



THE GODS OF THE SEA

Whales and Coastal Communities
in Northeast Japan, c.1600–2019

Fynn Holm

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Japan is often imagined as a nation with a long history of whaling. In this innovative new study, Fynn Holm argues that for centuries some regions in early modern Japan did not engage in whaling. In fact, they were actively opposed to it, even resorting to violence when whales were killed. Resistance against whaling was widespread especially in the Northeast among the Japanese fishermen who worshiped whales as the incarnation of Ebisu, the god of the sea. Holm argues that human interactions with whales were much more diverse than the basic hunter–prey relationship, as cetaceans played a pivotal role in proto-industrial fisheries. The advent of industrial whaling in the early twentieth century, however, destroyed this centuries-long equilibrium between humans and whales. In its place, communities in northeast Japan invented a new whaling tradition, which has almost completely eclipsed older forms of human–whale interactions. This title is also available as Open Access.

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Japan, c.1600–2019*

Fynn Holm

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Note on the Text

Japanese names are given with the surname first, followed by the personal name. Following conventions in the field, after the first appearance I use the personal or artistic name for individuals who lived in the early modern period (1600–1867). For example, Ōtsuki Heisen is later referred to in the text as Heisen. For individuals living in the modern period (1867–present), however, I continue to use their last names after the first appearance, for example, Kishinouye Kamakichi is referred to as Kishinouye.

The value of monetary units varied greatly over the course of the early modern period. I use the following measurements:

- 1 *ryō* (gold coin) = ca. 60 *monme* (silver coins) = ca. 4,000 *mon* (copper coins)
- 1 *kanme* (measurement unit of 3.75 kg silver) = ca. 1,000 *monme* (silver coins)
- 1 *koku* (180 l of rice or 5 bushels, amount of rice that can supposedly feed one adult for one year and is worth around 1 *ryō*)
- 1 *ri* = ca. 3.9 km

Introduction

Early in the morning on 1 November 1911, dozens of fishermen gather on a little hilltop, just outside of the coastal village of Same-ura. The sun has not yet reached the horizon, and the air is freezing cold. The men are all armed with improvised weapons – flensing knives, clubs, and spears – and reek of liquor. None of them has slept this night. When hundreds of more armed fishermen appear on the main path along the coast, the men on the hilltop descend as well. A few minutes later, the two groups merge, reaching together a group of factory buildings at the end of the pier: the Same-ura whaling station. In the past half year, whalers from western Japan had caught and slaughtered more than 180 whales at this station. Subsequently, several tons of coagulated blood and oil had spilled into the nearby ocean, killing the local wildlife. The fishermen are convinced that the poor sardine catches this year are directly related to the whaling activities.

As the angry crowd reaches the station, they are expected by a handful of police officers and employees of the factory. Some twenty fishermen try to negotiate with the defenders but to no avail. Angry shouts burst from the crowd: ‘Kill them! Burn the station down!’ As the fight begins, fire breaks out and with a giant blast the first of the roughly 300 whale oil barrels bursts. More and more barrels catch fire, their explosions like the rapid discharge of a machine gun. Rioters and employees alike struggle to escape from the flames. Two rioters catch fire; they try to escape the building, but their clothes are smeared with oil. Before they reach the safe embrace of the icy sea, they burn. As the smoke evaporates, seven policemen and fourteen factory workers have been severely injured. Meanwhile, the aggregated fishermen fall back to the town, besieging the residences of two fish fertiliser merchants who had collaborated with the whalers. Nearby, the local police station is also coming under assault, as well as other houses of whaling supporters. Finally, at eleven in the morning, the crowd disperses, leaving behind a scene of destruction.¹

¹ Adapted after eyewitness reports, see Satō, *Kujira kaisha yakiuchi jiken*, 54–65.

In current popular and political discourse, Japan is often imagined by pro- and anti-whaling advocates alike as a ‘whaling nation’ that possesses a centuries-old homogenous ‘whaling culture’.² However, as the destruction of the Same-ura whaling station near Hachinohe in 1911 demonstrates, the historical reality was more complicated: for centuries some regions in early modern Japan did not engage in whaling but were actively opposed to it, even resorting to violence when whales were killed. As we will discuss throughout this book, resistance against whaling was widespread among the Japanese fishermen, as they worshipped whales as the incarnation of Ebisu-sama, the god of the sea, and believed that it was more beneficial to live side-by-side with whales instead of hunting them.

Today, these forms of non-lethal human–whale relationships have been largely forgotten. It is not without irony, that the invented tradition of a homogenous Japanese whaling culture is nowhere more present than in the collective memory of the Northeast, the same place, where protests against whaling had been the fiercest only one hundred years ago.³ When the Japanese government announced in December 2018 its plans to withdraw from the International Whaling Commission (IWC) and resume commercial whaling after a thirty-one-year hiatus, the news was taken up enthusiastically in Hachinohe. Kobayashi Makoto, Hachinohe’s mayor, immediately envisioned his port city as the centre of commercial whaling in this new era. Kobayashi invoked the image of a long history of whaling and whale eating in the region: ‘As far back as I can remember, Hachinohe has had a close relationship with whales, and there is even a local dish called whale soup, which is still made today.’⁴ Regarding the historical widespread anti-whaling protests in his city, Kobayashi only vaguely alluded to certain ‘incidents’ in the past.

This book aims at uncovering this forgotten history of whales and coastal communities in northeast Japan. It is argued that human interactions with whales were much more diverse than the basic hunter–prey relationship that the current whaling historiography describes, as cetaceans played a pivotal role in proto-industrial fisheries. As locals knew from observations, the killing of whales caused environmental pollution as free-floating whale blood diminished the coastal ecosystem on which the fishing communities depended. However, with the advent of

² See, for example, Hirata, ‘Beached Whales’; Ishii, *Kaitai shinsho ‘hogeï ronsō’*; Blok, ‘Contesting Global Norms’; Morikawa, *Whaling in Japan*; Komatsu and Misaki, *The Truth behind the Whaling Dispute*.

³ For a discussion on the ‘invention of tradition’, see Hobsbawm and Ranger, *The Invention of Tradition*; Morris-Suzuki, ‘The Invention and Reinvention of “Japanese Culture”’.

⁴ Hachinohe City, ‘Kisha kaikenrei (26.6.2019)’; Hachinohe City, ‘Kisha kaikenrei (21.5.2019)’.

industrial whaling in the early twentieth century, this centuries-long equilibrium between humans and cetaceans was destroyed over the span of a few years. In its stead, communities in northeastern Japan adapted elements from the western Japanese whaling cultures and invented a new whaling tradition, which has almost completely replaced older forms of human–whales interactions.

Living with the Gods of the Sea

In the historiography, the relationship between humans and whales is framed almost exclusively through the lens of the whaling (proto-) industry.⁵ Only recently have marine environmental historians tried to expand this framework. Nancy Shoemaker coined the term ‘living with whales’ to describe the history between whales and Native Americans from New England. She argues that Native Americans had a holistic relationship with the animals as marine mammals were not only hunted for sustenance but featured prominently in their stories, spiritual beliefs, and political practices: ‘Their long relationship with whales contributed to their survival as Native peoples, and it also explains why their history and identity as whaling people is so much in evidence today’.⁶ Joshua Reid expanded on Shoemaker’s concept and argued that for many ‘whale people’ living in the Pacific world, whaling meant more than just the killing and commodification of whales. Whales were kin to humans and played important roles in the social life of whale people. Coastal communities often believed that whales let themselves be caught by human hunters. The sacrifice of the whales had to be repaid by performing the proper ritual preparation prior and to show respect towards the animals.⁷ As Bathsbeba Demuth argues on the example of whale people in the Bering Street, the whales would judge if the hunters had portrayed the necessary ceremonial care and moral worthiness before giving their meat and life to the humans: ‘Without these preparations, the whales would tell each other that the humans were not ready, morally or practically.

⁵ See, for example, Dolin, *Leviathan*; Burnett, *The Sounding of the Whale*; Tønnessen and Johnsen, *The History of Modern Whaling*; Ellis, *Men and Whales*; Newton, *A Savage History*. For more on the Japanese historiography of whaling, see Morita, *Kujira to hōgei no bunkashi*; Iwasaki-Goodman, *Ningen to kankyō to bunka*; Nakazono, *Kujiratori no keifu*; Kalland and Moeran, *Japanese Whaling*.

⁶ Shoemaker, *Living with Whales*. For a similar narrative regarding the relationship of the Makah people with whales, see Reid, *The Sea Is My Country*.

⁷ Reid, ‘Whale People and Pacific Worlds’. For case studies on whale cultures in the Pacific World, see Jones, ‘A Whale of a Difference’; Brabyn, *An Analysis of the New Zealand Whale Stranding Record*; Turner, ‘The Whale Decides’; Whitridge, ‘The Prehistory of Inuit and Yupik Whale Use’; Stevens and Wanhalla, ‘Māori Women in Southern New Zealand’s Shore-Whaling World’.

Unwilling to die for the unworthy, they would keep to their own country.⁸ Thus, it was the decision of the whales – not of the humans – if a hunt was successful or not.

In this book, I introduce another category of ‘whale people’ that has so far largely been overlooked in the literature: Coastal communities that did consume whale meat from stranded whales, but at the same time not only refused to actively hunt whales themselves but also protected the animals against other would-be whalers. We can find examples of non-whaling whale people in pre-contact Polynesia, Australia, and Aotearoa (New Zealand).⁹ Some Māori groups, for example, believed that stranded whales were ‘gifts from the sea’ that had been made by Tangaroa, the god of the ocean.¹⁰ They interpreted whales as supernatural beings that protected travelling humans on boats and saved humans when they were in peril. Furthermore, the seasonal migration of whales helped humans orientate on the open sea as a form of biological navigation tool. Therefore, hunting a whale was seen as sacrilege and it was thought that those who did so would be punished by the gods.¹¹ These rules were not absolute, however, as even though whales were not actively pursued on the open sea, in some cases, for example when an injured whale was found in a bay, Māori hunters would sometimes ‘assist’ the animal in beaching on the shore.¹² Nevertheless, the co-existence of humans and whales was of great spiritual importance, which is why I would argue that the hunting of whales is not a necessary prerequisite to qualify as ‘whale people’, as coastal communities could develop a holistic relationship with whales based on ceremonial and moral care without regularly hunting them.

Such largely non-violent relationships with whales were not reserved to so-called ‘indigenous’ communities, however, but could also be found among proto-industrial fishing communities on the Japanese Archipelago. While the older literature has focused on the economic and social impact of whaling in Japan, the recent historiography has taken up some more nuanced discussions of ‘living with whales’, by describing the cultural and religious aspects of the early modern whaling cultures in western Japan.¹³ Kumi Kato and Mayumi Itoh assert that religious rituals of mourning killed whales were incremental in developing respect towards whales and an ethic of restraint among whalers that

⁸ Demuth, *Floating Coast*, 21. ⁹ Jones, ‘Running into Whales’, 359.

¹⁰ Cawthorn, *Meat Consumption from Stranded Whales and Marine Mammals in New Zealand*, 5–6.

¹¹ Gillespie, ‘The Bi-cultural Relationship with Whales’, 2–4.

¹² Rodgers, ‘The Connection of Māori to Whales’, 2–9.

¹³ See Arch, *Bringing Whales Ashore*, 2018; Ambros, *Bones of Contention*; Kato, ‘Prayers for the Whales’; Itoh, *The Japanese Culture of Mourning Whales*; Mori and Miyazaki, *Kujiratori no shakaishi*.

allowed for a sustainable relationship with the natural world.¹⁴ In her 2018 book ‘Bringing Whales Ashore’, Jakobina Arch argues, however, that early modern whaling was not inherently more sustainable than industrial whaling, calculating that between 1600 and 1800 around two hundred thousand whales might have been harvested by the more than ninety whaling communities in the western part of the country, leading to a substantial drop in the whale stocks even before the first American whalers appeared in the Pacific in the 1820s.¹⁵

What these historiographical accounts of Japanese whaling culture have in common, however, is their regional focus on the whaling communities in western and central Japan.¹⁶ Regions that did not actively hunt whales, such as communities at the Seto Inland Sea, the Hokuriku Coast, or the Sanriku Coast, are mentioned only in passing, if at all, despite communities in these regions having a wealth of religious and cultural practices regarding whales. Even when these practices are mentioned, authors usually pay little attention to regional differences in ceremonial whale worship. Itoh, for example, writes: ‘The existence of similar monuments and services in different regions is actually a testament to the fact that fishing communities in various parts of Japan shared the same sentiments toward whales and mourned in similar ways the deaths of the whales they had caught.’¹⁷ However, only a few pages later, Itoh acknowledges that the whale worship of non-whaling regions differed greatly from whaling communities: ‘because of their belief in whales as the Ebisu God, fishermen in some communities feared that the gods of the sea would punish them if they killed whales, and therefore they did not hunt them’.¹⁸ Similarly, Kato also writes ‘that in some regions fishermen regarded whales as a guardian *ebisu* because whales were known to bring schools of fish (e.g., cod and herrings) into the bay, thus creating a prosperous catch’.¹⁹

As the example of the Ebisu worship in northern Japan shows, whale worship in early modern Japan was far from homogenous. While whaling communities based their rites around practices that should appease the angry souls of the hunted whales, fearing retribution in the form of a ‘whale curse’, non-whaling communities celebrated stranded whales as

¹⁴ Kato, ‘Prayers for the Whales’, 287–8; Itoh, *The Japanese Culture of Mourning Whales*, 210–19.

¹⁵ Arch, *Bringing Whales Ashore*, 2018, 9. For a discussion on whether religious practices lead to an sustainable relationship with nature, see Eisenstadt, ‘The Japanese Attitude to Nature’; Bruun and Kalland, ‘Images of Nature’; Berkes, *Sacred Ecology*.

¹⁶ For historiographical accounts discussing indigenous Ainu whaling, see Wilson, ‘Whaling at the Margins’; Iwasaki, ‘Ainu minzoku kujira riyō bunka no ashiato wo tadoru’; Natori, *Funka-wan ainu no hokei*; Itabashi, *Kita no hokeiki*.

¹⁷ Itoh, *The Japanese Culture of Mourning Whales*, 6.

¹⁸ Itoh, *The Japanese Culture of Mourning Whales*, 17.

¹⁹ Kato, ‘Prayers for the Whales’, 290.

incarnations of Ebisu and thanked them for bringing fish to the shore, while refraining from actively hunting whales.

Similar to other whale people in the Pacific world, these Japanese non-whaling communities also based their holistic relationship with whales – and in extension nature as a whole – on a moral framework that was reflected in their local ecological knowledge.²⁰ An enlightening point of departure to understand these moral values is Karl Jacoby concept of ‘moral ecology’. First introduced in his 2001 book ‘Crimes Against Nature’ Jacoby extended E. P. Thompson’s ‘moral economy’ framework by arguing that rural folk had often a different moral understanding of what constituted as ecological conservation than the elite.²¹ Jacoby aimed to ‘recreate the moral universe that shaped local transgressions of conservations laws, enabling us to glimpse the pattern of beliefs, practices, and traditions that governed how ordinary rural folk interacted with the environment’.²² Since then the concept of moral ecology, as it was named by Jacoby, has been used in a number of environmental historical studies to describe the vernacular beliefs and customs of how the poor connected natural conservation with socio-economic norms in defiance to elite discourses. Ecologist Fikret Berkes makes a similar argument in his book ‘Sacred Ecology’, where he argues that many traditional knowledge systems did not differentiate between nature and culture but rather saw these two aspects as intertwined and imbued with sacredness. Ecological thinking is thus not necessarily restricted to scientific interpretations of the world but can also be found in the moral and ethnic knowledge systems of vernacular communities.²³

In the case of fisheries, the problem of managing a constantly changing and unknown number of marine resources has early on been discussed by Arthur McEvoy’s ‘The Fisherman’s Problem’ and more recently by the literature about the ‘shifting baseline syndrome’.²⁴ In Japanese marine environmental history, similar notions of a sustainable usage of coastal resources are discussed under the term ‘*satoumi*’ (sea near the village).²⁵ Coastal communities often fought against the introduction of

²⁰ The term ‘local ecological knowledge’ or simply ‘ecological knowledge’ will be used to describe the beliefs, practices and common wisdoms that a community accumulated over generations in their interactions with the environment. See Lauer and Aswani, ‘Indigenous Ecological Knowledge as Situated Practices’; McCarter and Gavin, ‘In Situ Maintenance of Traditional Ecological Knowledge on Malekula Island, Vanuatu’; Ruddle and Davis, ‘What Is “Ecological” in Local Ecological Knowledge?’.

²¹ Thompson, ‘The Moral Economy of the English Crowd in the Eighteenth Century’.

²² Jacoby, *Crimes against Nature*, 246. ²³ Berkes, *Sacred Ecology*, 12.

²⁴ McEvoy, *The Fisherman’s Problem*; Jackson, Alexander, and Sala, *Shifting Baselines*; Klein and Thurstan, ‘Of Seascapes and People’.

²⁵ Cetinkaya, ‘Challenges for the Maintenance of Traditional Knowledge in the Satoyama and Satoumi Ecosystems, Noto Peninsula, Japan’; Knight, ‘The Discourse of “Encultured Nature” in Japan’; Yanagi, *Sato-Umi*.

industrial fishing methods, not because they were protecting their traditional way of life out of conservatism, but rather because they wanted to secure their access to marine resources and prevent the fish stocks from collapsing from overharvesting. The moral obligation to protect fish stocks was born out of a desire to secure the socio-economic future of the community, not due to their intrinsic value or even concern for the well-being of the animals.²⁶ This brings us to an interesting question, however: Why then did non-whaling communities come in conflict with whalers, when these groups did not compete for the same marine resource?

On a first glance, besides the occasionally stranded whale, non-whaling communities had little economic incentive to prevent whalers from hunting whales, as they themselves had specialised in the harvest of other marine resources. However, these communities had a more holistic approach towards their environment than only the flora and fauna directly tied to the production of sustenance and commodities. As I will argue in this book, in the worldview of the non-whaling communities, whales were an integral component of the coastal environment, as they were believed to be responsible for driving fish towards the shore. Killing whales on the open sea was seen as morally wrong, as it could not only mean poor fish catches, but also causing environmental pollution through whale blood pestering the ocean, destroying local flora and fauna on which the community depended. Morally correct behaviour extended, therefore, not only towards other humans inside and outside the community but also towards a responsible interaction with the environment, even to those parts that were not directly harvested. If the proper moral care was not portrayed, whales – as religious symbols of the personified nature – might punish the community, causing hardship for all involved.

Finally, the book's focus on the heterogeneity of coastal whale and fishing cultures in Japanese fishing villages highlights the importance of microhistory in the context of Japanese Studies.²⁷ As Nathan Hopson and Hidemichi Kawanishi have pointed in their respective studies, Japan's Northeast (*tōhoku*) regional culture has long been overlooked by the mainstream historiography and was often perceived as not particularly interesting or different from other regions.²⁸ However, since the 2011 tsunami, which destroyed large parts of the Northeast's coast, interest in the region has been

²⁶ Payne, 'Local Economic Stewards'; Judd, 'Grass-Roots Conservation in Eastern Coastal Maine'; Griffin and Robertson, 'Elvers and Salmon'.

²⁷ Dusinger, *Hard Times in the Hometown*; Roberts, *Mercantilism in a Japanese Domain*.

²⁸ Hopson, *Ennobling Japan's Savage Northeast*; Kawanishi, *Tōhoku*.

rekindled in disaster science.²⁹ This book reassesses the importance of the region's history by discussing its place as one of the main producers of marine fertiliser products in the early modern period and how this is connected to anti-whaling protests in the region. Furthermore, it is demonstrated how events like the 2011 tsunami directly influenced the future of Japanese whaling practices.

