Jersey, along with his wife and a couple of friends, to fetch the painting and to present Jóhanna with Icelandic gifts. For all who were present, the event was particularly moving. Helgafell’s Revenge was officially received at a large public gathering on Heimaey in January 2018 (fig. 24). Jóhanna’s son, Helgi Hannesson, who lives in Iceland, was present to receive thanks and flowers from the community.

In the summer of 2014, I was passing close to Manchester University, so I seized the opportunity to revisit the place where I had first learned of the eruption on Heimaey island more than forty years before and to reimage how I had reacted to the
news. The obvious first step was to call in at the library and trace that article in the Evening News. The sight of the Central Library, in a graceful circular building by St. Peter’s Square in central Manchester, brought back fond memories of my three years as a student in the city. The librarians were quick to retrieve the news report in question, which was stored on microfilm. They offered me a digital copy. It was a strange experience to re-read the newspaper after all these years, and the feeling of dread seemed to well up — although this time I knew how the story ended.

The press report was largely as I had remembered, although my memory had played some tricks on me. In retrospect, I am not at all sure that I walked past the electrical goods store in Manchester on the very day that the eruption began. Surely film of the eruption could not have reached British TV on the same day. And I am not certain that the store window with its bank of new color TVs was on the left-hand side of the street. Nor that it

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*Fig. 24. Guðni A. Hermansen, Helgafell's Revenge (1971). Photo by Sigurgeir Jónasson.*
was dark when I saw the colorful images. And so on. But in my mind, that was how it happened, all in one day.

REFOUNDED LAND

Westman Islanders after the eruption perceive their islands as “refounded land.” In the words of poet Gyrðir Eliasson, “[i]t is the land which was found / and lost / and found again.” The islanders had to get to know a changed island, to resettle there and relearn it.

Shortly after the end of the eruption, in August 1973, I visited Heimaey with my wife, Guðný, and another couple. I hadn’t been home for four years, and now the place was unrecognizable. Much of the island was still carpeted in a thick layer of ash. We stepped out cautiously onto the new lava, on which all eyes had been focused earlier in the year. In the middle of our walk it started to rain, and instantly we were surrounded by clouds of steam rising from the hot lava and blocking our view. We thought back to the lava-cooling operation and the people who had been working here a few months before. We didn’t want to risk getting lost so, we turned back towards the town.

The few people we saw in town were restoring order, clearing the ash and excavating buildings. We peeked into some wrecked buildings, some still hot indoors, with the smell of the ash strange and pungent. Then we got to Bólstaður. Scattered here and there at the edge of the lava field were tattered fragments of the house that had been leveled by the lava at the beginning of April. Unexpectedly, I had a feeling of emptiness. My childhood was gone, buried under rock and lava to become part of geological history. Under the thick layer of lava that now concealed the former site of Bólstaður, dozens of people had lived, rested and slept after long days at work, made love, played, told stories and said prayers, and made lives for themselves. Before we left for Reykjavík, we went up onto the Heimaklettur cliffs and looked out over the new lava, the columns of steam that rose from it.

67 Gyrðir Eliasson, Tvífundnaland (Reykjavík: Mál og menning, 2003), 62.
and the streets that had narrowly escaped destruction (fig. 25). The sun had come out, and we sat down on the grass and the volcanic ash.

I knew before I made my visit that Bólstaður had fallen prey to the eruption, so the event itself was not a huge shock, and I had never before missed the old place. The traces of the house that could be glimpsed, between lumps of rock, made its former location clear. But although the map coordinates were obviously the same as before, this was no longer the same place. Some neighboring houses had been spared, although the distinction between one garden and another, jealously guarded by the neighbors from incursions by unruly children, had been erased. The house that stood west of Bólstaður, called Jaðar, stood untouched, and still does today. Its name, which means “Edge” or “Boundary,” proved more apt than anyone could have foreseen.