The Age of the Cetosphere

Historising oceans is often challenging as we perceive them as vast unending bodies of water that are seemingly unchanging over the aeons.³⁰ However, while whales have become a rare sight today, not too long ago, the oceans were sprawling with millions of cetaceans, which dominated as megafauna all oceanic ecosystems. In the early modern world, humans and whales shared this planet together. In the Bering Strait people also spoke of the 'whale country' when talked about the open sea, while in northwestern Japan, whales were called 'the lords of the open sea' (*oki no tonosama*).³¹ As I will argue here, the world's oceans were until recently the domain of the whales and not of humans. This book attempts to reconstruct some of the interwoven relationships between humans and whales, by 'diving beneath the waves' as propagated by Ryan Jones.³² Examining the lifecycles of cetaceans and how they interact with their environment, including humans and other marine fauna, forces us to readjust our sense of scale and time, revealing that the history of commercial whaling is a mere 'blip' in the whale-human history.³³ This book will take, therefore, a *longue durée* perspective and will, whenever possible, also consider the possible agency of cetaceans as the lords of the open sea.

But how and to what degree did whales shape the oceans? A look at our own history might provide some answers. In recent years, we have become more aware that our collective actions as a species have profound

²⁹ See, for example, Kajiwaru, *Surviving with Companion Animals in Japan Life after a Tsunami and Nuclear Disaster*; Starrs, *Japanese Cultural Nationalism*; Birmingham and McNeill, *Strong in the Rain Surviving Japan's Earthquake, Tsunami, and Fukushima Nuclear Disaster*.

³⁰ Due to the difficulties of reconstructing past marine ecosystems, the history of oceans are often described as 'black boxes', see Taylor, 'Knowing the Black Box'.

³¹ Demuth, *Floating Coast*; Akimichi, *Kujira wa dare no mono ka*, 111.

³² Jones, 'Running into Whales'.

³³ Jones and Wanhalla, 'Introduction'. No direct evidence of early whale hunting has survived the rising and falling of sea levels following the end of the last ice age; however, tacit evidence in the form of whale bones found in archaeological sites in Scandinavia, the North Pacific, and Japan suggests at least a passive use of whales as early as 9,000 years ago, see Savelle and Kishigami, 'Anthropological Research on Whaling', 2–4.

influence on the whole biosphere that will likely result in a changed global climate, the mass extinction of fauna and flora, and the degradations of countless marine and terrestrial ecosystems. As these changes will be traceable in geological sediments, many scientists believe that we have entered a new geological age, called the ‘Anthropocene’.³⁴ Dipesh Chakrabarty has thus argued that the human species has transcended from a biological agent to a geological agent.³⁵ Historically speaking, however, the impact of humans on the biosphere has not been progressing uniformly. For example, in the past 50,000 years about half of the megafauna species have gone extinct in terrestrial ecosystems, most of them due to human influences, however, in the same time frame, only three marine megafauna species have been lost.³⁶ While humans have in the past millennia intentionally or unintentionally altered almost all terrestrial ecosystems on a fundamental level – making them part of a ‘terrestrial anthroposphere’ – oceanic environments have resisted these anthropogenic pressures much longer.³⁷ It is not, I would argue, until the advancement of American and European whaling in the nineteenth and eventually industrial fishing and whaling practices in the early twentieth century, that we can speak of a marine anthroposphere outside of coastal areas.

However, if oceans have remained largely unperturbed by human influence for so long, did other nonhumans exist that had similar ecological impacts on the marine ecosystem than humans have today? In this book, I argue that until the twentieth-century cetaceans, which comprise ninety species of whales, dolphins, and porpoises, collectively influenced the feedback loops of marine ecosystems in a similar manner as humans have on terrestrial ecosystems. It was them and not humans that shaped the nutritional composition of the oceans, enriched and devastated

³⁴ Crutzen, ‘The “Anthropocene”’; Lewis and Maslin, *The Human Planet*. For critical assessments on the Anthropocene, see LeCain, ‘Against the Anthropocene’; Latour, ‘Agency at the Time of the Anthropocene’; Chakrabarty, ‘Anthropocene Time’; Haraway, ‘Anthropocene, Capitalocene, Plantationocene, Chthulucene’.

³⁵ Chakrabarty, ‘The Climate of History’.

³⁶ These three species are the Caribbean monk seal who died out in 1952, the Japanese sealion (1970s), and the Steller’s sea cow (1768), see Estes et al., ‘Megafaunal Impacts on Structure and Function of Ocean Ecosystems’, 85–6. For more on the possible impact of humans on defaunation, see Svenning, ‘Future Megafaunas’; Malhi et al., ‘Megafauna and Ecosystem Function from the Pleistocene to the Anthropocene’; Lorenzen et al., ‘Species-Specific Responses of Late Quaternary Megafauna to Climate and Humans’; Alroy, ‘A Multispecies Overkill Simulation of the End-Pleistocene Megafaunal Mass Extinction’.

³⁷ The term anthroposphere is here understood as an anthropogenically modified ecosystem in which humans function as the primary keystone species, see Worm and Paine, ‘Humans as a Hyperkeystone Species’; Cottee-Jones and Whittaker, ‘Perspective’; Baccini and Brunner, *Metabolism of the Anthroposphere*.

biodiversity in marine ecosystems, and influenced as biomass containers carbon and CO₂ concentrations on a large scale.³⁸ While it would go too far to describe cetaceans as geological agents, their impact on the early modern marine world was so profound that, as I argue, the oceans were until the rise of industrial whaling practices not part of the marine anthroposphere but rather of the ‘cetosphere’.³⁹

Today, the oceans have been depleted of cetaceans, and the cetosphere has – for the most part – ceased to exist. Currently, only 14 per cent of the former great whales’ biomass remains in the oceans.⁴⁰ The decline and eventual destruction of the cetosphere to a less diversified marine anthroposphere did not happen overnight nor was it solely caused by industrial whaling but had been in the making for at least three centuries. American whaling in the middle of the nineteenth century alone caused the death of up to 10,000 whales per year.⁴¹ Between 1900 and 1999, at least three million great whales lost their lives to industrial whaling, effectively emptying the ocean of cetaceans.⁴² A low reproduction rate and many new anthropogenic pressures, such as oceanic pollution, climate change, entanglement in fishing gear, ship collisions, and ocean noise have stalled the recovery of many whale species after the end of industrial whaling in 1986.⁴³ We are yet to understand how the removal of 86 per cent of the great whale’s biomass has affected oceanic life, including human communities living at the coast. However, there is little doubt that the sudden disappearance of the oceans’ greatest mammals has had cascading effects on countless marine ecosystems.⁴⁴

Even though we have only very recently begun to grasp the ecological impact whales had on the marine biosphere before industrial whaling destroyed the cetosphere, human coastal communities had for centuries relied on the presence of whales in their coastal waters. The most direct form of making use of whales, and the only one so far researched in detail, is of course the hunting and killing of whales. But there were also many more subtle ways of how humans profited from the cetosphere; some of which are reflected in the coastal communities’ customs and culture. We

³⁸ Roman et al., ‘Whales as Marine Ecosystem Engineers’. This will be explored in more detail in [Chapter 1](#).

³⁹ My focus here on the cetosphere should not indicate that cetaceans were the only major non-human actors that influenced the ocean environment. One could also argue that certain species on the bottom of the trophic structure, for example cyanobacteria, had an even greater impact on the biosphere, see Mazard et al., ‘Tiny Microbes with a Big Impact’.

⁴⁰ Springer et al., ‘Sequential Megafaunal Collapse in the North Pacific Ocean’, 12225.

⁴¹ Townsend, ‘The Distribution of Certain Whales as Shown by Logbook Records of American Whaleships’.

⁴² Rocha, Clapham, and Ivashchenko, ‘Emptying the Oceans’.

⁴³ Clapham, ‘Managing Leviathan’. ⁴⁴ McCauley et al., ‘Marine Defaunation’.

know of these customs because many fishing communities that had profited from cetosphere in a non-lethal way did not give it up without a fight. In the first decade of the twentieth century, the shared experiences of ecological and economic decline caused by industrial whaling led to protests in Russia, Iceland, Scotland, and Ireland, in many cases resulting in new regulations and bans on coastal whaling.⁴⁵ The most striking parallel to the 1911 Hachinohe uprising happened a few years earlier in Norway. On 1 June 1903, over 1,000 fishermen raided and destroyed a whaling station in the little fishing village of Mehamn (also Mehavn) in Finnmark, northern Norway. Similar to the fishermen in northeastern Japan, the coastal communities in Finnmark believed that baleen whales, such as fin and sei whales were responsible for stirring up small fish like capelin from the deep sea and bringing them close to the shore. Without the whales, capelin and their predator, the Atlantic cod (which the Norwegian fishermen wanted to catch), would no longer come close to the shore.⁴⁶

These historical moments of conflicts are of great interest to historians, as during these times most of our historical sources are produced. Fishing communities had an interest in promoting their viewpoint to legitimise their protests, while authorities tried to understand the root cause for the unrest to bring back social order. As we will see, the riots in Hachinohe turned out to be the last effort of the northeastern fishing communities to save the cetosphere. The eventual industrialisation of coastal fisheries, which was partly advanced by the new technologies developed for the whaling industry, led to fishing farther offshore, thus decreasing the fishermen's reliance on whales bringing fish closer to the coast. Over time, many of the non-lethal interactions between whales and humans have disappeared and have been forgotten. A close examination of historical sources can reconstruct some of this lost ecological knowledge. This book will explore how the Sanriku fishing communities perceived, lived with, profited from, and eventually helped to destroy the cetosphere. My usage of the concept cetosphere is, therefore, an attempt to historicise the oceans by focusing on the ecological and cultural impacts of cetaceans to coastal fishing communities.

In a nutshell, the cetosphere concept explores how cetaceans impacted their environment and human coastal societies. We will discuss how humans perceived and embedded the benefits brought by the cetosphere in their social norms and customs. This allows us to look at more diverse

⁴⁵ Alvestad, 'Opposition to Whaling in Scotland and Ireland before WWI'; Tønnessen and Johnsen, *The History of Modern Whaling*, 78–82.

⁴⁶ Hjort, *Fiskeri og hvalfangst i det nordlige Norge*, 203. See also, Holm, 'Bringing Fish to the Shore'.

interactions between whales and humans than the basic hunter–prey relationship that traditional whaling history conveys. Even today, we are only scratching the surface of understanding all the subtle ways in which whales have influenced marine ecosystems and human culture prior to their human-caused near extinction. It is beyond the scope of this study to reconstruct all the ecological and cultural implications, but through the study of historical sources, we can at least analyse how *non-whaling* coastal communities in northeast Japan perceived and interpreted their interactions with the cetosphere. Finally, this book will also look at how the same coastal communities not only played a key part in bringing an end to the cetosphere but how they have adapted their socio-economic, cultural, and ecological environment to the new circumstances, emerging as the last remaining whaling communities in modern Japan.

Structure of the Book

The structure of the book follows a roughly chronological order, while each of the eight chapters deals with a different set of primary sources and research questions. *Part One: Living with Whales, 1600–1850*, discusses how fishing communities in northeastern Japan developed their vernacular non-whaling culture and resisted attempts from western Japan to become part of the whaling proto-industry. *Part Two: Destroying the Cetosphere, 1850–2019*, shows how the dissemination of industrial whaling led first to widespread anti-whaling protests in the Northeast before the region embraced the new technology and became the centre for a national ‘whaling culture’.

We start this book with **Chapter 1**, ‘The Whale Pilgrimage’, which describes the yearly migration of thousands of whales along the Japanese coast – often imagined as a pilgrimage by Japanese observers – and the impact this had on Japanese coastal ecosystems. Humans in the Japanese archipelago made use of stranded whales early on, but it was not until the 1570s that some fishing communities in western Japan started to actively target whales. I argue that the dissemination of organised whaling was closely linked to the rise of the fish fertiliser proto-industry. To fulfil the demand for marine fertiliser, fishermen from the central Kii domain developed new fishing and whaling techniques. After overfishing their own coast, they began following the migration route of whales across the archipelago in search of new fishing grounds, disseminating fish and whaling techniques to other regions of Japan.

Chapter 2, ‘The Beached God’, discusses the economic and religious importance of beached whales in northeastern Japan. Making use of folktales regarding the god Ebisu and domanial records on whale

strandings, I argue that stranded whales had a considerable impact on the culture and economy of northeastern communities, which led to a different interpretation of whales than the communities in western Japan that engaged in active whaling. As I show in this chapter, the reason why a non-whaling culture developed in northeast Japan but not in western Japan is connected to how whales behave on their migration routes along the Japanese coast. The fishermen in the north had learned that having whales around benefitted them. This knowledge was transmitted in folktales and through material objects such as ‘whale stones’.

Chapter 3, ‘Bringing Sardines to the Shore’, focuses on the earliest sources of anti-whaling protests in northeastern Japan in the late seventeenth century. It analyses a conflict between Kii whalers and local fishermen that occurred in 1677 and shows how whales and proto-industrial fishing were intertwined in the early modern period. The observation that whales would bring fish, such as sardines, closer to the shore played a key role here. Without whales, the local fishermen believed, fish would stay out in the open sea, and they could not catch them. While fishermen made use of stranded whales and even ate whale meat occasionally, they saw the active hunting of whales as a danger to the sardine and bonito proto-industries. Moreover, hunting whales also caused environmental pollution, threatening the fauna and flora near the coast, the economic foundation of the fishermen who relied on gathering seafood. It was in the interest of the locals to protect the community from outside threats such as whaling.

Chapter 4, ‘Establishing Whaling in the North’, discusses the failed attempt to introduce whaling in northeast Japan in the early nineteenth century. The frequent strandings of whales had piqued the interest of whale scholars, such as Ōtsuki Heisen and his cousin Ōtsuki Gentaku, who both promoted the establishment of proto-industrial whaling in the north. In their eyes, whaling would not only bring economic wealth to the northern domains, but whalers could also function as a part-time navy that could protect the Japanese border against intrusion from European powers such as Russia. Based on the works of these whale scholars, new attempts to introduce whaling in northeastern Japan were conducted in the early nineteenth century to combat the Tenpō famine (1833–1837). However, due to the increased whaling activities of the American pelagic and Japanese coastal whalers as well as the reduced abundance of zooplankton and small fish like sardines, whales were probably scarcer in northeastern Japan, making it almost impossible to conduct a profitable whaling venture at that time. It would not be until the 1870s, when both forms of whaling were subsiding, that whales returned to the coast in large numbers, and the cetosphere recovered slightly.

Chapter 5, ‘The Whaling Empire’, opens the second part of the book with a discussion of how industrial whaling was disseminated from Norway and Russia to the emerging Japanese Empire in the late nineteenth century. I argue that industrial whaling, invented by Norwegian whaler Svend Foyn in the 1860s, was taken up by Russian and Japanese whalers as a way to colonise the coastal waters and marine resources around the Korean Peninsula. Industrial whaling techniques allowed whalers to hunt even the largest whale species, such as blue and fin whales, which had a devastating effect on the feedback loops of the marine ecosystem. After the Japanese victory in the Russo–Japanese War of 1905, western Japanese whaling companies brought industrial whaling to the main islands. The chapter argues that the rise of industrial whaling altered the interaction between humans and cetaceans forever, leading to the swift destruction of the cetosphere. While industrial whaling was successfully disseminated in colonial Korea, Japanese fishermen were more resistant and began protesting the new methods even in regions that had long proto-industrial whaling histories. However, the fiercest protest against industrial whaling occurred in former non-whaling regions such as Hokkaido and the Northeast.

Chapter 6, ‘The First Whaling Town’, discusses the socio-economic changes the arrival of industrial whaling brought to the fishing community of Ayukawa in northeastern Japan in 1906. While fishermen were first critical of whaling in Ayukawa, they soon accepted the new industrial whaling practices, and the town became the central hub of coastal industrial whaling. I argue that the local elite played a crucial role in mitigating environmental pollution by buying up whale carcasses that had been thrown away and turning them into whale fertiliser. This not only reduced coastal pollution but also created job opportunities, leading to a mass influx of immigrants from other regions. Soon, the opposing fishermen in Ayukawa found themselves to be a minority in their own village, as the new immigrants had a keen interest in preserving industrial whaling.

Chapter 7, ‘Burning Down the Whaling Station’, analyses the violent conflict between industrial whalers and fishermen leading up to the Hachinohe uprising of 1911. Whalers, bureaucrats, and fishing scientists used fishery science to discredit the ecological knowledge of the local fishermen. In their accounts, allegedly objective scientific knowledge proved that whaling would not harm fishing and other aspects of the coastal ecosystem while the locals’ counterarguments were ridiculed as religious superstitions. By reducing traditional knowledge systems to their religious aspects, the local knowledge of the fishermen was discredited. Unlike in Ayukawa, fishermen in Hachinohe showed stronger resistance, eventually leading to the destruction of the whaling station in

1911. However, the whaling company was able to reconcile with the local fishermen by offering them job opportunities in the whaling business. By 1912, all protests in northeast Japan ceased, and whaling towns, such as Ayukawa and Hachinohe, brought economic wealth to the region. I argue that the dwindling resistance of the population was closely connected to the decline of near-coastal fishing around 1900.

Finally, [Chapter 8](#), 'Washing Away the Past', traces how northeastern Japan became the national centre of industrial whaling after the 1911 Same-ura Incident. With the example of Ayukawa, this chapter argues that industrial whaling was reinvented as a local culture in northeastern Japan with the organisation of whaling festivals, the erection of whaling monuments and the production of a feature film. Nowadays, people in northeastern Japan believe that whaling traditions are their own, and most do not know that their ancestors fought against the introduction of whaling for three hundred years. Thus, the knowledge of the cetosphere has disappeared almost entirely from the collective memory of the former 'non-whaling' communities. However, the excessive hunting of whales as well as the changing international landscape eventually brought an end to commercial whaling in 1987, leaving the 'whaling towns' of the Northeast without their main source of income. The situation was further complicated by the 2011 tsunami that destroyed large parts of Ayukawa and was seen by many as the end of whaling in Japan.

Part I

Living with Whales, 1600–1850

1 The Whale Pilgrimage

In the late autumn of 1812, after a week of travel, the fifty-six-year-old Ōtsuki Gentaku (1757–1827) reached the sacred island Kinkazan in northeastern Japan.¹ Three days of heavy rain and rough sea almost caused Gentaku's little pilgrimage to come to a premature end. However, when the weather cleared on the fourth day, he found a fisherman willing to bring him to the fishing village Ayukawa near the eastern tip of the Oshika Peninsula. From Ayukawa, Gentaku traversed the eastern hill to reach a little hut at the beachfront from where the misty shores of the nearby Kinkazan island could be seen. Ringing a bell at the hut summoned a small ferry. It took less than half an hour to reach Kinkazan. Before Gentaku was allowed to set foot on the sacred island, however, he had to discard his filthy straw sandals and put on new ones. After visiting the main shrine dedicated to the Goddess Benzaiten, Gentaku followed his local guide, a thirteen-year-old monk apprentice, to the 445-metre-high peak of Kinkazan mountain. From here, Gentaku had a panoramic view over the roughed coastline of the Sanriku Coast to the west and the endless Pacific Ocean to the east.

While pilgrims like Gentaku were frequently seen on Kinkazan, they were not the only visitors. Each year between March and October, thousands of whales and dolphins migrated to the Sea of Kinkazan, earning it its nickname 'the castle of sperm whales'.² However, when Gentaku made his pilgrimage in the early nineteenth century, fewer whales were visiting the region every year. As a passionate whale enthusiast, Gentaku was always keen on seeing whales. However, he did not record any whale sightings in his travel monologue to Kinkazan. While the lack of whales might have been slightly disappointing for Gentaku, for the local fishing population, the recent disappearance of the giants from the Sea of Kinkazan was a troubling sign.

¹ Ōtsuki, 'Muyū Kinkazanki'. Ōtsuki Gentaku's role as a whale scholar will be explored in more detail in [Chapter 4](#).

² Oshika chōshi hensan iinkai, *Oshika chōshi: jōkan*, 218.

Fishing was the main occupation for the inhabitants of the Oshika Peninsula. Gentaku notes that from his high vantage point on the peak of Kinkazan, he could see hundreds of small fishing vessels from all nearby coves and villages bustling about, looking for octopus, sardines, and sea bream to hunt. The sea around the island was considered the best fishing ground in all of northeastern Japan. As Gentaku looked down, so did the fishermen always look up to the small mountain. The island's peak, the highest elevation in the region, could be seen from far away and was believed to be the residing place of a benevolent female water dragon goddess, who protected the island goddess Benzaiten. When the local fishermen departed to the open sea to hunt bonito and other fish, they would never lose sight of Kinkazan mountain to find their way back to land. In this border zone between coast and open sea, where the fishermen could barely make out the silhouette of Kinkazan, humans entered the domain of the whales. The presence of these majestic creatures indicated to the fishermen the whereabouts of nearby fish schools. Because of this, the Oshika fishermen often thought of the whales as the helpers of the dragon goddess, who were sent to assist the humans.³ In other stories, whales were brought in association with the god Ebisu, the god of fishing and wealth, who was also revered on Kinkazan.

The yearly arrival of the whales to northeastern Japan was also religiously connotated. A popular belief was that whales, not unlike human pilgrims, were travelling thousands of kilometres to visit famous shrines and attend religious festivals, as the following source from Karakuwa, around sixty kilometres north of Kinkazan, shows:

On the fifteenth day of the first month, the Osaki Myōjin festival is held in Motoyoshi in the northern part of Karakuwa village. [I] have heard that whales come in great numbers to the surrounding sea in order to make a pilgrimage to the shrine. Until this year, I wondered about that, but on the fifteenth day of the first month in Tenpō 4 (1832), Yashichi and Matakichi from Imaizumi and Aramachi went to the shrine for a pilgrimage and saw great numbers of whales come close to the shore and play around. The two said it was undeniably very curious, and [I] listened to them attentively. [We] discussed and thought about this together, but that the whales visit the shrine on the fifteenth day of the first month every year is truly beyond human comprehension.⁴

Similar legends of whale pilgrimages also existed in western Japan, as we will explore in [Chapter 2](#). In this [first chapter](#), we will follow the whales on their yearly pilgrimage around the Japanese Coast, to see how the cetosphere influenced marine ecosystems and coastal communities alike. Along our way, we will meet the first Japanese whalers from the central

³ Ishida, *Nihon gyominshi*, 15–16. ⁴ Watanabe, *Kadoyashiki kyūsuke oboechō*, 259–60.

Kii domain and how they followed the migrating whales along the Japanese Archipelago.

The Sanriku Coast

Standing together with Gentaku on the peak of Kinkazan mountain, we can see that the small island is only one kilometre off the Oshika Peninsula, a mountainous stretch of land reaching into the Pacific Ocean. Like the fishing port Ayukawa, all settlements are located in one of the many coves and bays, with no villages farther inland. To the west, the peninsula ends near the mouth of the Kitakami River, where the harbour town Ishinomaki is situated. The Oshika Peninsula is the most southern point of the so-called Sanriku Coast, which ends some 350 kilometres farther north at the cape of Same-ura near Hachinohe, another port city and the place where the anti-whaling riots would break out in 1911.⁵ The southern part of the Sanriku Coast is marked by its characteristic V-shaped ‘rias’, tubular bays with shallow depths resembling miniature fjords. During tsunamis the water level rises quickly in these bays making them extremely dangerous. On the other hand, as fish and other marine animals are often swimming into the bays, they are good places to install fixed shore nets. The fishing towns Onagawa, Kesenuma, Yamada, and Miyako are all situated inside such bays (and are often destroyed during tsunamis, the last being the 2011 tsunami). Towards the inland, the coast is disconnected from the agricultural zone and the inland cities through the Kitakami mountain range. While not notably high, the range still served as a natural boundary that limited direct contact and prevented intensive farming. Farther north, around the town Kuji, the rias coastline becomes less complex, before ending near the flat coast of the fishing town Hachinohe.

During Gentaku’s lifetime the Sanriku Coast, situated in northeastern Honshu (Figure 1.1), was politically separated into the three domains: Sendai, Morioka, and Hachinohe.⁶ Contemporaries often imagined these

⁵ *Sanriku* literally means ‘three shores’ and refers to the three short-lived Meiji period prefectures of Rikuzen, Rikuchū, and Mutsu (can also be read as *rikuō*). I use the term ‘Sanriku’ here to highlight the common cultural space the coastal communities of this coast, even though the name itself is ahistorical to the early modern period. See also Wilhelm, ‘Ressourcenmanagement in der japanischen Küstenfischerei’, 150; Takimoto and Nasukawa, *Sanriku kaigan to hamakaidō*, 2–5.

⁶ Under the Tokugawa Shogunate (1600–1868; also referred to as Edo period), which was established after the warlord Tokugawa Ieyasu (1543–1616) unified most of the Japanese archipelago in 1600, some 200 daimyos (feudal lords) ruled over their respective domains with relative political autonomy.

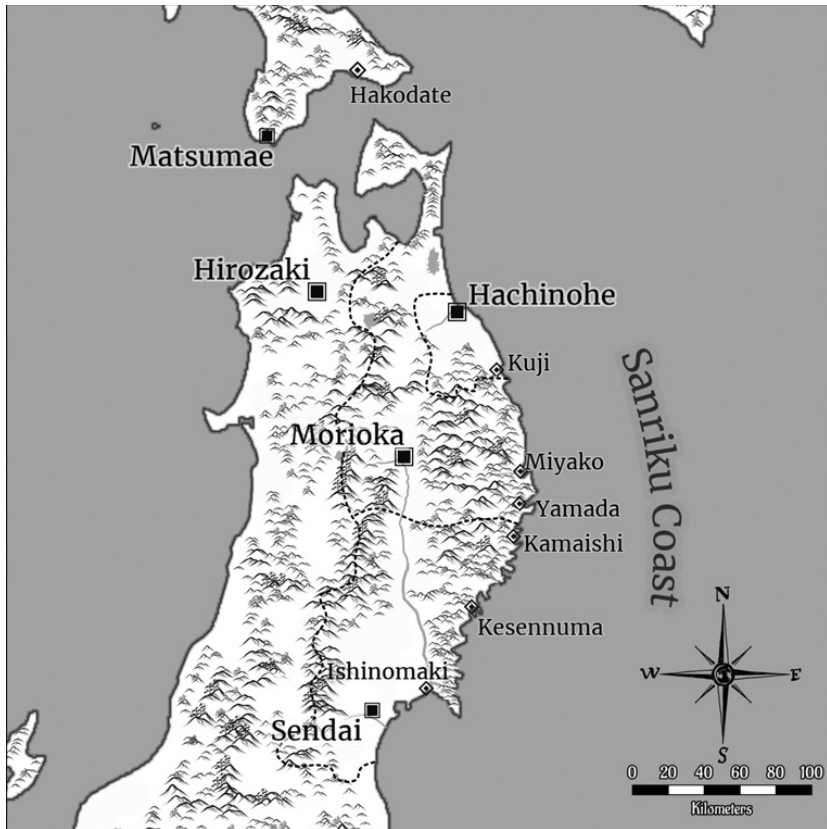


Figure 1.1 Map of the Sanriku Coast in northeastern Honshu in the Early Modern Period

northern domains as backward and poor.⁷ During the summer, the *yamase* winds from the continent would sometimes bring wet and cold weather, destroying crops and causing famine. Nevertheless, the Sendai domain, one of the largest domains in Tokugawa Japan, was critical in producing agricultural products for the capital Edo (today Tokyo). Moreover, the Sanriku Coast itself not only connected the capital with the border region of Ezo (today Hokkaido) in the north, where the important herring fertiliser was produced, but was one of the main fish fertiliser producers itself. Especially sardines were caught in large

⁷ Kawanishi, *Tōhoku*.

quantities and made into fertiliser for the cash crop fields in western Japan. We will explore the importance of these fishing proto-industries in the following chapters. For now, it is sufficient to say that the Sanriku Coast is even today considered among the best fishing places in the world, producing almost 15 per cent of all fishing products worldwide.⁸

The reasons for this wealth of marine resources are the geological and oceanographic characteristics of the Sanriku Coast. Coasts are ecotones, an ecological transitional zone where two ecosystems – terrestrial and oceanic – come into contact. It is the meeting place of many species that would otherwise not have contact with each other, while also hosting several species that have completely specialised to live here. Coastal ecosystems boast some of the highest degrees of biodiversity on this planet, with river systems bringing nutrients from inland and coastal upwelling bringing nutrients up from the deeper ocean.⁹ The case of the Sanriku Coast is here especially interesting: in the ocean before the coast two ocean surface currents, the Kuroshio and Oyashio, meet and intermingle, creating the perturbed region, one of the most highly biotic productive places on earth (Figure 1.2).¹⁰

The warm but nutrient-poor Kuroshio (lit. ‘black current’) originates in the Philippines and passes Taiwan on the eastern coast and advances towards the south of the Japanese Archipelago. The smaller Tsushima Current breaks off south of Kyushu and flows in the Sea of Japan (East Sea), while the Kuroshio continues along the Pacific Coast of Kyushu, Shikoku, and southern Honshu. The Kuroshio goes offshore near the cape of Chōshi and meanders into the Pacific Ocean. Near the Sanriku Coast the Kuroshio Current not only reunites with parts of the Tsushima Current but also meets the Oyashio Current (lit. ‘parent current’) that brings cold, nutrient-rich water from the Bering Strait. The intermingling of these currents creates the so-called perturbed region. The mixing of the warm, nutrient-poor Kuroshio Current and the cold, nutrient-rich Oyashio Current allows plankton to thrive, thus attracting many marine animals, some of them using the currents for their yearly migrations.¹¹

⁸ Tameishi et al., ‘Present State and Future about Application of Satellite Remote Sensing for Fisheries around Japan’, 1775.

⁹ Gillis, ‘Not Continents in Miniature’.

¹⁰ Surface currents cover about 10 per cent of the ocean’s water and flow horizontally in the uppermost 400 metres of the ocean’s surface. Mainly driven by wind and shaped by the topography of the continents and the ocean basins, these currents are distributing the tropical heat to colder regions and vice versa. Therefore, warm water flows to higher latitudes, where it cools down and then moves back to low latitudes to absorb heat again. See Garrison, *Essentials of Oceanography*, 172–89.

¹¹ For example, tuna, sardines, bonito (skipjack tuna), and cuttlefish migrate on the Kuroshio Current along the Japanese Coast. Among the migratory fish that use the cold-water Oyashio Current are salmon and herring. See Tajima, *Kinsei Hokkaidō gyogyō to kaisan butsu ryūtsū*, 410–11.

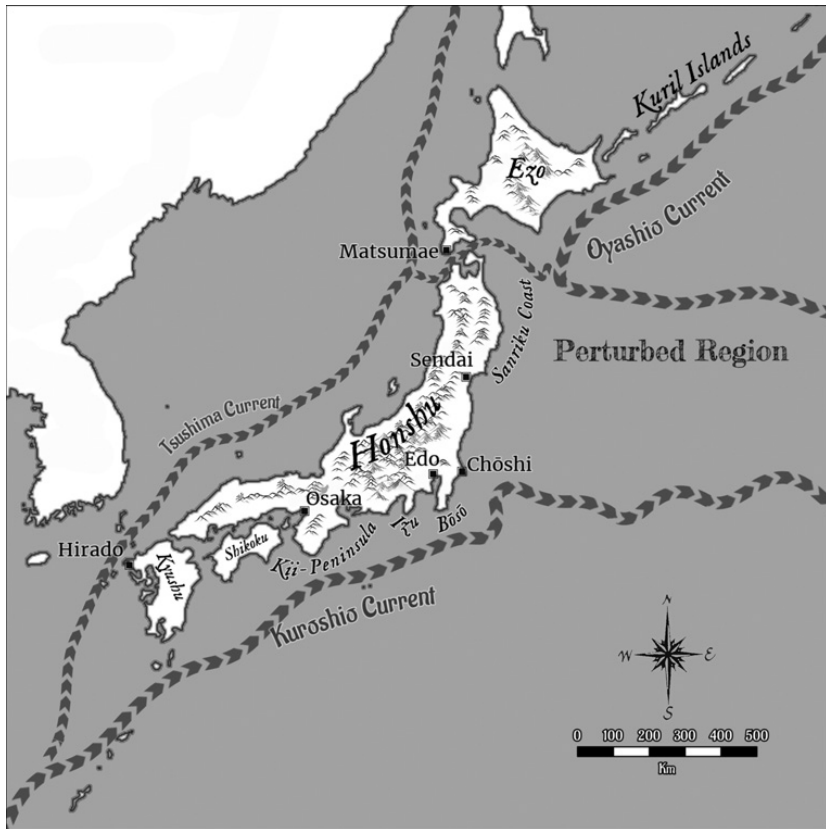


Figure 1.2 Map of Early Modern Japan with ocean currents and the ‘perturbed region’

The exact frontline of the perturbed region moves from winter to summer from Chōshi until Hachinohe and back along the Sanriku Coast.¹²

The perturbed region was the main reason for the good fish catches of the Sanriku fishing communities. However, the ocean currents also posed a considerable threat to the small Japanese fishing vessels, who easily got taken away by the currents and sometimes ended up as far away as Hawai‘i or the Bering Strait.¹³ Coupled with the shogunate’s ban of building ocean-going vessels, for most of the Edo period (1600–1867)

¹² Longhurst, *Ecological Geography of the Sea*, 262–3; Qiu, ‘Kuroshio and Oyashio Currents’, 1417–22.

¹³ Rüegg, ‘The Kuroshio Frontier’.

fishing remained close to the shore and the fishermen had to wait for their prey to come to them. Poor fish catches, either caused by bad weather or changes in the fishes' migration patterns, were a constant threat. In other parts of Tokugawa Japan, fishing communities mitigated these risks by also engaging in part-time farming in the off-season. However, due to its mountainous terrain and unreliable weather, farming opportunities were limited at the Sanriku Coast. Fishing villages had to use most of their revenue to import staple food from nearby farming villages or via officially sanctioned merchants, who as monopolists could dictate the prices. To put this into context, in the coastal community of Ryōri, an average of 83 per cent of their earnings from fishing had to be used to purchase agricultural products.¹⁴ In this way, abundant fish catches and times of relative wealth could suddenly alternate with times of poor harvest and famine.

The Cetosphere around the Japanese Archipelago

While early modern fishermen were quite successful at harvesting marine life near the shore, the more we move towards the open ocean, the less influential anthropogenic top-down pressure became. Here, the fishermen entered the realm of the whales, the 'cetosphere'. As Jakobina Arch has rightly pointed out, our knowledge base of whale ecology and behaviour is very limited even today.¹⁵ This becomes even more of a problem when one attempts to reconstruct how the cetosphere worked before it was severely disrupted by humans in the twentieth century. It is clear, however, that the Japanese Coast was heavily influenced by the cetosphere. To understand how whales interacted with their environment during their migration along the Japanese coastline, I will refer to recent scientific debates in marine biology and ecology. As population sizes have drastically changed in the past two hundred years, and it remains unclear to what degree this has altered the behaviour and culture of particular whale species, referring to present-day observation needs to be taken with caution.

We are currently recognising ninety different species of whales, dolphins, and porpoises, which all belong in the order of Cetacea.¹⁶ Cetaceans are divided into two sub-orders: baleen whales (*mysticetes*) and toothed whales (*odontocetes*). The former includes most larger cetaceans and are characterised through their baleen plates (also called

¹⁴ Wilhelm, 'Ressourcenmanagement in der japanischen Küstenfischerei', 155.

¹⁵ Arch, *Bringing Whales Ashore*, 2018, 23–4.

¹⁶ Carwardine, *Handbook of Whales, Dolphins and Porpoises*.

‘whalebone’), instead of teeth. These comb-like structures are used to filter large numbers of small prey, typically zooplankton such as krill and copepods but sometimes also small fish. They are hunting in shallower depths than their toothed counterparts and are known for their long migration routes from warm-water winter breeding grounds to cold-water summer feeding grounds. This group includes right whales, the most important species hunted in western Japan, as well as the faster rorquals such as the massive blue, fin, and sei whales. Another important species in our context is the smaller minke whale.

Toothed whales include dolphins and porpoises, as well as all whales possessing teeth. With the exception of the massive sperm whales, they tend to be smaller than most baleen whales. With their sharp teeth, odontocetes hunt fish of all sizes, octopods, and in some cases even other marine mammals. Killer whales (also called orcas) are one of the few species that also attack other cetaceans. Some toothed whales are living in larger groups with a complex social organisation, leading some biologists to speculate on a non-human ‘whale culture’.¹⁷ Another characteristic is their ability to produce sounds for communication and echolocation.

While toothed whales are often apex predators, baleen whales are in a peculiar spot in the food chain. On the one hand, they are the largest animals that have ever lived on this planet and are therefore not typically prey for other predators (with the exceptions of humans and sometimes killer whales), but at the same time, they are consuming massive amounts of smaller marine life, such as zooplankton and small fish. It has been estimated that great whales (all baleen whales and sperm whales) consumed between 53 per cent and 86 per cent of the North Pacific Ocean’s net primary production before industrial whaling.¹⁸ Thus, cetaceans directly intervene at different stages of the trophic structure, with toothed whales curbing the larger marine fauna, while baleen whales put pressure on smaller marine fauna.

Today, we know of thirty-seven different species of cetaceans that are regularly visiting the Japanese waters. The behaviour between the species is extremely diverse, fulfilling different ecological roles. Typically, baleen whales such as right whales and fin whales have long migration routes along the Japanese coast. During the winter months, these whales stay in the warmer tropical water around the Philippines for calving. However, as these waters are poor in nutrients, the baleen whales live off their blubber reserve. In late winter and early spring, they would then follow the

¹⁷ Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*.

¹⁸ Estes et al., ‘Megafaunal Impacts on Structure and Function of Ocean Ecosystems’, 99.

Kuroshio northwards until they reach the Japanese Coast. Here some whales follow further the branching Tsushima Current into the Sea of Japan while others continue the Kuroshio close to the Pacific Coast. Around June, the baleen whales reach the perturbed region off the Sanriku Coast, where they would for the first time in months feed on zooplankton on fish. In summer, these baleen whales would traverse the perturbed region and along the Oyashio into the Sea of Okhotsk, where they feed on the plankton bloom. In winter, the whales swim through the open ocean back to the tropics for mating and calving.¹⁹

This route is, however, not followed by all baleen whales. Sei whales, for example, stay mostly offshore and are only rarely seen in the waters around western Japan. In summer and autumn, they appear near the Sanriku Coast and eastern Ezo following the Oyashio Current. In winter, some sei whales could be found around the Ogasawara Islands (Bonin Islands), south of the Japanese Archipelago, but whale biologists are unsure whether these sei whales belong to the same population.²⁰ The situation is similar for the largest toothed whales: the sperm whales. These are also more frequently found offshore or near the northern Pacific coasts of Honshu and Ezo and only occasionally in western Japan.²¹ Smaller-toothed whales and dolphins have far less pronounced migration patterns and they live in a variety of habitats, from estuaries to the deep ocean. While they could be found along the whole Pacific coast, the Kuroshio and Oyashio warm- and cold-water fronts act as natural barriers that smaller-toothed whales would not – or could not – cross.²²

The long-distance whale migrations fulfil crucial functions in the marine ecosystem. Migrating megafauna are essentially biomass transporters of carbon, nitrogen, and phosphorus. Through feeding, they bind biomass to their body while regulating the abundance of zooplankton and small fish in the water through predation pressure. Also, as whales move in a three-dimensional space, they transport nutrients vertically through the water columns. During their dives, whales physically whirl up the water and thus bring the free-floating nutrients back to the surface. This so-called whale pump can bring more nutrients to the surface than all river systems combined. Even more significantly, whales release nitrogen-rich faecal plumes and urine near the water surface. In this respect, they

¹⁹ Longhurst, *Ecological Geography of the Sea*, 1417–22; Jones, ‘Running into Whales’. It is believed that the reason why most baleen whales do not stay in the Arctic waters through the whole year is to evade killer whales, see Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*, 1445.