The house my parents had built on Nýjabæjarbraut, “New Town Street,” where they had lived until they left for Reykjavík four years before the eruption, did not vanish suddenly like Ból-
staður, but died a slow death. A spacious, modern brick house, it stood farther up in the town than Bólstaður, much closer to the volcano, and it was gradually engulfed by ash. By the end of the eruption most of the houses in the “New Town” district were buried under the ash and people could walk on their roofs — it looked like a barren black wasteland. My parents’ house on Nýjabæjarbraut has not been excavated, and its fate does not touch me in the same way as the disappearance of Bólstaður, even though I had taken part in its construction, put up formwork, built walls, pulled nails from timber, and painted the house, inside and out. Perhaps my second home on Heimaey is best described as a seasonal dwelling, as I only lived there in summer months as my studies took me away from home. My parents naturally lamented the demise of the home they had built for themselves with such effort, but not in the same way that they mourned Bólstaður. The enchanted rock Friður in front of their house was buried under the ash, although its shape can still be traced. Nature herself had violated her own sanctuary, disrupting the lives and homes of the elves or Hidden People whom my grandmother, and no doubt many others, had observed from afar.

**Brothers**

In recent years, I have often walked on Eldfell on Heimaey, strolled along the stretches of new lava, onto Mount Wanderer (which finally settled down), into the depth of the crater, and along its smooth edges. The new lava with its changing contours and shifting colors continues to amaze me. I wonder what the striking blue colors will be named: true blue, glaucous blue, royal blue, steel blue? Perhaps all of the above. On a good day, the view to Eldfell’s siblings, the volcanoes beneath Eyjafjallajökull and Surtsey, is spectacular.

On a recent visit to Heimaey in 2017, I travelled with my brother Karl, usually called Dalli, who is twelve years younger than me. We both knew that this would be his last visit, although we did not speak openly about it. Half a year earlier, he had been diagnosed with brain cancer, glioblastoma, an incur-
able disease. He was slowly losing speech, memory, and emotions, as if a huge cloud of volcanic ash was busily burying his life and history, but he was still able to travel and was eager to join me. He had bought a new car, perhaps challenging his predicted fate, and meant to enjoy his last months in this world. We drove slowly along the southern coast of Iceland and took the ferry to Heimaey from a new port. Instead of the four-hour crossing of 1973, it now took only about half an hour to travel from the mainland to the island.

I was reminded of my very first trip abroad, in 1971, when I had traveled to Copenhagen with my other brother, Sigurður Þór. Four years my junior, Sigurður Þór was diagnosed with a brain tumor when he was a student. I went with him to Denmark for an operation. I kept him company, spoke with his surgeon in my flawed Danish, and relayed the bad news home, walking to the Central Station to make the call. It was impossible to remove the tumors, but radiation therapy might work. If Sigurður Þór survived the year, he would beat the disease, but he did not.

Copenhagen was strange and cold to me and I had little money. A damp, bitter winter wind chilled me to the bone, but I had friends in the city who were good to us both. The highlight of my stay was a concert with Crosby, Stills, Nash, and Young. They presented Déjà Vu, one of the best albums of the century. The auditorium was packed, filled with the distinct smell of marijuana.

Sigurður Þór was a lively boy who got up to various shenanigans. Unlike most of his peers he wrote poetry, both rhyming and free verse, about love, hope, space travel, the Vietnam War, Uncle Sam, and the world's shame; they were published posthumously. In an untitled poem, probably his last, he wrote:

Now rings out a new song,
a bright new song of freedom
of love,
hope,
life.
I’m going to find Guðfinna in the New Year.68

Sigurður Þór had foreseen his own death, personified with the feminine name of Guðfinna, “Godfinder,” and come to terms with mortality. His illness and death were “the worst thing that happened to us,” as my mother said when she recalled her life in her final years; “but I’ve had a very good life,” she added. His death truly was a cataclysm.