²⁰ Kasahara, *Nihon kinkai no hogeigyō to sono shigen*, 1950, Fuzu:26; Omura, ‘Whales in the Adjacent Waters of Japan’, 59, 88.

²¹ Kasahara, *Nihon kinkai no hogeigyō to sono shigen*, 1950, Fuzu:27–33.

²² Kasuya and Miyashita, ‘Distribution of Sperm Whale Stocks in the North Pacific’, 68.

‘fertilise’ the upper water masses during their migration route along the Japanese Coast with their faeces.²³ Baleen whales are regulators of marine meta-ecosystems and distribute and exchange nutrients between partly closed systems. With their presence and feeding behaviour, they also stabilise the trophic structure of local ecosystems. Removing them from the coastal ecosystem reduces the resilience of these systems and increases the risk of an irreversible regime shift.²⁴

Early modern coastal ecosystems were not all influenced in the same way by the presence of whales. Some cetaceans visited only certain places, while not appearing at others. Even among a specific whale species, their behaviour could change depending on geographical and seasonal circumstances. Both factors – spatiality and season – massively influenced how human communities would interact with whales that appeared near their fishing grounds. During Gentaku’s lifetime, for example, proto-industrial whaling operations were conducted nearly exclusively in western Japan, while there were nearly no whaling activities in the northern region of the archipelago, despite whales being more common in the north. In the following chapters, we will investigate this peculiar circumstance in more detail.

Whale People on the Japanese Archipelago

Around 35,000 years ago, during the last Ice Age, humans arrived over a land bridge in the region that would later become the Japanese Archipelago. As the shallow East China Sea and Sea of Japan did not yet exist, the migration routes of cetaceans were quite different. The early palaeolithic communities focused most likely on the hunt for terrestrial megafauna such as mammoths, and there is no evidence of them possessing boats or conducting whaling.²⁵ With the end of the Ice Age, Japan was separated from the continent and the coastal sea became part of the cetosphere.

Humans living close to the coast have likely profited from the presence of migrating cetaceans early on. Archaeological findings from the Jōmon period (14,000–300 BCE) have uncovered whale and dolphin

²³ Roman et al., ‘Whales as Marine Ecosystem Engineers’; Roman and McCarthy, ‘The Whale Pump’; Holmlund and Hammer, ‘Ecosystem Services Generated by Fish Populations’.

²⁴ A regime shift describes an (often irreversible) sudden change in the internal dynamics and feedbacks of an ecosystem. Human activities, like overfishing, often unwillingly cause a regime shift of an ecosystem to a less desired socio-ecological system, see Biggs, Carpenter, and Brock, ‘Turning Back from the Brink’; Walker and Salt, *Resilience Thinking*, 36–7.

²⁵ Nakazono and Yasunaga, *Kujiratori emonogatari*, 8.

bones in shell mounds. For the human communities, the carcass of stranded whales provided a wealth of protein and raw materials, as cetaceans were disassembled, eaten, and their bones used as tools. Unclear remains, however, in what capacity these coastal settlers were engaged in active whaling. Evidence suggests that Jōmon hunters have most likely hunted dolphins. The small size of their boats and the insufficient equipment make it unlikely, however, that larger cetaceans were hunted outside of a few opportunistic kills, for example, when a whale was already injured and disorientated. Most whale bones that have been found near their settlements are, therefore, likely gathered from beached cetaceans.²⁶

On the other hand, cetaceans could also cause distress to a coastal community. Some whale species competed for the same fish species as humans and toothed whales, like some dolphin species and killer whales have been known to disperse fish swarms.²⁷ Even more, killer whales and sperm whales might have posed a serious threat to these coastal hunters, especially when provoked. Injured or dead whales often lost large amounts of blood and grease near the coast. While these additional nutrients could prove beneficial to the coastal ecosystem as a form of marine fertiliser, as we will see later in the book, sometimes the amount of blood at one specific spot was just too large to absorb and thus killed off coastal sea grass, shells and scared off fish. In these instances, the out-flowing bodily fluids of whales were perceived by the coastal communities as ‘pollution’, not unlike an oil spill. Eating spoiled whale meat also posed a serious health risk, leading to the belief of a ‘whale curse’ that would befall communities that ate whale meat without the consent of the gods of the sea. In this way, the same biomass that contributed to the fertilisation of coastal ecosystems and provided large amounts of protein to humans could also turn into a biological time bomb.

These positive and negative effects of the cetosphere on the early coastal communities have most likely influenced their religious and cultural representation of cetaceans. Unfortunately, we do not know much about these prior to the early modern period. One of the oldest cultural depictions of a whale is a 6.3-centimetre-long figurine found near Hakodate in southern Hokkaido that is dated from 4,500 years ago. It is believed to show a killer whale and might be a predecessor of the Ebisu belief.²⁸ Other artefacts, such as cave paintings depicting fishermen killing whales, or spoons made out of whale bones were found nearby. In northern Kyushu, burial mounds from the Kōfun period (300–538 CE)

²⁶ Yamamura, ‘Kōkogaku kara mita Nihon rettō ni okeru hōgei’, 137–42.

²⁷ Nakamura, *Iruka to Nihonjin*, 207–9. ²⁸ Ōsumi, *Kujira to Nihonjin*, 76.

also contain depictions of whale hunts.²⁹ At least since the Heian period (794–1185 CE), stranded whales were not only eaten by the local population but the carcasses were also turned into whale oil for illumination. Dolphins and other smaller cetaceans were sometimes trapped into coves by communities across the Archipelago. A document from 1404 alludes to a possible whaling operation on Tsushima, an island between Japan and Korea, but it could also have been a dolphin hunt. From the same Muromachi period (1336–1573), references to whale meat have survived in cookbooks and the meat was a high-priced commodity consumed by the elite in the capital, indicating that it must have been a relatively rare dish.³⁰

While many details remain unclear, it seems that whales played an important part in the lives of coastal societies and were early on harvested on the Japanese Archipelago, even though the use of stranded whales was most likely much more important than active hunting. In this regard, early coastal communities 'lived with' whales in a similar way as described by Nancy Shoemaker.³¹

Following the Pilgrimage of the Whales

The seasonal arrival of whales in local waters was a highly anticipated event for many communities as a single accidental whale stranding could bring enough wealth as a whole fishing season. Eventually, some villages were no longer content with leaving this possibility to chance, or – to the grace of the whales – but began actively looking for whales to drive them into coves. It is believed that whaling as an occupation emerged around 1570 in the Ise Bay of central Japan. Whalers on seven to eight boats drove whales into coves, where they could be killed with simple harpoons. The preferred target were right whales that followed the Kuroshio Current northwards during the winter months and came close towards the coast. Once a whale was struck with a harpoon, it was hauled to the ships and brought to the beach, where the skin was removed with long blades from the underlying blubber, meat, tissue and bones in a process we call 'flensing'.³² Eventually, the new whaling techniques were taken up by fishing communities on the Kii Peninsula, where the first whaling group (*kujira-gumi*) was established in Taiji in 1606. At the beginning, whaling was just one of many coastal activities conducted by the Kii fishing communities, supplementing sardines (*iwashi*), sea bream (*tai*) and

²⁹ Yamaura, 'Kōkogaku kara mita Nihon rettō ni okeru hoge'i', 144–8.

³⁰ Nakazono and Yasunaga, *Kujiratori emonogatari*, 18–19.

³¹ Shoemaker, *Living with Whales*. See also the Introduction.

³² Nakazono and Yasunaga, *Kujiratori emonogatari*, 23–5.

bonito (*katsuo*) catches for the markets of the nearby merchant city Osaka in the Kansai plain.³³

Coinciding with the emergence of active whaling operations was the unification of the Japanese main islands (except for Ezo) under the warlord Tokugawa Ieyasu (1543–1616) in 1600. Under the new Tokugawa Shogunate, new innovations in agriculture, such as more resilient rice types or new irrigation projects, led to a steep increase in the overall population.³⁴ Especially in the Kansai plain, farmers used newly attained fields not only to increase production of food crops, however, but also to produce new cash crops, like cotton, indigo, and tobacco, which further put ecological pressure on the agricultural land, which began to lose its productivity.³⁵ To compensate farmers in the agricultural core regions began to use commercial fertiliser. Among these were ‘night soil’ and soybean cakes, but the most common commercial fertilisers were fish and to a lesser degree whale fertiliser.³⁶ Thus, marine fertilisers made out of dried or pressed sardines from the Kii Peninsula were in high demand to replenish the exhausted fields of the Kansai plain. Additional to sardines, demand for not only other marine products, such as bonito, which were used as the basic ingredient in the Japanese cuisine, but also of whales increased drastically.

³³ Translating Japanese fish species into English is often not precise. For example, Edo period fishermen used the term *iwashi* not only for different subspecies of sardines but also for other similar-sized fish, like anchovy and round herring, see Kalland, *Fishing Villages in Tokugawa Japan*, 99. In this case, the distinction is especially relevant as sardines and anchovy are mutually exclusive of each other because of preferences in food and water temperature. Good sardine catches typically mean poor anchovy catches and vice versa, but as both species were called *iwashi* indiscriminately in Tokugawa Japan, this problem is not visible in the primary sources. See also, Longhurst, *Ecological Geography of the Sea*, 265.

³⁴ It is estimated that the Japanese population almost doubled from 16 to 30 million between 1600 and 1721. However, the exact number of people living on the Japanese islands is still contested. For 1600, Hayami estimated a conservative 12 million, while Farris calculated around 15–17 million. Both agree that at the beginning of the eighteenth century, roughly 30 million people were living on the Japanese archipelago, see Hayami, *The Historical Demography of Pre-modern Japan*, 43–6; Farris, *Japan to 1600*, 171, 195. Carmen Gruber notes that the Japanese population grew by 1.4 to 2.6 times between 1600 and 1721 compared to a much slower population growth in England during the same period of only about 1.3 times to 5.3 million people, see Gruber, ‘Escaping Malthus’. Regarding the introduction of a new rice types, see Verschuer and Cobcroft, *Rice, Agriculture, and the Food Supply in Premodern Japan*, 82.

³⁵ Francks, *Japan and the Great Divergence*, 59–63; Totman, *Early Modern Japan*, 100.

³⁶ For more on soybean fertiliser, see Higuchi, ‘Japan as an Organic Empire’. ‘Night soil’ were human feces that were the East Asian alternative to European livestock manure. Specialised guilds in large cities organised this lucrative trade and carried the feces to nearby fields, see Ferguson, ‘Nightsoil and the “Great Divergence”’; Howell, ‘Fecal Matters’; Walthall, ‘Village Networks’.

With the rising demands for food and cash crops, humans began to interfere more regularly in the cetosphere. Soon, the marine animals coming close to the Kii Peninsula during the yearly migrations no longer withstand this increased anthropogenic pressure and either diminished or avoided the region. The Kii fishing groups were thus confronted with the choice of either reducing their fishing and whaling activities or to find whales and fish elsewhere. The Kii communities opted for the latter option and built a fleet of ships following the migration route of the whales along the coast to discover new fishing and whaling grounds. Since the Sengoku period (1477–1600), the Kii region had been famous for its shipbuilding techniques, which continued under the Tokugawa rule despite its regulation that forbade the construction of ocean-going vessels.³⁷ Thus, every year dozens of Kii fleets pushed west and east following along the whale pilgrimage route.

The whales first guided the Kii fishermen westward towards the Seto Inland Sea. When they found on their journey a promising fishing or whaling place, they visited the local village headman and paid for the rights to harvest the marine resources that were then often sent back to Osaka. However, since the Kii fishermen were much more efficient and reckless in harvesting marine resources, they quickly exhausted the new grounds. Sometimes, the Kii fishermen were invited by local communities to teach them new techniques, while at other places, the locals observed the newcomers and eventually adapted their advanced fishing and whaling techniques on their own. Sooner or later, however, the locals had learned the new techniques and began to regard the Kii groups as unwanted competition and ousted them.³⁸

As early as 1626, we have reports of Kii fishermen hunting whales in Kyushu, some 600 kilometres west from their home waters. Around the same time, a number of coastal communities in western Japan began to hire Kii fishermen as experts for whaling or formed their own whaling groups.³⁹ Harpoon whaling became especially successful in regions where whales migrated closely along the coast and where agricultural opportunities were limited. For example, in the 1660s, the Tosa domain in southern Shikoku was in desperate need of tax income and invited Kii fishermen to develop the local fisheries by introducing new net types

³⁷ Roberts, 'Shipwrecks and Flotsam'; Howell, 'Foreign Encounters and Informal Diplomacy in Early Modern Japan'. This policy was part of what has been later called *sakoku* (closed country). Newer literature has suggested that this policy was not as absolute as previously thought, see, for example, Hellyer, *Defining Engagement*.

³⁸ Sugiura, *Tōgoku gyogyō no yoake to kishū kaimin no katsuyaku*, 29–39; Wakayama kenshi hensan iinkai, *Wakayama kenshi: Kinsei*, 4:446–8.

³⁹ Wakayama kenshi hensan iinkai, *Wakayama kenshi: Kinsei*, 4:454. See also, Kijima, *Nihon gyogyōshi ronkō*.

and stimulating bonito rod fishing as well as harpoon whaling.⁴⁰ In this way, the Kii fleets progressed at a steady pace along the whale migration route on the Kuroshio and Tsushima currents, introducing whaling and fishing techniques to new communities, only to advance further after a short time, leaving behind an exhausted coastal ecosystem. Due to the limitations of the harpoon whaling techniques, which allowed only a limited range of whale species to target and proved often unsuccessful in the end, the impact of these Kii fleets was probably more devastating for fish stocks than for cetaceans, who could easily avoid the dangers close at the coast.

The relationship between whales and humans changed fundamentally, with the development of the net whaling technique (*amitori-hō*) by Wada Kakuemon Yoriharu from Taiji in 1675. While the less advanced harpoon whaling method could be conducted with a few dozen helpers, net whaling required at least two hundred whalers, meaning there was a high level of organisational sophistication and access to capital needed to pay hired fishermen. This new method had a much higher success rate and could target a broader range of whale species but was also a financial risk as operating a whaling group could cost up to 5,000 *ryō* per season, as it required paid workers, infrastructure, boats and equipment.⁴¹ A lookout was placed on a nearby hill looking for migrating single whales coming close along the shore. When spotted, a smoke signal was given, and up to three hundred whalers in small boats blocked the targeted whales access to the open sea. Using drums and spanned nets between the boats, the whale was driven towards the coast or into the nets and once its movement was taken away, dozens of hand harpoons were shot at the whale from all sides. Eventually, the leader of the group would jump on the back of the whale, killing the animal with a sword stab near the blowhole. After the kill, the whale was brought to a land station where another hundred to two hundred helpers were disassembling the whale into various commodities.

Most whaling villages in western Japan soon adopted this method, with northwestern Kyushu becoming the most successful whaling area. In the second half of the Edo period, almost 80 per cent of all whaling groups were based here and apart from the main island of Kyushu, coastal villages established whaling groups on the Gotō Islands, Ikitsukishima, Iki, and Tsushima.⁴² These groups focused on whales who migrated on the Tsushima Current and became disorientated in the maze of small islands.

⁴⁰ Kesenuma shishi hensan iinkai, *Kesenuma shishi. Sangyōhen*, 5–2:108.

⁴¹ Koga, 'Saikai hogeigyō ni okeru geiniku ryūtsū'. One *ryō* was supposedly enough money to feed one adult for a year with rice, see Rekishi Misuteri-Kurabu, *Zukai! Edo jidai*, 72.

⁴² For a detailed description of the net whaling method, see Nakazono and Yasunaga, *Kujiratori emonogatari*. Taiji whalers in Kii domain targeted mainly right, gray, sperm,

Whale Bodies on Fields

When a whale died near the shore, the sudden release of the nutrients fixed in its body biomass could fertilise a coastal ecosystem for months. By bringing whales ashore humans altered in fundamental ways the energy balance of marine and terrestrial ecosystems alike. As a single coastal community could not possibly make use of all the energy stored in a whale, after flensing a whale, its parts were transformed into a variety of commodities to be traded over the whole Japanese Archipelago. As Jakobina Arch observed, it is no accident that all the thriving whaling communities, while scattered over the land route, were connected via the main shipping routes from where whale goods could be transported quickly to the markets.⁴³ For example, larger whaling groups like Masutomi from Ikitsukishima in Kyushu had their primary interest in processing and selling whale oil and fertiliser to the markets in Hakata and other bigger cities. Unlike harpoon whaling, which was often an ad-hoc opportunistic enterprise and used to feed the local population, net whaling transformed whale bodies into proto-industrial products aimed for interregional markets.⁴⁴

Nevertheless, especially smaller whaling communities focused on the production of whale meat. Koga Yasushi estimated that in northern Kyushu, the profit made from whale meat surpassed whale oil and fertiliser sales. As fresh whale meat could not be transported over longer distances, however, it was not suited as a proto-industrial product and was mainly sold at local markets and eaten by the local population. Outside of western Japanese coastal communities, whale meat was not well known in the Edo period.⁴⁵ Communities with access to whale meat,

humpback, and Bryde's whales. Other whale species, like fin and blue whales were often too fast and therefore dangerous to approach, see Wada, 'Whaling, Culture and Traditions in Taiji', 84.

⁴³ For a comprehensive account on the western Japanese whaling enterprises in general, see Arch, *Bringing Whales Ashore*, 2018.

⁴⁴ 'Proto-industrialisation' was originally conceived to describe a European phenomenon in the early modern period, but in recent years, a number of studies have adopted the concept to describe the rural non-agricultural economy in late Tokugawa Japan. The manufacturing of commodities for non-local markets took place in many rural villages. In landlocked villages, the production of textiles, sake breweries, papermaking, salt, indigo, and timber products was commonplace, while fishing villages often engaged in the production of fish fertiliser. Rural men and women either worked from home or were contracted as seasonal workers for these industries and specialised merchants brought the products to the interregional markets. Typically, proto-industrialisation led to the monetisation of the affected economies and a social hierarchy among the commoner class, with the merchants usually coming out on top, see Ogilvie and Cerman, 'The Theories of Proto-Industrialization'; Pratt, *Japan's Protoindustrial Elite*; Wigen, *The Making of a Japanese Periphery, 1750–1920*; Howell, *Capitalism from Within*.

⁴⁵ Koga, 'Saikai hōgeigyō ni okeru geiniku ryūtsū', 47–9.

had, however, some advantages, especially during the frequent famines of the time. The whaling season was in the winter and the early spring months when the fields would not produce crops and the dreaded ‘spring famines’ were most violent. In such cases, a single whale could save ‘seven villages’ as a popular saying goes. It seems reasonable to assume that in northern Kyushu, a stable source of whale protein during the most critical months of the year saved many lives.⁴⁶

While the availability of whale meat could feed starving mouths, some proto-industrial products, such as whale fertiliser and whale oil had a much larger ecological impact on the terrestrial ecosystem. For example, whale oil had initially been used for illumination, but this usage fell out of fashion because of the strong odour and the availability of alternative plant-based oil.⁴⁷ After 1670, several farmers and scholars discovered independently from each other another application of whale oil: as it turned out, whale oil was an effective repellent against planthopper (*unka*). Whale oil proved its potency during the Tenmei famine (1782–1788) by helping peasants in western Japan repel a locust invasion and preserve part of their harvest. Several domains in western Japan stored whale oil for emergencies and the Tokugawa government helped disseminate the knowledge of this use of whale oil in 1787 and 1796.⁴⁸ According to one source, peasants who used whale oil during the Tenmei famine were able to save 30 to 40 per cent of their harvest, while their neighbours lost everything.⁴⁹

Compared to whale meat and whale oil, whale fertiliser played a less significant role in western Japan. According to the log of a ship that brought whale products from a whaling place to the regional city of Hakata in the 1850s, 60 per cent of the whale products were meat, followed by 30 per cent oil and about 5 per cent fertiliser.⁵⁰ Although the volume of whale fertiliser on the market compared to fish fertiliser was low, whale fertiliser was a noteworthy supplement to the fish fertiliser trade network as it had a different chemical composition and could therefore be used for different crops. The *Nōgyō zensho* (The Farmer’s Compendium) written in 1697 mentions whale scarp as an alternative to dried sardines, plant oil and night soil.⁵¹ A 1709 manual, meanwhile,

⁴⁶ The scholar Ōtsuki Heisen, for example, believed that whale meat kept whalers from getting sick during the winter months, see Ōtsuki, *Geishikō*, 1976, 518–19.

⁴⁷ Nakazono and Yasunaga, *Kujiratori emonogatari*, 146.

⁴⁸ Arch, ‘Whale Oil Pesticide’; Torisu, *Nishikai hogeigyōshi no kenkyū*. The use of whale oil as pesticide was also known among Yankee whalers, see Demuth, *Floating Coast*, 26.

⁴⁹ Ōkura, ‘Jokōroku [1826]’, 55–6.

⁵⁰ The exact amount varied on each shipment. The numbers are taken from Koga, ‘Saikai hogeigyō ni okeru geiniku ryūtsū’, 55.

⁵¹ Miyazaki, ‘Nōgyō yensho [1697]’, 98.

stressed that sardine fertiliser was of inferior quality to herring fertiliser and that farmers only used it because it was cheap and available. It also stated that whale fertiliser was even worse and should not be sprinkled on barley or rice fields as it would spread sickness.⁵² It is not clear what exactly was meant here by ‘sickness’, but it is possible that early versions of whale fertiliser failed and that it took some trial and error to figure out the right combination. Also, in 1709, herring fertiliser from Ezo was still new to the market and was therefore probably praised. Indeed, agricultural manuals published in the early nineteenth century were more enthusiastic regarding sardine and whale fertiliser. The *Baiyō hiroku* (Secret Notes on Cultivation) from 1840 concluded that whale oil cake was only surpassed by high-quality sardine oil cake and was more effective than herring fertiliser. High-quality whale fertiliser was, however, expensive and was advised not to be used on low-profit products like grains or vegetables. An added advantage of whale fertiliser was that it would not freeze in winter and could be used for winter crops.⁵³

The *Baiyō hiroku* also claimed that whale bone fertiliser (or other bone fertilisers) was necessary for sugar plants to grow and for the plants to develop their characteristic sweetness. Also, for the growth of other cash crops, like indigo plants, tobacco, hemp, and ramie this bone powder was indispensable.⁵⁴ The *Geishikō* (Manuscript on Whale History) from 1808, written by Gentaku’s cousin Ōtsuki Heisen, explained that a single treatment of whale bone powder on a rice field would yield high-quality crops for three years.⁵⁵ Furthermore, a manual from Iwashiro Province (today Fukushima Prefecture) written in 1837 proposed mixing fish oil, ash, and whale waste fertiliser for the best results when growing daikon seed.⁵⁶ The last example is especially interesting as it shows that whale fertiliser was transported from western Japan as far as Iwashiro Province.⁵⁷ Sardine or herring fertiliser from Sanriku or Ezo, respectively, was transported in large quantities, which reduced the transportation costs. Whale fertiliser, on the other hand, was only available in small quantities (as the ship records from Hakata demonstrate), indicating that it was traded as a high-priced commodity.

All agricultural manuals make a clear distinction between whale waste and whale bone fertiliser, which were used for different purposes. As we know today, the effectiveness of fertilisers is based around two specific

⁵² Kano, ‘Nōji isho [1709]’, 45. ⁵³ Satō, ‘Baiyō hiroku [1840]’, 301–3, 308.

⁵⁴ Satō, ‘Baiyō hiroku [1840]’, 314–17. ⁵⁵ Ōtsuki, *Geishikō*, 1976, 518–20.

⁵⁶ Kashiwagi, ‘Denshichi kannōki [1837]’, 202.

⁵⁷ A whale scroll from Iwaki shows that organised whaling was conducted in the early eighteenth century in today’s Fukushima Prefecture. This whaling group most likely no longer existed in the nineteenth century, however, see Ono, ‘Iwaki no koshiki hoge’.

elements: nitrogen and phosphorus. Even though sardines were the most often used commercial fertiliser of the time, compared to their body mass, these elements were low in quantity.⁵⁸ When we compare the different kinds of fertilisers, we can see that sardine oil cake contained 7.97% nitrogen and 7.11% phosphate, while whale waste contained 11.59% nitrogen but only 3.01% phosphate and whale bone-meal contained 3.01% nitrogen and 26.03% phosphate.⁵⁹ From this, we can conclude that whale oil cake was the superior nitrogen fertiliser, while whale bones far outmatched anything else regarding phosphate accumulation.

Even though they did not have this chemical knowledge, the Japanese farmers recognised that whales provided two different types of fertilisers. Without a substantial livestock population, Japanese peasants had to replace the missing nitrogen with night soil and fish fertiliser and needed a different source for phosphate as animal bones were not widely available. A single whale could bring both nutrients at once and at a higher concentration than any other fertiliser. Whale fertiliser was therefore a secret trump card in the fertiliser trade network, even though it was not available in the same amounts as other fertiliser types. While fish fertiliser was brought to the agricultural core regions from the northern periphery (Sanriku and Ezo), whale oil and whale fertiliser were brought from the peripheral whaling villages in Kyushu, southern Shikoku, and the Kii Peninsula.

Conclusion

The yearly migration of thousands of cetaceans on the ocean currents along the Japanese coast, shaped and influenced the coastal and marine ecosystems in countless ways. In the cetosphere, whales were responsible for binding and transporting nutrients in their bodies, mixing and fertilising water masses and regulating fish and zooplankton abundance. However, in western Japan, these positive effects for the ecosystem remained largely unnoticed, instead the whale bodies themselves were seen as the biggest prize. Japanese fishermen understood the significance of fish and whales as the holders of valuable nutrients that could replenish the impoverished soil and this system had the advantage that more crops could be harvested in the short term and more humans could be fed. By following migrating fish and whale stocks, Kii fishermen disseminated proto-industrial fishing and whaling technologies from the Kansai region

⁵⁸ The Norwegian Ambassador in Japan made this remark in his report to his home government in 1908, see Utenriksdepartementet, '32/08 Japan 1908'.

⁵⁹ Lindemuth, 'Composition of Certain Fish Fertilizers from the Pacific Coast and the Fertilizer Value of Degreased Fish Scrap', 616.

to more peripheral coastal communities. The process of connecting coastal Japan with the agricultural hinterland was an integral part of the emerging interregional coastal trade network in which not only fish fertiliser but also rice and other products were transported from one side of the archipelago to the other.⁶⁰

While whale meat was mainly of regional importance, we can understand early modern Japanese whaling better if we frame it as part of agricultural history. The Kansai and Kantō core regions could outsource many of the ecological repercussions of the fertiliser production to the less populated peripheral region. Compared to European livestock like cows and horses, fish and whale fertiliser had the advantage that it did not compete for valuable land resources and received all its nutrients from marine ecosystems. Farmers did not have to worry about removing valuable nutrients from other terrestrial ecosystems and received these nutrients without immediate negative consequences for them.

However, the mass extraction of marine resources did disturb the marine ecosystem. Overfishing, especially in places where fish spawned, would eventually lead to an overall decrease in marine fauna. Moreover, whales also began to appear less often near the coast of Japan, while they reached the coast of Japan later each year on their migration routes. In the long term, the marine fertiliser trade externalised the ecological cost from the land to the ocean and weakened the ecological functioning of the cetosphere.

⁶⁰ Dusinberre, *Hard Times in the Hometown*, 17–36.

2 The Beached God

A long time ago, rough sea continued to plague the village of Same-ura with no end in sight, making any attempt at fishing naught. One day, as the village was about to face certain starvation, a young fisherman decided to set out boldly into the angry sea to bring home fish and save his loved ones. However, waves destroyed his little boat, and he was quickly swallowed by the large emptiness of the ocean. As he drowned, the young man cursed the gods of the sea with his last breath. At that very moment, a large whale appeared and brought him back to the shore on his back. Overjoyed with gratitude, the villagers affectionally began to call the whale Sameuratarō. Since then, each year the whale would appear in the water of Same-ura, followed by a large swarm of sardines that the villagers could hunt. Without a doubt, the whale was a messenger of the gods, and the villagers began worshipping Sameuratarō. In fact, the whale made a pilgrimage every year to the Ise Shrine in western Japan to become a god himself.

Decades passed, until in one year, Sameuratarō did not appear. Then, one morning, the village was in an uproar. A large whale had beached near Same-ura! It was Sameuratarō but several harpoons had been driven into his body. One of them was engraved with the name of a whaling group in Kumano from the Kii Peninsula. These whalers must have struck and heavily wounded Sameuratarō when he was on his yearly pilgrimage to Ise. Doing his best to escape, the whale had struggled all the way to Same-ura, where he died on the beach, surrounded by the mourning villagers. At his death, Sameuratarō's body turned into a large stone, which can today be found in front of the local Nishinomiya Shrine.¹

Many years later, in 1911, when Sameuratarō was only remembered in folktales, the whaling company Tōyō Hogeï announced its decision to build a whaling station at Ebisu Beach, not one hundred metres away from the

¹ Adapted from Nihon jidō bungakusha kyōkai, *Aomori-ken no minwa*, 78–83. The folktale has also been animated as a short story in 1985 as part of the popular animation show *Manga Nihon Mukashibanashi* (episode 0520-B), see Manga Nihon Mukashibanashi Webpage, 'Kujiraishi'.



Figure 2.1 Whale stone and Ebisu statue at Nishinomiya Shrine, Same-ura. Photograph by the author.

Nishinomiya Shrine, where one finds a three-metre-long stone half-buried in front the shrine, locally known as the ‘Sameuratarō whale stone’ (Figure 2.1).² That the shrine and the adjacent beach was dedicated to the god ‘Ebisu’ was probably considered by the whalers from western Japan as a lucky omen, as the god was in their home region known to grant good fish and whale catches. But for the locals, the location of the whaling station was a direct provocation as it was the very same beach, where Sameuratarō had, according to the local legend, died by the harpoons of western Japanese whalers. As one of the leaders of the anti-whaling faction remarked: ‘That the whaling station has been built here [at Ebisu Beach] has been fate’.³

As the story surrounding Sameuratarō and the whaling station in Same-ura shows us, fishermen in northeastern Japan had a different relationship to whales than their western Japanese counterparts. While dozens of whaling groups in Kii, Tosa, and Kyushu were engaged in the slaughtering of hundreds of whales each year, the people in the north mourned the death of each beached whale. Even so, in both regions, whales were closely associated to the god Ebisu, and once beached, coastal communities in the north did not hesitate to make the most out of the whale body. This chapter will explore the religious, cultural, and

² In some versions of the folktale the whale is also known as ‘Hachinohetarō’. The suffix ‘-tarō’ is used to indicate a generic male name, like ‘Joe’ in English.

³ Interview with Yoshida Keizō in 1956, cited in Satō, *Kujira kaisha yakiuchi jiken*, 23.

historical roots of the Same-ura whale stone, demonstrating how locals incorporated non-human whale agency in their religious and cultural practices. I argue that whale behaviour played a key aspect in how fishermen in western and northern Japan regarded whales. Through a close analysis of vernacular folktales and cultural practices regarding beached whales, we can reconstruct that the cetosphere played different roles along the Japanese Coast, leading to diverse representation of whales in Japanese folk religion and the coastal economies.

The Sea God Ebisu

Today, the god Ebisu (also called Hiruko or Saburo) is identified as the offspring of Izanagi and Izanami, the divine creators of Japan.⁴ According to a folk legend originating in the fifteenth century, Hiruko drifted ashore in Nishinomiya in the current Hyōgo Prefecture. Since then, he has been worshipped as a god of the sea at the local shrine. He was the patron of fishermen, sea voyagers, and shell-gatherers, who prayed to him for protection and good fish catches. At least since the seventeenth century, he has also been worshipped as a merchant god and around this time, he became one of the Seven Gods of Fortune and is often depicted beside Daikokuten, the god of the earth. Together they represent fisheries and agriculture.⁵

Since the Edo period, fishermen and merchants alike would pray to this popular Ebisu for ‘worldly benefits’ (*genze riyaku*), that is, the expectation of receiving tangible or intangible benefits in this world. While, in theory, one can pray for nearly every benefit – in the case of Ebisu worship these were often success in business, wealth, or good fish catches – there is a strong moral component to the prayers. While showing an effort to reach one’s goal makes it more likely that the gods will help you, greed on the other hand is often punished. For example, in his iconography, Ebisu can often be seen pulling a fat sea bream on a fishing hook. According to the religious scholars Ian Reader and George Tanabe, the use of a fishing hook instead of a net symbolises the importance to take only as much as one needs and not more. Small businessowners are in this way reminded

⁴ The Japanese word *kami* is often translated as ‘god’ or ‘deities’. It refers to anthropomorphic or zoomorphic creatures, as well as natural and supernatural forces. As Ebisu is mostly referred to as one of the Seven Lucky Gods, I use the term ‘god’ rather than ‘deity’. For more on the discussion regarding the translation of *kami*, see Rots, ‘Forests of the Gods’, 20–2.

⁵ Itoh, *The Japanese Culture of Mourning Whales*, 16; Guichard-Anguis, ‘The Parish of a Famous Shrine’, 68–70.

to search financial success with good customer service instead of only maximising the short-term profit.⁶

Underneath these popular portrayals of Ebisu, however, is a more archaic version of the god buried, which I call the ‘whale Ebisu’.⁷ The historical roots of the whale Ebisu belief remain an enigma since Ebisu is the only one of the Seven Gods of Fortune who is not based on a Hindu god. In its earliest incarnation, Ebisu is described as a ‘visiting deity’ with a strong connection to the ocean. In pre-modern times, as previously discussed, fishermen would never lose sight of the island Kinkazan when leaving the coast in their small boats. This fear of the open sea is also a prominent feature of Japanese cosmology, where Japan was imagined as the centre of the world surrounded by oceans, with mythical realms lying either beyond the sea or on its bottom (where, for example, the palace of the dragon god was believed to be). The farther away from the centre one travels the greater pollution and danger. On the other hand, these far-away realms were also said to hold untold riches. Elusive messengers, of which the sea god Ebisu is the most famous, sometimes bring these riches to the people living on the Japanese islands. In this way, the open sea is at the same time a place of great danger and of great prosperity.⁸

These messengers, often marine animals, such as whales, killer whales, dolphins, but also sharks or turtles were interpreted as avatars of Ebisu or envoys under his protection. When showing reference and respect towards these ‘spirits of the sea’ (*umitama*), they could bring gifts from the open sea, while showing disrespect, or hunting a creature under the protection of the gods, would bring disaster to the community.⁹ These divine gifts included everything fishermen found floating on the water surface or washed ashore, for example commercial goods from shipwrecked cargo vessels, strangely shaped stones, or the appearance of a fish swarm. Even dead human bodies on the water were seen as an incarnation of Ebisu and were thought to bring good luck for catching fish.¹⁰

Whales, as the largest animals in the ocean, were especially strongly associated with Ebisu. For example, when fishing on the open sea, fishermen were not allowed to say *kujira* (whale) and instead had to say *ebisu* when referring to whales so as not to attract their displeasure.¹¹ When

⁶ Reader and Tanabe, *Practically Religious*, 2–16, 110, 154–8.

⁷ Naumann, ‘Whale and Fish Cult in Japan’, 2–3; Sakurada, ‘The Ebisu-Gami in Fishing Villages’.

⁸ Rambelli, ‘General Introduction’, xiii–xvii.

⁹ Rambelli, ‘General Introduction’, xix–xx.

¹⁰ Göhlert, *Die Verehrung von Wasserleichen und ihre Stellung im japanischen Volksglauben*.

¹¹ Naumann, ‘Whale and Fish Cult in Japan’; Sakurada, ‘The Ebisu-Gami in Fishing Villages’. Similar practices were also common for bear hunting among the Matagi,

behaving correctly, whales would bring great riches to humans. In north-eastern Japan, the belief that whales would bring good fish catches, either by indicating the location of fish schools through their presence or by actively driving fish towards the shore, was most common. As whales were connected to the gods, they could also be reasoned with to a certain degree, as the following source from the nineteenth century demonstrates:

Without whales many fish species did not come. In recent year, if you spotted a whale close to the shore and you chanted '*ebisu*' it would swim towards the beach. Many fish were afraid of whales and stay in the bay, making it [easier for the fishermen] to catch them.¹²

Chanting *ebisu*, the source alludes, would attract whales to the coast, who in turn drove fish with them. In this way, we can understand how the local ecological knowledge was an amalgamation of religious beliefs, as well of observations of natural phenomena.

A second way whales were bringing riches to coastal communities was by sacrificing their bodies for human consumption and creating wealth for the communities. As discussed in the introduction, the idea that whales would let themselves be hunted if the correct religious practices were observed, was common among many 'whale people' in the Pacific world.¹³ In the case of early modern whaling communities in western Japan, whales would sometimes speak with whalers in dreams, allowing themselves to be hunted if certain conditions were met. However, most whales were hunted without such a direct permission and post-mortem rituals had to be conducted. Non-whaling communities, on the other hand, refrained from actively pursuing whales and only brought already injured whales to the shore or made use of beached whales, which were believed to have sacrificed their lives for the benefit of the human community.

The Hachinohe Whale Stranding Records

Among the thousands of whales that migrated each year along the Japanese coast, some inevitably ended up dying on the beach. For coastal societies, these 'gifts' from the ocean provided a considerable amount of protein and wealth. While the discovery of a stranded dead whale was left

a hunter community from northern Japan, see Takeda, 'An Ecological Study of Bear-Hunting Activities of the Matagi, Japanese Traditional Hunters'; Naumann, 'Yama No Kami'.

¹² Cited after, Watanabe, *Kadoyashiki kyūsuke oboechō*, 33.

¹³ See, for example, Reid, *The Sea Is My Country*; Demuth, *Floating Coast*; Jones and Wanhalla, *New Histories of Pacific Whaling*.

to chance, coastal communities could increase that chance by targeting injured or lost animals near the shore. As discussed in [Chapter 1](#), archaeological findings and early written evidence on the Japanese Archipelago suggest that the harvest of beached whales was not a phenomenon restricted to northern Honshu but was commonplace at almost every coastal region, leading to the development of various traditions and moral frameworks surrounding beached whales.¹⁴ In western Japan, many of these traditions surrounding beached whales became part of the proto-industrial whaling culture during the Edo period, while in other regions, where organised whaling did not take root, an alternative culture on how to approach beached whales emerged.