Now another cataclysm awaited my family. I again felt a deep sense of impending doom and heard in my mind the strains of Crosby, Stills, Nash, and Young’s Déjà Vu. Dalli seemed to enjoy the trip, though he said little. Sometimes he began a sentence or two, but invariably he gave up mid-course, missing the point or out of words. We visited relatives on Heimaey, stopped by the graves of our grandparents, and explored the new lava. Half a year later he was gone. The cancer had spread throughout his frontal brain, like a subterranean magma flow preparing for a violent eruption.

Dalli had always been a quiet person, thoughtful and considerate, always available for our sisters Auðbjörg and Lilja and myself. During his last years, he had erected a log house, virtually single-handedly, on a relatively recent lava flow under Mount Hekla. His last ambition was beekeeping, something unheard of under Icelandic volcanoes. Dalli was down-to-earth in the fullest sense.

Professionally, he was an electronics engineer and programmer. One of his early jobs was to work with geologists to establish a system of sensors to monitor Icelandic volcanoes. During his last years, he managed the machines that track and regulate air travel across the North Atlantic. He had witnessed the Eyjafjallajökull eruption of 2010 both from the ground and from high above, so to speak, with the bird’s eye view of electronic

68 Sigurður Þór Pálsson, Skriðið úr skrápnum (Reykjavík: Bókbindarinn, 1972), 47.
monitoring of ash clouds and the sudden interruption of air travel.

The impending loss of my brother affected me more than I had ever imagined. We had always been exceptionally close. Early on, I had been his mentor and role model and later, the relationship tended to be reversed. Two months before he died, I experienced unprecedented nausea. As I got up in the morning, I would lose my balance, forcing myself to sit up straight for a few seconds or to crawl out of the bedroom until I figured out which way was up and which way was down, as the world seemed to swirl endlessly around me. This occurred every morning for weeks. My doctor told me it was a relatively harmless condition called “Benign Paroxysmal Positional Vertigo” (BPPV). She asked me to throw myself down on a bench several times, alternating from left to right, and I left her office an hour later reasonably balanced but a little seasick. Sudden vertigo occurs, she explained, as the otolith organs, the mineral stones in our inner ears, are rearranged, scrambling our sense of space. Why had the stones spoken?

The reason was most likely emotional trauma, triggered by the tragic fate of my brother Dalli. It mattered too that my other brother, Sigurður Þór, had died in 1971 from the same condition, glioblastoma. I tracked down his medical records from the state hospital, about eighty pages of horrid reading. Somehow, my study of his records reminded me of reading the seismographs preceding the Heimaey eruption and the diaries of the firewalkers on the lava. I soon learned that the disease was not genetic, and that losing two brothers to the same rare condition was a striking coincidence. My sisters and I still requested brain scans and were relieved to know that we had no tumors.

Volcano Collection in the Garage

The scientists who went to the Westman Islands on the first day of the eruption, after their emergency meeting at the Science Institute in Reykjavík, along with their colleagues who followed, accumulated large quantities of equipment and tools as the eruption progressed. Many of these items are now stored as
the battle for Heimaey

monitors, thermometers, rock samples, cameras, reels of film, and more in a garage in an elegant old district of Reykjavík. The collection is dusty and uncatalogued, and few of the items are labelled. Much of the equipment has long been obsolete, yet people are reluctant to get rid of it. It tells the story of a unique eruption and efforts by Iceland’s leading geoscientists to explore and understand the nature of the eruption, how it progressed, and its impact on the community.