The Sanriku Coast was one of the whale-richest regions of Tokugawa Japan, so whales did beach frequently on its shore. As domainial governments confiscated a considerable part of the profits made from a whale stranding as tax, they had a strong interest in writing down all such occurrences. In the case of the Hachinohe domain, a full record of whale strandings recorded by clerks has survived, allowing us to study the ecological and economic role whale strandings played in northern Japan. Nowadays, Hachinohe is an unspectacular industrial port city in Aomori Prefecture with some 200,000 inhabitants. At the beginning of the Edo period, Hachinohe belonged to Morioka domain (also called Nanbu domain), which had an annual revenue of 100,000 *koku*. In 1664, after the death of Nanbu Shigenao, the second daimyo (domainial lord) of Morioka domain, the Tokugawa Shogunate, interceded in the succession and established Hachinohe as a new, separate, smaller-sized domain of 20,000 *koku*. Henceforth, a fifty-kilometre coastline between the city of Hachinohe in the north and Kuji in the south belonged to this new domain.¹⁵

From the domain's establishment in 1664 until its abolishment in 1871,¹⁶ we find seventy-four recorded entries about whales. Among those we can identify forty-two whale strandings events (some strandings warranted more than one entry), including two mass whale strandings (one in Shirogane in 1681 and one in 1818 in Kadonohama). We also know of two more mass whale strandings in neighbouring domains: the Akamae stranding of 1701 and a mass stranding in 1808 on the Shimokita Peninsula. Moreover, the records also contain entries about merchants

¹⁴ See also, Yamaura, 'Kōkōgaku kara mita Nihon rettō ni okeru hogei'.

¹⁵ A roughly fifteen-kilometre-long enclave between today Rikuchū-Nakano and Mugio was, however, still part of Morioka domain. Therefore, whales that stranded in this part, were not recorded by the Hachinohe clerks.

¹⁶ The official records of the Hachinohe domain were published in a ten-volume series, see Hachinohe shishi hensan iinkai, *Hachinohe shishi: Shiryōhen Kinsei*, 1969.

writing petitions to receive a license for selling whale oil or bones to other domains. A close reading of the Hachinohe domain records helps us understand the importance of whale stranding for the economy of the coastal communities. While the data set is not particularly large, we can still draw a few conclusions from them. Let us first consider a typical entry:

[Kyōhō 11 (1726)] fourth day of the sixth month, clear weather

On the first day of this month, it has been reported that at the coast of Yokotehama in Taneichi one whale was washed ashore. The magistrate and the coast guard official went to the scene for a careful inspection. A man called Yaichirō from Minato village . . . raised 13 *ryō* and 100 *mon* and presented the money to the officials [for the whale]. The locals received one-third of the value.¹⁷

As this entry shows, when fishermen found a whale beached on their shore, they would call for the magistrate (*daikan*) in Hachinohe or Kuji. After an inspection on the scene the magistrate would look for a merchant who was interested in buying parts of the whale. In some cases, the whale carcass was also auctioned. In the example above, the whale was sold to Yaichirō from Minato, a village close to Hachinohe and some twenty-five kilometres away from Taneichi. We can speculate that Yaichirō must have been a wealthy merchant, as the offering of 13 *ryō* and 100 *mon* would have been enough (at least in theory) to buy food for thirteen people for a whole year. A third of this money was then given to the village, where the whale had been found, the rest was confiscated as tax. In the Sendai domain, locals often received two-thirds of the profits, but in Hachinohe the domain took normally half of the profits and in 40 per cent of the cases even two-thirds. As other entries show, this practice was not universally accepted. For example, after a whale stranding in Kofunato in 1801, locals received only one-fourth of the money, which caused civil unrest. Eventually, the domain conceded and gave them half of the whale's value (around 20 *ryō*).¹⁸

On average, the domain clerks could hope to sell a whale carcass for around 18 *ryō*, but the prices differed greatly with a range between 1 and 55 *ryō*. Besides inflation and deflation of the *ryō*, numerous factors probably contributed to the price discrepancies: whale species, season, demand for whale products, and size of the animal. In our example, the fishermen from Yokotehama received one-third of the profit or a bit more than 4 *ryō*. According to Ōtsuki Heisen, a full-grown right whale could be sold in western Japan for up to 60 *kanme* or around 1,000 *ryō*, but that

¹⁷ Cited after, Hachinohe shishi hensan iinkai, *Hachinohe shishi: Shiryōhen Kinsei*, 1977, 5:11.

¹⁸ Shōbuke, 'Hachinohe-han no "yorikujira" to Hashikami-chō', 26–7.

seems to be an extreme case.¹⁹ Recent studies have estimated that the average worth of a flensed whale by the Masutomi whaling group in Ikitsukishima in western Japan was probably more around 150 *ryō*.²⁰ Either way, the Hachinohe fishermen received for a stranded whale only a fraction of what a flensed whale at a whaling community would have been worth. Nevertheless, the monetary value of a stranded whale on the Sanriku Coast was still a significant amount of wealth for a fishing community and was comparable with an extraordinarily good fish catch. As the profits were distributed on a village level, sometimes several communities at once claimed the rights to a beached whale, leading to bitter conflicts between the communities. The flensing was usually done by the locals themselves, who had little experience in cutting whales. Unsurprisingly, this was often very messy and large amounts of whale liquid tended to leak out, which polluted adjacent salt farms and seaweed gathering spots.²¹

Interestingly, the frequency of the recorded whale strandings at a particular place seems to be not following a consistent pattern. Coming back to Same-ura, which is situated only four kilometres east of Hachinohe, there were six strandings between 1760 and 1824, but no recorded strandings before or after these dates. It is not clear if the lack of further records is the result of incomplete documentation or if other factors were at play here. The flensing and taking of whale meat without the oversight of the domain was forbidden and could result in severe punishments. As the fishermen had a monetary interest in avoiding the mandatory taxes to the domain, we must, however, assume that quite a few cases of whale strandings did go unreported. The research of local historian Shōbuke Susumu in the Hashikami community, for example, indicates that not every whale stranding was registered in the official domain books.²² From the data we have, a whale stranding occurred on average every five to six years in the Hachinohe domain, which meant that a given community could profit from a whale stranding directly around once per generation.

While the yearly frequency is not constant, the data indicate a certain seasonality of the whale strandings. Strandings peaked in February and

¹⁹ Ōtsuki, 'Geishikō', 1926, 85. The exchange conversion rate between *ryō* and *kanme* changed constantly, especially during famines, but in the early nineteenth century, one *ryō* was worth between sixty and sixty-seven *monme*. For simplicity's sake, I calculated one *kanme* as 16.25 *ryō*.

²⁰ This figure is, of course, also only an approximation, as depending on size, season or year the value of a whale could change drastically, see Nakazono and Yasunaga, *Kujiratori emonogatari*, 136–7.

²¹ Hachinohe shishi hensen iinkai, *Shinpen Hachinohe shishi: Kinsei Shiryōhen*, 2:230.

²² Shōbuke, 'Hachinohe-han no "yorikujira"' to Hashikami-chō'.

March and again in May and July. In autumn and early winter, strandings were much less common, with no recorded strandings in August and November and only one stranding in December.²³ The four recorded mass whale strandings also happened in spring, between February and May. This correlates well with our present-day understanding of whale migration routes, showing that most whales travelling on the Kuroshio and Oyashio currents to the Sea of Okhotsk passed the Sanriku Coast in spring with only a few taking the same route back south in autumn. Also, sperm and sei whales, who arrived not from the south but from the east, tended to appear in spring at the Sanriku Coast. In regard to whale species, the sources are less revealing. The only species that is regularly mentioned by name are sperm whales. Sometimes the length and body proportions of the beached whales are recorded, but this alone is not enough to identify the species.

Whale strandings occurred not only in Hachinohe domain but all over the Sanriku Coast. Unfortunately, we have no complete records of the strandings in the Morioka and Sendai domains. Assuming that the frequency of stranding in Hachinohe domain is comparable to other places on the Sanriku Coast, we can estimate that during the Edo period, around 500 individual whale stranding incidents occurred, if we include the four mass whale strandings, at least 900 whales died during this time frame. However, according to a petition of fishermen from the Oshika Peninsula whale strandings occurred several times a year, indicating that the true number of whale stranding might be in the thousands.²⁴ Be that as it may, compared to the estimated 200,000 whales hunted in western Japan over the same time period, this number seems miniscule. However, we should not forget that only a tiny fraction of the whales travelling each year along the Sanriku coastline found their death on the beaches there, especially as the locals were not actively pursuing whales.

Mass Death on the Beach

While the stranding of a single whale brought modest wealth to a community, mass whale strandings could make a village rich. Let us take a closer look at such an occurrence:

In spring of 1701, the villagers of Akamae were starving. The cold and damp *yamase* winds from the north had destroyed the meagre crops of the coastal community in Miyako Bay. Not even the wild plants in the surrounding mountain forests grew ripe and hungry boars, deer, and rabbits descended from the hills, devastating the little that remained from the crops

²³ I converted the Japanese dates into the Gregorian calendar equivalent.

²⁴ This petition will be discussed in [Chapter 3](#).

on the fields. Already over 26,000 people had perished in this eight-year lasting famine in the domain. For the surviving population of Akamae, rescue came eventually from the sea. On midday of 26 May 1701, a total of 139 sperm whales got lost in Miyako Bay, beaching near the village. Armed with small knives and any other cutting utensils that could be mustered, people from the village swarmed the beach and butchered the dying animals. The meat of the 139 stranded whales was sold for only two and a half *ryō* per animal, showing that the local economy did not possess the necessary infrastructure to absorb such large amounts of marine proteins. Nevertheless, according to the diary entry of a local official, the meat and the sperm whale oil were sold for around 300–400 *ryō*. The official estimated that in total a profit of around 1000 *ryō* was achieved, which was split between the domain and the village of Akamae. After three days of hard work, the carcasses were cleaned, and the community had not only been saved from famine but was now one of the richest communities in the region.²⁵

Present-day research indicates that mass strandings differ from single whale strandings in the fact that the individual whales caught up in the mass stranding are often healthy. These groups of whales do not appear panicked but swim calmly towards the coast. There are many theories why whales might swim in the ‘wrong’ direction, including navigational errors, ocean currents, noise, and other underwater interferences.²⁶ Interestingly, mass strandings occur more frequently among toothed whales who are organised in matrilineal hierarchies, for example, sperm whales, pilot whales, and false killer whales. These whales often swim behind a leading female whale cow and follow her onto the beach. If humans rescue a single individual and put it back in the water, the whale will swim back to the beach and strand again as long as the lead cow remains at the beach.²⁷

In the case of Miyako Bay cetaceans get entrapped, as the tubular rias is confined on three sides by land and the only natural escape route is the small entrance in the Northeast. Sperm whales inhabit most of the time in deep waters, using echolocation to orientate. However, this form of orientation does not work well in shallow waters, making it difficult for the animals to find their way out of a bay once they enter.²⁸ Therefore, we have to ask why the animals would come this close to the coast when it posed such a threat to them and was not even in their regular hunting range. Local historian Kamagasawa Isao speculated that the animals were in search for food near the coast, either small squid or sardines and chased their prey unsuspectingly into the cove during high tide without finding their way out again when the cove became

²⁵ Kamagasawa, *Yorikujira sōdō ‘Akamae wa hirumae’ no shiteki kōsatsu*, 15–20.

²⁶ Bradshaw, Evans, and Hindell, ‘Mass Cetacean Strandings’.

²⁷ Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*, 3439.

²⁸ Smeenk, ‘Strandings of Sperm Whales *Physeter Macrocephalus* in the North Sea’, 21.

shallower during the ebb. For this theory could speak that around the same period in the previous year, a great sardine catch was made in Akamae Bay, showing that sardines were common in the bay during this season.²⁹

Another possibility is that the sperm whales were themselves chased into the bay. One contemporary source cryptically hints that the sperm whales had been ‘ambushed’ on the sea. It is not clear who was responsible for such an ambush, but we can say with some certainty that it was not humans, as the language used in the historical sources refers to beached whale (*yorikujira*) and not whales hunted by humans (*kujira-tori* or *hogeï*). But when not humans, who else would have the ability to attack sperm whales, which could not only get up to twenty metres long but could also become extremely dangerous when provoked? The most likely suspect is killer whales, who are known to attack sperm whale groups.

This theory is further supported by local ecological knowledge: In the neighbouring fishing community of Miyako, killer whales were often called ‘dragons’ (*tatsu*). When a good fish catch was made in Akamae Bay the Miyako fishermen credited this due to the dragon god closing off the bay to the open sea, thus trapping the fish in the bay. Based on this, we can speculate that a group of resident killer whales hunted close to Akamae and, either intentionally or unintentionally, drove fish into the bay and trapped them there. In the case of the Akamae mass stranding of 1701, these killer whales might have startled a group of foraging sperm whales, who, in a panic, fled also into the bay, where they found their demise in the shallow waters.³⁰

Killer whales being responsible for driving whales towards the shore and eventually causing them to beach was a well-known occurrence on the Sanriku Coast. Indeed, it is here where the proverb *kujira no shachi no yō* (like an orca to a whale) exists, which describes someone who persists in hurting somebody without letting go.³¹ Similarly, the indigenous Ainu from Ezo also believed that stranded whales were a gift from the gods and because the orcas were hunting whales, the orcas were described as the ‘gods of the whales’.³² In this interpretation, it was the orcas who brought the whales to the beach, like the whales themselves brought sardines closer to the shore.

Looking at the Hachinohe domain records we see that orca attacks on whales were given in five cases as the reason for whale strandings.

²⁹ Kamagasawa, *Yorikujira sōdō ‘Akamae wa hirumae’ no shiteki kōsatsu*, 27–9.

³⁰ Kamagasawa, *Yorikujira sōdō ‘Akamae wa hirumae’ no shiteki kōsatsu*, 29–30.

³¹ Kinji, *Kita Tōhoku no tatoe*, 159.

³² Iwasaki and Nomoto, ‘Nihon ni okeru kita no umi no hogeï’, 174; Akimichi, *Kujira wa dare no mono ka*, 103.

Interestingly, all five of these cases happened late in the Edo period – between 1828 and 1864 – when only seven whale strandings occurred in total. One interpretation as to why we have no earlier reports of killer whale attacks could be that the cultural importance of orcas increased only over time and in earlier centuries the domain clerks were more interested in reporting the economic impact of whale strandings than their surrounding circumstances. However, there is also an alternative interpretation. In the early nineteenth century, whale strandings decreased in frequency, especially if we exclude the two mass whale strandings in 1808 and 1818. Between 1835 and 1853 not a single beaching is recorded. As we will discuss in later chapters, whale sightings decreased in this time period in general at the Sanriku Coast. Curiously, a similar phenomenon can also be seen in the European North Sea, where a study found not a single sperm whale stranding recorded between 1829 and 1913. In this case, European and American whaling was identified as the most likely culprit for the disappearance of sperm whales.³³ Seen in this light, it becomes quite important that five of the seven whale strandings in this time period were caused by killer whales. The increased whaling activities of western Japanese net whaling groups and American pelagic whalers most likely caused a drop in the sperm whale population, leading also in a drop of whale strandings at the Sanriku Coast. Moreover, the remaining whales were apparently more often attacked by killer whales than before, indicating a shift in the killer whale behaviour.

Whale Stones on the Sanriku Coast

The death of whales was often commemorated with so-called whale stones, as it also appears in the folktale of Sameuratarō. In her 2018 study, Mayumi Itoh identified 156 whale graves and related monuments all over the Japanese Archipelago, and it is believed that many more have existed in older times.³⁴ While Itoh and other Japanese folklorists make no difference between whale memorial stones and whale stones, I suggest that many whale stones in north-eastern Japan were originally ‘Ebisu stones’ that differ in their religious meaning from whale memorial stones. Ebisu stones usually come in two varieties: they were either strangely shaped stones found at a beach or they were smaller stones from the bottom of the ocean, fishermen from Kyushu and the Sanriku Coast found

³³ Smeenk, ‘Strandings of Sperm Whales *Physeter Macrocephalus* in the North Sea’, 27–8.

³⁴ Itoh, *The Japanese Culture of Mourning Whales*.

sometimes entangled in their nets.³⁵ These stones were believed to be infused with the spirit of Ebisu.

We can find many traces of the first variety of Ebisu stones on the Sanriku Coast. For example, in Shiranuka on the Shimokita Peninsula in northern Aomori Prefecture, an Ebisu stone existed near the village. After a successful fish catch, locals would donate two sardines to Ebisu at the stone, as they believed whales and orcas had helped them during the hunt.³⁶ Other Ebisu stones can be found in Yoriiso and Samenoura (both on the Oshika Peninsula) and on Ajishima.³⁷ Some of these stones were probably taken to the shrines because of their unusual shape and only later brought in connection with whales, while others were erected in order to commemorate a stranded whale, as they wished to praise the whale for giving his life so that the people could collect the meat.³⁸ These whale stones often commemorated a specific (mass) whale stranding and shrine priests did hold yearly rituals to thank the whales for their sacrifice.³⁹

Whale stones are most prominent at the Osaki Shrine in Karakuwa near Kesenuma, a fishing port in the northern part of the former Sendai domain and today's Miyagi Prefecture. The city centre lies deep in one of the rias of the Sanriku Coast and is protected from the open ocean by the island of Ōshima in the south and the Karakuwa Peninsula in the east. The most southern edge of the Karakuwa Peninsula is called 'Osaki Misaki' and fishermen used the distinctive shape of this cape as a point of orientation when leaving the coast for fishing. The Osaki Shrine of Karakuwa is located at the most southern edge of the cape. According to legend, the construction of the shrine goes back to the fourteenth century when a member of the Ōji family, who reigned over the Obi-Hyūga province in Kyushu (today's Miyazaki Prefecture) gave up his territory. He intended to rescue the Osaki Shrine of his hometown from civil war and bring it to a safe and remote location. The legend goes that a white whale guided Ōji and his men to Osaki Misaki in Karakuwa, where they rebuilt the shrine in 1308.⁴⁰

This is not the only story that connects this shrine with a mysterious whale occurrence. According to the shrine's records, in the fifth month of

³⁵ Interestingly, these Ebisu stones seem to not have been prominent in the Kansai region, where the main Ebisu Nishnomiya Shrine is situated, further indicating the difference between the popular Ebisu cult and the whale Ebisu culture, see Tanaka, *Ebisu no sekai*, 32, 284.

³⁶ The stone was destroyed when the new harbour was built, see Tōhoku rekishi shiryōkan, *Sanriku engan no gyoson to gyogyō shūzoku: Gekan*, 154.

³⁷ Tōhoku rekishi shiryōkan, *Sanriku engan no gyoson to gyogyō shūzoku: Jōkan*, 40–1.

³⁸ Ambros, *Bones of Contention*, 58. ³⁹ Arch, *Bringing Whales Ashore*, 2018, 171–3.

⁴⁰ Itoh, *The Japanese Culture of Mourning Whales*, 45; Yoshihara, 'Kujira no haka', 422.

Kansei 12 (1800), the merchant Ōsukaya Yasushirō was transporting rice on his boat *Toyoyoshi-maru* from Sendai domain to Edo when a storm hit him and his sixteen crewmen. Taken by winds and currents, the ship drifted southeast into the open sea for two days and the crew lost all hope of ever returning to land. Suddenly, a large group of whales spearheaded by a majestic white whale appeared around the boat. The whales pushed the boat back towards the coast, saving the merchant and his crew. After his miraculous rescue, the merchant went to the Osaki Shrine and donated money to erect a whale stone.⁴¹ At the Osaki Shrine, whales were considered messengers of the gods and it was explicitly forbidden to hunt or eat them. When whales became stranded in Kesenuma Bay, the shrine officials conducted memorial services for the souls of the whales and offered sacred sake and sardines. Figures of Ebisu and Daikokuten can also be found at Osaki Shrine.⁴²

We can also find material objects directly related to whales at the shrine. Fifty metres from the entrance is a row of erected stones, at least two of which are whale stones. The engraving on the first stone reveals that the stone was erected in the fourth month of 1810 and was dedicated by fifty fishermen to a whale stranded in Tadakoshi Bay. They wanted the whale to find peace in the afterlife. The other, smaller whale stone to the right was set up for another stranded whale in the same bay in 1835.⁴³ The two whale stones at Osaki Shrine have a peculiar shape. The larger stone on the left has a distinct hole like a vulva at the bottom, while the top of the right stone is phallus-shaped. Locals have explained that these stones represent the large sex organs of whales, which were believed to increase fertility. Although there are no further primary sources, local historians speculate that fishermen (and their wives) prayed at these whale stones when wishing for children.⁴⁴

The second variety of Ebisu stones, the one entangled in nets, are harder to find in written sources or as material objects. One prominent example comes from a different retelling of the Same-ura whale stone tale, which has been recorded by the local historian Satō Ryōichi:

Onaiji-sama, the master of whales, had lived before the coast of the village Same-ura. He brought the sardines closer to the coast, granting the fishermen large catches. Every year he travelled to the Kumano Shrine in Wakayama Prefecture.

⁴¹ Karakuwa chōshi hensan iinkai, *Karakuwa chōshi*, 348–50.

⁴² Fieldwork in Kesenuma, August 2017.

⁴³ There are two more possible whale stones nearby, but Japanese researchers are unsure about the readings of the inscriptions, see Itoh, *The Japanese Culture of Mourning Whales*, 45–6.

⁴⁴ Kesenuma shishi hensan iinkai, *Kesenuma shishi: Sangyōhen*, 5–2:249; Komatsu, *Uminari no ki*, 132–3.

There he swallowed one stone and carried it back to Same-ura to turn into a god. One year, the chief of a whaling group from Ise had a strange dream: In the dream, Onaiji told the whaler that he had come to Kumano for 33 times and that he would turn into this year a fish god. He urged the whaler to spare him this year as well, so he could fulfil his ambition. As a way of gratitude, he would let himself be captured by the whaler in the next year. The whaler, however, ignored the appeal and went out the next day to the sea to catch an unusual large whale. However, all the fishermen who ate the meat of this whale died an unexpected death. In July 1874, a citizen of Same-ura made a pilgrimage to the Ise Shrine. He slept in a Ryokan, and as the innkeeper heard his client is from the province of Nanbu [Hachinohe], he told him about the unfortunate end of Onaiji-sama.⁴⁵

While this version fails to explain how the whale stone at Nishinomiya Shrine near Ebisu Beach came to be, we have here a different association to Ebisu stones. In the Sameuratarō tale it is the body of the injured and stranded whale itself that petrifies and becomes a whale stone, while in the Onaiji-sama version, the whale has to swallow each year a stone from the bottom of the ocean near the Kumano Shrine, explaining why the whale made the dangerous pilgrimage to a region that was known for whaling.⁴⁶ These stones are a clear reference to smaller Ebisu stones that fishermen sometimes find entangled in their nets when fishing. According to this tale, when a whale gulps thirty-three of these stones from the ocean bottom, he becomes a god, indicating that not every whale is automatically a god of the sea but has the potential to become one if he takes the spirit of Ebisu into his body by swallowing stones from the ocean bottom. The motivation of becoming a god seems to protect the community of Same-ura and as after his ascension to godhood he is no longer in need of a physical body, he would have allowed the whalers to take his body. Unfortunately, whalers from Kumano caught the whale prematurely, despite being warned in a dream, and were in turn struck with a ‘whale curse’.

The Dreaming Whalers in Western Japan

One of the most curious elements of the Onaiji-sama folktale is the inclusion of whaler from western Japan for whom a whale appears in his dream. Indeed, as a closer look reveals, this was a common trope in many western Japanese whaling folktales. For example, on the Gotō Islands, there was the story of Yamada Monkurō, the chief of the Uku Island whaling group, who dreamed in 1716 of a female whale. In the dream, the whale told Monkurō

⁴⁵ Translated and adapted by the author from Satō, *Kujira kaisha yakiuchi jiken*, 2–3.

⁴⁶ In the Sameuratarō tale, the whale travels not to Kumano but to the Ise Shrine. Both shrines are on the eastern side of the Kii Peninsula and considered among the most important Shinto shrines. Near both shrines, whaling groups were active in the Edo period.

that she was on a pilgrimage to the Daihō Temple with her offspring and begged the chief not to capture them. The next day, Monkurō gave the order not to hunt any whales; however, the season had been poor and many of his people had debts they wanted to pay off before the new year. When they sighted a blue whale with a calf, they ignored the order and went out to hunt them. The whale fought back and a storm took the whalers off guard, drowning seventy-two of them. Faced with this tragedy, Monkurō gave up whaling and established a sake business. In a local temple on Uku island, a memorial stupa can be found for the drowned whalers.⁴⁷

A similar folktale is also attached to a whale memorial stone in Shiro-ura (today Kihoku, Mie Prefecture), which was erected in 1759 at the local Jōrin Temple. According to this tale, a high priest of the temple had in the year before been visited in his dream by a pregnant whale, who begged to the priest to spare her, until she had given birth to her child in the South Sea. The whale would then allow herself to be seized by the local whalers on her way back. However, the priest failed to warn the whalers in time, and they caught a pregnant right whale the next day. Soon afterward, the village was struck with a plague. In order to lift the ‘whale curse’ the whalers made a large donation to the temple and asked the head priest to bury the whale and make a funeral service to appease the soul of the whale. Additional annual memorial services were conducted over the next two hundred years for the whale.⁴⁸

As these examples show, whale memorial stones in western Japan can often be found in the vicinity of whaling communities and were erected to appease the angry souls of whales that had been killed by the whalers to avert a potential ‘whale curse’ that could bring misfortune to the community. Another peculiarity of the whale memorial stones in whaling regions is that many of the memorial stones were dedicated to whale fetuses or whale calves. Often whaling groups forbade the slaughtering of whale mothers with calves as the mothers would defend their children, making the hunt much riskier. Also, when the flensing of a whale sometimes revealed that the whale had been pregnant, the whalers often expressed remorse for the fetus who did not have the chance to experience life and erected a whale memorial stone for it.⁴⁹

⁴⁷ Nakazono and Yasunaga, *Kujiratori emonogatari*, 163–5. Historical sources indicate, however, that Monkurō was already dead in 1714, see Itoh, *The Japanese Culture of Mourning Whales*, 197–8.

⁴⁸ Itoh, *The Japanese Culture of Mourning Whales*, 90–1. Very similar stories existed also among other whaling groups on the Kii Peninsula, see Ishida, *Nihon gyominshi*, 15–16; Tokuyama, *Kishū no minwa*, 190–1.

⁴⁹ See, for example Itoh, *The Japanese Culture of Mourning Whales*, 108.

In Buddhism, all living creatures possess a soul that can come back to haunt the living upon death. The killing of animals was considered a sin and the idea of pollution also played a central role in everyday religious practices. For example, birth and death caused pollution and everyone that came into contact with this form of pollution needed to be purified in a religious ritual. As Shmuel Eisenstadt pointed out, pollution beliefs were centred around social taboos, which could be broken as long as the appropriate purification rituals were used afterwards to restore the former 'clean' state.⁵⁰ Accordingly, fishermen and whalers were ranked low in the social hierarchy of western Japan as their occupation included the taking of life. Deities would only visit a community that was in a state of purity, otherwise disaster would occur. Purification rituals therefore played a crucial role in the western coastal communities and Arne Kalland estimated that about 5 to 10 per cent of the potential fishing days were lost due to purification festivals.⁵¹

Western Japanese fishermen and whalers performed memorial services and erected memorial stones not only to appease the souls of people lost at sea but also to appease the souls of all the animals they had killed. These rituals expressed the gratitude of the fishermen that the animals had given up their life for the survival of the human community and to guide them to their next life. The most elaborate rituals were held for whales, who also received posthumous names in the local temples.⁵² Arch noted that while other nonhuman animals were also sometimes granted a memorial stone, whales were the only nonhumans to receive Buddhist names in death registers.⁵³

Whale memorial stones and Buddhist death register entries for whales were not known on the Sanriku Coast prior to the introduction of industrial whaling in 1906. But we find other elements of western whaling culture on the Sanriku Coast, such as an inversion of the dreaming whaler story. We can speculate that the Onaiji-sama folktale was originally one of the many retellings of the dreaming whaler folktale that was adapted over time to Hachinohe, a non-whaling region. In western Japan, the story was a warning to whalers not to be too greedy and to wait for the right time to catch a whale. This message made little sense in Hachinohe, however, where whales were not hunted actively. Here, whales fulfilled a different role by bringing wealth to the community, either by attracting fish or by sacrificing their own bodies during a whale beaching. Underneath the religious notion of whale Ebisu, whales are framed as positive forces of nature that help mankind. The death of Onaiji-sama is not caused by the

⁵⁰ Eisenstadt, 'The Japanese Attitude to Nature', 196.

⁵¹ Kalland, *Fishing Villages in Tokugawa Japan*, 46–52.

⁵² Kalland, *Fishing Villages in Tokugawa Japan*, 43–6.

⁵³ Arch, *Bringing Whales Ashore*, 2018, chap. 5.

Same-ura fishermen, but by the whalers from the Kii Peninsula who ignored the warnings of the whale. This tale shows that the inhabitants of Hachinohe were aware of the different traditions surrounding whales in the whaling regions.

The Origin of the Same-ura Whale Stone

After having discussed various legends surrounding the whale stone in Same-ura and its possible connection to western whaling practices, let us investigate the historical records a bit closer. It appears that the stone is closely connected to the mass whale stranding of 1818. At this time, 118 large whales beached, for no apparent reason, along the coast of the Hachinohe domain. This event left a distinctive cultural and religious mark for the involved fishing communities. The carcasses of the beached whales could be found between Shirahama in the north and Taneichi in the south, a distance of thirty kilometres, but most of the whales, ninety-five, stranded near the village of Kadonohama. The community of Kadonohama used their share of the money from the selling of whale meat to set up a new Shrine to show their gratitude. For the inauguration of the Whale Province Shrine (*kujirasū jinsha*) they performed a ceremony in which they moved an aspect of the Goddess Benzaiten from Kinkazan to the new shrine.⁵⁴

According to the local historian Shōbuke Taneyasu, the mass beaching of 1818 also intrigued Nanbu Nobumasa (1780–1847), the eighth domanical lord of Hachinohe. One of the whales had beached in Same-ura at a place called ‘Buddha Beach’ (*hotoke hama*). Nearby and just a few hundred metres off the island of the famous Kabushima Shrine was a peculiar stone that the locals nicknamed the ‘Buddha stone’ (*hotoke ishi*). When Nobumasa heard of this stone, he suspected a connection between the mass whale stranding and the Buddha stone. He ordered an investigation for looking at the old records of the domain to find the origin of the stone. One of his retainers discovered an entry in the *Hachinohe-han kanjōsho nikki* (Diary of the Hachinohe Domain Treasury), according to which, in 1736, a captain of a trade ship from Osaka had been harbouring with his ship near Hachinohe. One day, the captain had a curious dream in which the stone sculpture of a Jizō spoke to him.⁵⁵ The Jizō statue

⁵⁴ The official domain records are cited from Hachinohe shishi hensan iinkai, *Hachinohe shishi: Shiryōhen Kinsei*, 1980, 8:341–3; Hachinohe shiritsu toshokan, *Hachinohe Nanbu shikō*, 393–4; Maeda, *Hachinohe-han shiryōhen*, 524–5.

⁵⁵ Jizō (Sanskrit: *kṣitigarbha*) is a bodhisattva who is seen in Japan as the guardian of stillborn or miscarried children. Jizō statues depicting a Buddhist monk can be found on roadsides and graveyards.

explained that he had ascended from the ocean to the land and that the captain should come to him to pray. When the captain ignored the dream, and tried to leave Hachinohe the next day, strong winds prevented him from leaving the harbour. Remembering the dream, the captain searched for the statue and found a stone near Kabushima Shrine that resembled a man. He prayed to the stone thinking it might be the incarnation of Buddha and soon after his ship was able to leave. The locals have since called the stone 'Buddha stone' and the adjunct beach 'Buddha Beach'. They started praying to the stone and were rewarded with good fish catches.

Nobumasa was fascinated by this story and wanted to see this mysterious stone for himself. The form of the stone reminded him of Kotoshironushi-no-mikoto, an indigenous god associated with Ebisu. As Ebisu had a close connection to whales and the mass stranding had occurred near this stone, he announced that the stone should be called 'Ebisu stone' and the beach 'Ebisu Beach'. He donated three boxes of sake to the stone and wrote a poem praising the stone for protecting fishing and trade ships and making the region prosperous.⁵⁶

Shōbuke Taneyasu research on the Same-ura whale stone illustrates how cultural meaning and traditions surrounding a material object can shift and distort over time. What the locals once knew as a 'Buddha stone', was renamed 'Ebisu stone' by Nobumasa after the 1818 mass beaching, only to become eventually known as 'whale stone'. Interestingly, even in its earliest inception, fishermen prayed to the stone apparently to receive good fish catches, in this regard it is possible that already at that time a connection between Ebisu and/or whales had existed for the locals. Another element that would be reused in the Onaiji-sama folktale was again the element of receiving a prophetic vision while dreaming. In the *Hachinohe-han kanjōsho nikki* it was a ship captain having such a dream, while in the Onaiji-sama version, it was a whaler from Kumano.

The Cetosphere and the Two Whale Cultures

As we have seen throughout this chapter, comparing cultural representations of whales from western whaling places to the ones in the Sanriku region highlights some striking discrepancies. On a superficial level, we find that whale graves were erected in all regions to honour the souls of dead whales, but if we look more closely, we can see that these whale graves were built for different reasons. In the west, whale memorial stones

⁵⁶ Shōbuke, *Nanbu mukashi gatari*.

were erected for whales killed by whalers, often to appease the angry spirit of a whale mother, whereas on the Sanriku Coast, whale stones were mainly erected for stranded whales.

Sanriku folktales focused on the aspect of whales bringing wealth from the sea and saving humans in peril: we have discussed the story of Sameuratarō saving a young fisherman from drowning or the story about a white whale saving the merchant Ōsukaya Yasushirō and his crew from drifting offshore. Documented cases of whales saving other species, including humans, make these stories at least plausible, however.⁵⁷ For example, in 2009, scientists recorded how humpback whales had saved a seal on an ice floe from a killer whale attack and in early 2018, a marine biologist claimed that she had been saved by a humpback whale from a tiger shark attack.⁵⁸ Similar behaviours have also been reported for dolphins.⁵⁹ These recent examples suggest that Sanriku fishermen might have observed similar behaviour and then expressed these events in folktales and historical recordings.

Why do we encounter so many stories of whales helping humans in the Northeast but not in the western Japan? Why are there not more stories about whales bringing fish closer to the shore in the whaling regions? Indeed, in the western Japanese folktales, whales appear mostly as lone swimmers migrating along the coast, neither interacting with fish nor with humans. Only when the whales or their calves were attacked did they defend themselves fiercely. One anthropogenic interpretation would be that the western whalers only regarded whales as prey and were not interested in recording alternative whale behaviour that did not fit this framework. Even worse, if they admitted that whales were helping humans, then this would further jeopardise their moral right to hunt them. This interpretation alone is unsatisfactory, however. Why would only the Sanriku fishermen recognise that whales were essential for bringing fish to the shore? Let us instead look at the behaviour of the whales during their migration along the Japanese Coast.

As noted, many baleen whale species migrate along the Japanese archipelago from the warm breeding places in the tropics to the cold but nutrient-rich arctic waters in the Sea of Okhotsk. During the migration following the ocean currents, most whales prefer to remain close to

⁵⁷ In recent years, there has been a fierce debate among biologists, historians, and anthropologists regarding whether or not we can interpret whale behaviour like saving humans as a conscious moral action or if such actions can, per definition, only be conducted by humans, see Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*; Martin, 'When Sharks (Don't) Attack'; Ingold, 'The Use and Abuse of Ethnography'.

⁵⁸ Natural History Magazine, 'Save the Seal!'; BBC News, 'Whale "Saves" Biologist from Shark'.

⁵⁹ Jones, 'Dolphins Save Swimmers from Shark'.

shallow waters and even orientate themselves using underwater landmarks. The whaling places in western Japan were all situated near places where whales would regularly come close to the shore during their migration. This also makes it clear why no whaling places were established in the Bungō Strait between Shikoku and Kyushu as most whales used a different migration route with better currents and orientation points.

The whaling season in western Japan during the Edo period was from early winter to spring when whales were travelling in both directions; however, whales would not waste time in these waters but move on as fast as possible, rarely pausing to hunt and instead living off their blubber reserves.⁶⁰ This behaviour explains why the whales were not seen hunting sardines in western Japan as often.⁶¹ In folktales from these regions, whales were imagined as being in the middle of their pilgrimage. This might have its origin in their migration to the southern calving grounds or to the northern feeding places. Also, in spring, whale mothers often travelled for the first time with their calves to bring them to the feeding grounds and pass on the knowledge of the migration route to their offspring.⁶²

Farther north on their journey, the baleen whales changed their behaviour. The first reports of whales driving sardines closer to the shores are from the Izu Peninsula, a region the north-bound whales would reach in early spring. When approaching the Sea of Kinkazan a few weeks later, this behaviour was even more pronounced. Here, in the ‘perturbed region’ of the Oyashio and Kuroshio currents, the baleen whales would, for the first time in months, hunt zooplankton and small fish for a few weeks. Indeed, the feeding rate of migrating baleen whales is ten times higher during the summer than during the rest of the year.⁶³ After the first hunting break on the Sanriku Coast, baleen whales would then leave again in early summer for their destination in the Sea of Okhotsk. As the perturbed region was in the open sea, the whales had to leave behind the shallow waters for their hunting. They often returned to the coast, however, with sardine shoals before them, as we will explore in the [next chapter](#).

Sei whales lived most of the time in the open sea and reached the Japanese Coast near the perturbed region near the Sanriku Coast for

⁶⁰ Arch, *Bringing Whales Ashore*, 2018, 25–34.

⁶¹ It has been estimated that baleen whales ingest 83 per cent of their annual energy intake during the summer, see Lockyer, ‘Growth and Energy Budgets of Large Baleen Whales from the Southern Hemisphere’.

⁶² Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*.

⁶³ Konishi et al., ‘Feeding Strategies and Prey Consumption of Three Baleen Whale Species within the Kuroshio-Current Extension’, 30.

hunting during the spring months. Similarly, toothed sperm whales would have been hunting squid in the deep sea (up to 2,000 metres) far away from the coast but would also have come to the perturbed region in spring to hunt sardines and anchovy.⁶⁴ Therefore, only these whale species were observed by the Sanriku fishermen, and their behaviour might have been different to that of the whales migrating along the coast. This could also explain why the whales, who were now fed and more active would be more willing to help humans in peril.