This remarkable collection is not open to the public. When geophysicist Leó Kristjánsson invited me into this world in 2016, I remarked that these objects should be on display in the Eldheimar museum on Heimaey. Leó just smiled. He handed me a big plastic bag crammed with spools of film. I was instantly excited. These films had probably never been viewed, at least not so far as Leó knew. There were thirty spools of varying sizes, most still in their metal or cardboard cases. Most were color films, hastily labelled. There was sometimes a note of the date and time when the filming began, but little information on their content. Several cameras, Leó told me, had been installed far above the eruption site on places like the Heimaklettur cliffs, which commanded a good view of the new crater and the lava flow. The person in charge of the camera had carried it up the mountain, set it up to cover a certain view, started it, and then walked back down into town, to return several days later to retrieve the film. This bag of films thus consisted of time-lapse sequences. When the first camera was installed, on the tenth day of the eruption, no one knew how long the eruption would go on, or what the consequences would be. Some of the geoscientists on Heimaey had never operated a movie camera before. Still, the photo sequences ought to make it possible to observe the progress of the eruption, and to answer the question of what it was like to have a volcano in one’s living room.

I borrowed the bag of films and studied them in the company of geologist Ari Trausti Guðmundsson, who had worked on the island as a young man and written about the experts’ bewilderment. Sadly, many of the films are blank. Sometimes the camera toppled over, or the lens was obscured by ash, rain, or snow, or
the battery ran down unexpectedly. We picked five spools and had them scanned, so that we could work with them in digital form. In total, the footage came to about twenty minutes, representing several days of the eruption.

The viewpoint is of course different from what people saw down in the lava field and the town. And the film is silent, far from the roaring of explosions in the crater, the groaning of the advancing lava, and the drumming of the ash raining down that existed. It is extraordinary to watch twenty-four hours pass in two or three minutes on the computer screen. The column of lava and ash is flung up in an instant, and the red-hot lava surges down towards the sea (fig. 26). In the winter darkness, car lights are seen speeding around town, as people check on their houses, cool the lava, get something to eat, and get to bed. Clouds build up in the sky and are gone. And then a new day begins.

Leó told me that he had three lava-bombs from the Heimaey eruption. No doubt he often glanced up in the heat of battle, to dodge out of the way of one of the flying red-hot bombs expelled

Fig. 26. A “time-lapse” photo taken during the Heimaey eruption. Courtesy of the Science Institute, University of Iceland.
from the depths. He seized these three bombs either boiling hot or glowing red, freshly “cooked.” I told him that if the bombs were homeless, I would be quite prepared to take one of them in. Leó probably found my offer incomprehensible, and who could blame him? I’m not even sure why I felt this desire to have one of those lumps of rock. Perhaps what appealed to me is that they had been in human hands from the moment they were born. That is not something a rock can generally expect. Leó soon saw that I was serious. “You can have all of them,” he said, and I gratefully accepted.

At the garage, Leó placed the lava-bombs in my care and I promised to look after them well. They are remarkable souvenirs, if that is the right word, taken from the molten mass beneath the earth in a historic eruption (fig. 27). They still carry a faint smell of volcano, one I recognize from my visit in 1973. I am sure the odor would call up mixed feelings for the firewalkers who spent months in a life-or-death battle.

Fig. 27. Bomb, “LK 27.3. HOT,” six kilos. Photo by Kristín Bogadóttir.
The smallest of the three bombs, and the most irregular in form, fell on June 17, Iceland’s National Day. Around it is tied a bright yellow ribbon on which is written: BOMB FROM CRATER — GLOWING — ABOUT HALF. The other half was left behind on the lava field. Another, a little larger and remarkably heavy, is neatly spherical. It is labelled: 27–28 MARCH — SECOND. Perhaps Leó had to get out of its path as it fell and caught it at that very moment. The third, the largest by far, weighs six kilos. Streamlined by its flight from the crater, it has the oval form of a rugby ball. The surface is strangely smooth, as if shaped by human hands. On a dark-green tape Leó has written LK 27.3. HOT. It must have been bizarre to dodge such flying missiles. The largest bombs flew through the air dropping in clusters shortly after the Fire Mass in the church. Perhaps, rather than seeing it as adopting these bombs, I should see them as heirlooms that serve to confirm my relationship with Eldfell and the Westman Islands.

The Key

In the early twentieth century, fish-houses were a striking feature of Heimaey. They were gone by my time, but I remember seeing photos of them. They heralded the new, modern era of fishing from motorized vessels. With abundant fishing grounds nearby, the Westman Islands’ fisheries boomed. The fish-houses were sheds tightly clustered together on wooden docks above the sea. Wheelbarrows loaded with fish and other goods were pushed through narrow gaps between the buildings. When the boats came in laden with fish, there was a flurry of activity around the sheds.

The cottage at Bólstaður included ownership of such a fish-house, listed in the 1916 valuation of the property. That was where my grandfather Sigurður and his crew gutted and cleaned the catch after a day at sea and it was probably also used to store oars, fishing gear, and so on. Grandpa’s fish-house was a vital part of Bólstaður, and when it was not in use, it was kept locked. Now the key to that lock is all that survives from Ból-
staður — apparently by pure chance. The story of the key is also the story of the eruption.69

My cousin Siggi, the only crane operator on Heimaey at the time of the eruption, had watched as a huge lava-bomb landed on Bólstaður and the old house disintegrated. Siggi is something of a legend in his own time. His colorful curriculum vitae includes carpentry, diving, aviation, various business enterprises, the fisheries, and musical composition. Long-haired and bearded, Siggi is cheerful and fun and has a good memory and plenty of stories to tell. In about 1990 a friend of his, Sigurgeir Sigurðsson, brought him a brown paper bag. Inside it was a rather large old copper key (fig. 28). Sigurgeir’s conscience had been troubling him, as he had taken the key without permission. He asked Siggi to keep their conversation confidential.

Sigurgeir had worked for many years on Heimaey for the state telephone company, and on occasion he had to go to the Steinasmiðja machine shop. He would pass through a jumble of machinery and equipment coated in soot on his way to the offices on the upper floor, as was natural in a busy machine shop at that boom time in the fisheries. From one of the rafters hung a key. He noticed it but paid no particular attention.

69 Sigurður Óskarsson, interview, August 2014.
One night during the eruption in 1973, Sigurgeir was working in the street near the machine shop. The building was clearly doomed. Sigurgeir went inside. He suddenly remembered the key he had noticed long ago. The lava was creeping ever closer to the building, and under such circumstances most people would have given little thought to trifles such as an old key, who knows for what lock? Most people would have grabbed something more valuable from the machine shop, but Sigurgeir went straight in, took the key down, and shoved in his pocket, giving it no more thought.

A long time later, when the eruption was over, he cleaned up the key to examine it. When he had removed the dirt and soot, he saw that it was a skillfully wrought copper key with the word BOLSTAD engraved on one side. This must be the key to a fishing-house, he thought. Since Bólstaður had belonged to Siggi’s grandfather, the key should go back to Siggi.

Siggi was fascinated by the story but protested that he could not agree to keep it confidential, as there would be little point in having the key without the story. So Sigurgeir agreed that the story could be shared, and Siggi rang my mother. Hearing the description of the key, she remembered it, adding that Sigurgeir’s father and Grandpa Sigurður were “terribly good friends.” They used to meet up every weekend and Sigurgeir’s father even worked for Grandpa Sigurður, cleaning the catch in the fish-house.

Sigurgeir must have had some kind of premonition when he sought the old key out at the height of the eruption, saving it at the eleventh hour from the lava — for it was that very night that the machine shop disappeared. The key had been taken there for repair long before, and forgotten, as Grandpa Sigurður had given up his fishing boat by then.

Today the key has pride of place on the wall of Siggi’s summer cabin, not far from where our grandparents grew up in the lowlands of south Iceland. Perhaps the key to Bólstaður, which unlocked for Siggi and me the little world of our forebears in the cottage on Heimaey island, can also symbolize the door that we all stepped through as we entered the modern age. Through that
door, we step into an Earth that we hardly recognize, yet have shaped by our own actions.