Conclusion

Whales, as the messenger or helpers of Ebisu or the dragon god, brought many benefits to the human communities, and their bodies, as containers of nutrients and wealth, were no exception. This chapter has further complicated our understanding of how humans and whales have interacted at the Sanriku Coast. A non-lethal whale culture does not automatically mean that whales were not harvested at all, but rather, that it was done more responsibly, in accordance with what the humans interpreted as the wishes of the whales. While western Japanese whalers were always eager to maximise their profits, Sanriku fishermen took only from the cetosphere what was given to them, perpetuating a more ecological sustainable system of whale harvests. However, both communities depended in the end on the same whale stocks, thus, the western Japanese excesses were likely also responsible for a drop in whale stranding at the end of the Edo period.

The origin of the different whale cultures on the Japanese Archipelago can probably be found in geographic particularities, but, even more interesting, also in the behaviour that baleen whales expressed along their migration near the Japanese coast. In western Japan, whales mostly swam through the coastal waters on their way north or south without stopping for extended periods to hunt. Whales were not an integral part of the western Japanese coastal ecosystems and whalers could hunt them with only a small risk of disturbing other fisheries. Their main concern was the ‘whale curse’ as some whales, especially whale mothers, fiercely fought to protect their calves. Furthermore, the consumption of raw whale meat bore the risk of food poisoning. Building whale monuments and performing memorial services for the whales was one way to protect against this ‘whale curse’.

Further north, whales showed different behaviours as they hunted small fish or fed on zooplankton. The fishermen here learned that having

⁶⁴ Kamagasawa, *Yorikujira sōdō ‘Akamae wa hirumae’ no shiteki kōsatsu*, 75–6.

whales around benefited them as they indicated the presence of fish and could even bring the fish closer to the shore. When a whale beached, the fishermen in the north did not hesitate to make use of the carcasses and they expressed their gratitude through the erection of whale monuments or donations to shrines. The distinctive behaviour of the whales was also reflected in local folktales as part of their moral worldview. This shows us that humans experienced the cetosphere quite differently depending on how whales behaved in a certain region.

There are recurring aspects in the whale folktales, like the dream sequence that can be found in the folktales of both whaling and non-whaling regions, but the underlying messages and implications of the stories vary. Carving out these vernacular differences has been further complicated by modern interpretations of whale folktales ignoring the regional differences in favour of a national Japanese whaling culture. The examination of the Same-ura whale stone is an excellent example of how the cultural meaning of a material object can change over time.

3 Bringing Sardines to the Shore

In spring of 1677, fishermen from the hamlet Kōbuchi on the Oshika Peninsula met one of their gods. While looking for cod fish, the fishermen had ventured out onto the open sea, keeping the island of Kinkazan as a last connection to the realm of men always in sight. South of Kinkazan, they found a dead whale drifting on the water. Overjoyed with gratitude, the fishermen might have thanked the gods of the sea over this unexpected gift. They knotted the carcass to their boats and brought it back to the village. Here they flensed the animal as good as they could and found a merchant who was willing to buy the whale meat. Even after paying the tax to the Sendai domain, they still had a considerable amount of money left.

However, soon thereafter the trouble began. One of the newly arrived foreigners from the faraway domain of Kii, a man called Kondō Kihei, went to the local magistrate and the district headman and claimed that he and his crew had hunted this whale before it got away mortally wounded. Therefore, half of the profit should belong to them. To the dismay of the locals, the magistrate judged in Kihei's favour and the fishermen had no other choice but to give away their newly earned fortune. This did go against all conventions on the Oshika Peninsula, as a drifting whale always belonged to the group who had found it. It was clear that Kihei would lay claim to every drifting whale from now on. This confrontation was just the latest of many grievances the locals had against the outsiders from Kii that had recently begun to hunt fish and whales in the region. For the first time in recorded history, all forty-four fishing communities of the Oshika Peninsula set aside their internal differences and composed together a petition to the magistrate in Ishinomaki, demanding the immediate suspension of all bonito fishing and whaling by the Kii groups. For the Oshika fishermen, there was much more at stake than just the banning of unwanted competition. Without whales, their whole livelihood was in danger.

The whaling dispute of 1677 stood at the beginning of the slow transition from subsistence fishing to the proto-industrialisation of sardine and

bonito fertiliser production at the Sanriku Coast. The transfer to a different economic system required a new evaluation of how humans perceived, lived, and made use of their local environment. As I will argue in this chapter, the Oshika fishing communities believed that the cetosphere was crucial to conduct proto-industrial fishing with the tools and technologies they had at their disposal. In their eyes, the killing of whales directly threatened the socio-economic and ecological survival of the village. It did not matter for the fishermen whether whales competed for the same fish resources as humans, as without whales, fish were just too far away from the coast to be caught with methods the fishing communities had available. Rather than seeing proto-industrial marine fertiliser production or whaling as independent activities, the locals regarded these two activities as directly related. Pursuing both at the same time could potentially disturb the delicate ecological balance and lead to negative ramifications for the coastal communities' fishing endeavour. The interweaving of ecological conservational thought with socio-economic and cultural practices aimed at securing long-term sustainability of marine resources.¹ The 1677 petition helps us to reconstruct the ecological knowledge the Oshika fishermen held in regard to whales, broadening our understanding of how proto-industrial fishing was deeply intertwined with the well-being of the cetosphere. Furthermore, a close reading of the petition reveals how Oshika fishermen did not regard the ocean as a static uniform entity. Instead, they divided it into several spatial spheres in which humans, fish, and whales played different roles.

Fishing Disputes on the Oshika Peninsula

Like most early modern societies, the Oshika communities had a deeply moral view of how economy and ecology were interconnected. Rural communities embedded their ecological worldview in a web of vernacular traditions, moral values, and religious beliefs. The resulting practices did not appear out of nowhere nor did they remain unchanged over time but were in constant flux. Thus, the local ecological knowledge of a community was constantly renegotiated not only among its members but also with its neighbours, higher political authorities and even with the environment itself. The process of renegotiating a moral framework was not harmonious, but rather came about in a series of conflicts as groups

¹ I do not argue that this worldview led inevitably to a life 'in harmony with nature' that was truly sustainable, however. As we will see, the success of proto-industrial fish fertiliser eventually led to a decline in fish stocks. See also Krech, *The Ecological Indian*; Hughes, *North American Indian Ecology*; Cronon, 'The Uses of Environmental History'.

and individuals with different interests and expectations towards the use of the environment clashed.

An illuminating genre of sources that highlight these renegotiations in early modern Japan is petitions. Petitions were letters written by commoners or their representatives to the next higher authorities in the domanial hierarchy.² When disputes among commoners could not be solved locally or when criminal activities were discovered, commoners could write petitions to the authorities, who then acted as judges. Petitions could also contain requests directed at the authorities, for example for lowering taxes after a bad harvest. Writing a petition was not without danger, however. A group of petitioners not only risked being ignored by the higher authorities but even faced the possibility to be punished if their request was perceived to transgress the boundaries of the social order. Especially precarious were situations when commoners were at odds with their direct domanial superiors, as they were often not allowed – under the threat of death – to appeal to even higher authorities, circumventing the direct hierarchy.³ As this practice allowed corruption and mismanagement among lower governmental retainers, some domains began installing petition boxes, where commoners could appeal directly to a daimyo or even the shogun, without the fear of being punished.⁴

To understand the importance of the 1677 petition we have first to take a closer look at the social and political situation on the Oshika Peninsula (Figure 3.1), which was part of the Sendai domain and adjacent to the port city of Ishinomaki. In 1698 around 15,000 people lived in and around Ishinomaki, while the 44 coastal communities on the Oshika Peninsula and the surrounding islands had a total population of around 10,000.⁵ The highest political authority in the region was the Ishinomaki magistrate (*daikan*), a low-ranking samurai working for the domanial government. He was responsible for taxation and jurisdiction over four districts (*kumi*; lit. groups): the inland district of Kugazama and the three coastal districts of Onagawa, Kitsunezaki, and Kuganari, the latter three

² In the primary sources, farmers and fishermen were called *hyakushō*. In older literature, this term was translated as farmers, but Amino Yoshihiko has convincingly shown that the term was used more broadly and meant ‘commoners’, see Amino, *Rethinking Japanese History*, chap. 1; Iwate-ken, *Iwate-ken gyogyōshi*, 38–40.

³ One way to mitigate the risk was that all petitioner signed the letter in a circle so that no single person could be made out as a ringleader and be punished as an example. See Sumitake, ‘Tenryō Hida no Ōhara sōdō’, 85.

⁴ Roberts, ‘The Petition Box in Eighteenth-Century Tosa’.

⁵ Oshika chōshi hansen iinkai, *Oshika chōshi: Jōkan*, 100–1. Not every village on the Oshika Peninsula was a coastal community, however. Sometimes several small villages – often not more than a few houses – were under the jurisdiction of a single village headmen and formed together a coastal community, see Watanabe, *Miyagi no kenkyū*, 4:127.



Figure 3.1 Map of the Oshika Peninsula in the Early Modern Period

all on the Oshika Peninsula. Each district was managed by a district headman (*ōkimoiri*), who was elected by his peers from the commoner class. District headmen were the direct link between the samurai and commoners' class, and it was often them, who wrote the petitions to the magistrate.⁶ Beneath them, was the village headman (*kimoiri*), who allocated the collective tax burden among the villagers and settled minor disputes.⁷ Similar to district headmen, village headmen were also elected for life and could only be dismissed from their position by orders of the domain because of illness or old age. As can be expected, it was usually the most wealthy and influential individuals in a village or district who were chosen for their position by their peers, and as we will see in the [next](#)

⁶ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 799–800; Chiba, *Sendairyō no ōkimoiri*, 1–7.

⁷ In other domains, the position of village headman was also called *shōya* or *nanushi*. *Kimoiri* translates into 'roasting a liver', which means 'good deeds', 'sponsor', or 'organiser'. *Kimoiri* can also be understood as 'someone who takes great pain to save someone else from said pain'.

chapter the title of village and district headman became often a de facto hereditary title.

Economically, the coastal districts were focused almost solely on the exploitation of the rich coastal ecosystem, even though most villages had a few small fields near the village. Among the most common marine resources harvested were abalone, octopus, various smaller fish, tuna, and occasionally even dolphins. Most fishing was done near the shore with trap nets, but to hunt some species, the fishermen had to travel to the sea near the sacred island of Kinkazan, a little east of the peninsula. Another source of income was the production of salt, which was won by vaporising seawater. This method required substantial amounts of firewood, however, which became scarce by the end of the seventeenth century.⁸

Because of their dependence on coastal and marine resources, the Oshika communities had a vital interest in securing access to the coastal ecosystem as well as protecting the marine resources against overuse. A local law book from 1741 details that the land, coastline, and sea surrounding a coastal community was exclusively harvested by the closest community, while everything out on the open sea was considered under the common stewardship by all communities, called *iriai* (common ground).⁹ The oceanographer Yanagi Tetsuo argued that the *iriai* was an early example of how coastal communities could increase the productivity and biodiversity of a coastal ecosystem through careful management of the marine resources.¹⁰ He argued that the Japanese *iriai* often avoided the ‘tragedy of the commons’ trap, that is, the overexploitation of common resources caused by human actors seeking to maximise their profit, by allowing only a few communities to enter the *iriai*, while rules concerning the period of harvest and the methods of the harvest had to be rigorously followed.¹¹ In the eyes of the locals, they had a moral obligation to follow these conservation rules, unless they wanted to face starvation a few years later. If we follow Yanagi’s argument, the Oshika *iriai* system seems to be an illuminating example of how moral-based rules

⁸ Iwate-ken, *Iwate-ken gyogyōshi*, 23–42.

⁹ Wilhelm, ‘Ressourcenmanagement in der japanischen Küstenfischerei’, 82, 212–13.

¹⁰ Yanagi called the human management of coastal areas *satoumi* (ocean near the village), derived from the more popular *satoyama* concept (mountains near the village), see Yanagi, *Sato-Umi*. For a general discussion of *satoyama* and *satoumi*, see Knight, ‘The Discourse of “Encultured Nature” in Japan’; Japan Satoyama Satoumi Assessment, ‘Satoyama-Satoumi Ecosystems and Human Well-Being’; Honda, ‘Satoyama-Satoumi no bunka to seitaikei sa-bisu no hensen’.

¹¹ Yanagi, *Sato-Umi*, 75. For more on the ‘tragedy of the commons’, see Hardin, ‘The Tragedy of the Commons’. For a possible solution of ‘the tragedy of the commons’, see Ostrom, ‘Coping with the Tragedies of the Commons’.

contributed to a sustainable harvest of marine resources. If we take a closer look, however, cracks appear in this image.

For example, by the nineteenth century, the continued expansion of the fish fertiliser economy and other marine proto-industries slowly diminished the fish stocks at the Oshika Peninsula.¹² This was partly because the natural fluctuations in sardine abundance caused by inter-decadal shifts in water temperature made it more difficult to notice an overall drop in long-term sardine catches.¹³ This situation has been called the ‘shifting baseline syndrome’ because scientists (or fishermen) naturally orientate themselves to the baseline ecosystem they experienced when they started their observations and the next generation of observers again sets the temporal baseline at the start of their careers.¹⁴ Changes over several generations, such as smaller fish stocks, often go unnoticed and the baseline of the targeted stock of each generation becomes smaller than that of the previous generation.¹⁵

Moreover, the *iriai* system was far from clearly defined and was the cause of constant disputes and conflicts. Not only was it often unclear where the exclusive zone of one village ended and that of another began, even inside an *iriai* some communities proclaimed to have the exclusive right to harvest a certain resource or use a certain fishing technique, while the harvest of other marine resources were considered unrestricted, as long as a community possessed the right to access the *iriai*.¹⁶ Alone in the Kitsunozaki district over thirty conflicts between villages, were recorded in the form of petitions.¹⁷ Interestingly, petitions only covered disputes between communities. Conflicts inside a community were resolved locally by the village headmen. Even though some of the communities had fewer than fifty households, petitions were used to strengthen the internal cohesion by reconfirming the independence from other communities.¹⁸

Conflicts often started when one community began to harvest marine resources at a new spot or with a new technique that infringed on the perceived traditional rights of another community. For example, in 1664, the fishermen from Ōhara caught ten dolphins with a dragnet (*hikiama*) in the *iriai* a bit offshore.¹⁹ However, the dolphins had been directly heading

¹² See Chapter 6. ¹³ Kawasaki, *Regime Shift*.

¹⁴ Jackson, Alexander, and Sala, *Shifting Baselines*; Klein and Thurstan, ‘Of Seascapes and People’.

¹⁵ Klein and Thurstan, ‘Of Seascapes and People’.

¹⁶ Wilhelm, ‘Ressourcenmanagement in der japanischen Küstenfischerei’, 82–3.

¹⁷ Watanabe, *Miyagi no kenkyū*, 4:133–4.

¹⁸ Watanabe, *Miyagi no kenkyū*, 4:127, 170–1.

¹⁹ Dolphins often got entangled in tuna nets, which were erected near the coast. Tuna could reach over two metres in length and be killed with spears. The same technique could also

towards a fixed tuna net installed by fishermen from Kyūbun closer at the coast. Therefore, the Kyūbun fishermen argued that without the Ōhara people interfering, the dolphins would have been caught by them inside their exclusive fishing zone. The conflict was settled when five of the ten captured dolphins were given to the Kyūbun fishermen.²⁰ This example illustrates the moral component of the *iriai* system. One could have argued that the Ōhara fishermen were in their rights to hunt these dolphins as the animals were at the time of capture in the open sea, and therefore free to take for anyone. However, as the dolphins would have entered soon into the exclusive fishing zone of the Kyūbun fishermen, it became a moral obligation that at least a part of the catch was given to these fishermen. In this way, both involved communities profited from the catch. On the other hand, it seems that the Ōhara fishermen had initially not volunteered half of the catch but needed to be forced to do so after a petition was put forward. Nevertheless, this new precedent determined the correct moral behaviour for similar situations in the future. Thus, a more or less fair allocation of marine resources laid at the core of these rules, which were negotiated through disputes, often in the form of petitions.

The Arrival of the Kii Fishermen

As we have discussed in [Chapter 1](#), Kii fishermen followed the whale pilgrimage around the Japanese Archipelago since the early seventeenth century. While their fleets were quite successful in the west, their travels east on the Kuroshio were met with more local resistance. For example, on the Bōsō Peninsula east of the capital Edo, the Kii fleet successfully introduced new fishing techniques, such as the beach seine (*jibikiami*), where a long net lying in the coastal water is pulled to the beach by two groups of fishermen.²¹ After 1630, between forty and fifty sardine and bonito fishing ships from Kii were operating off the cape of Chōshi between spring and autumn each season.²² However, with the growth of the capital Edo came an increased demand for marine products in the Kanto plain. The Kii fishermen, who sold their products in the Kansai region, were seen as unwanted competitors and conflicts regarding the harvest of the marine resources began to increase.²³ The locals prevailed and instead of delivering fish fertiliser and other marine products to

be used for the larger dolphins. It is believed that opportunistic dolphin hunting was quite common on the Sanriku Coast, see Tōhoku rekishi shiryōkan, *Sanriku no gyogyō*, 1–7.

²⁰ Watanabe, *Miyagi no kenkyū*, 4:139. ²¹ Miura, *Zusetsu Chiba-ken no rekishi*, 152.

²² Miyashita, *Katsuobushi*, 1989, 1:367.

²³ Wakayama kenshi hensan iinkai, *Wakayama kenshi*, 4:448–52.

Kansai, they sold it directly in Edo. The Kii fishermen had no other choice than to look for new fishing grounds in the north. However, here their expansion was severely limited for the time being, as crossing the cape of Chōshi, where the Kuroshio meandered into the open ocean, was extremely dangerous. Thus, reaching the undeveloped Sanriku Coast and eventually Ezo was a considerable challenge.²⁴

Even less successful were the Kii groups with the introduction of whaling techniques in the east. As I will discuss later in the chapter, fierce resistance on the Izu Peninsula, prevented the establishment of proto-industrial whaling in the region. Only in Katsuyama on the southern tip of the Bōsō Peninsula was a new harpoon whaling group founded in 1655. Unlike their counterparts in western Japan, however, these whalers focused on Baird's beaked whales, a species otherwise rarely hunted. It is, therefore, unclear to what degree – if at all – Kii whaling knowledge influenced the formation of this group.²⁵

A first attempt to cross the dangerous cape of Chōshi was made by Kii fishermen in 1654 when a Kii boat reached the city Miyako on the Sanriku Coast but in 1661, all eight crewmen of one such ship from Kii were lost in a storm.²⁶ Traditionally, cargo was unloaded at Chōshi and shipped via a nearby river, but as Edo grew and more commercial goods were imported from the northern domains, this became less practical every year. In 1667, Nanbu Naofusa, the first daimyo of the newly established Hachinohe domain, navigated around the cape of Chōshi to reach Edo. With this, he not only demonstrated the shipping power of Hachinohe but also that a safe passage around the cape was possible.²⁷ Just three years later, in 1670, the merchant Kawamura Zuiken found a safe sea-route around the cape of Chōshi. Together with the new sea-route through the Tsugaru Strait (between Ezo and Honshu), which merchants from the Akita domain had found in 1655, the Northeast was now connected to Edo and subsequently Osaka.²⁸

The discovery of the safe sea-route around the cape of Chōshi allowed the Kii fishermen to expand to the Northeast. In 1671, a trader from the Morioka domain invited ten fishermen from the Kii Peninsula to introduce new techniques for bonito fishing to the region. In the following years, Kii groups arrived for the first time in the Sea of Kinkazan, just off the Oshika Peninsula. Shortly after arriving in the region, the Kii groups

²⁴ Furutae, *Kinsei gyohi ryūtsū no chūkiteki tenkai*, 53–61.

²⁵ Nakazono and Yasunaga, *Kujiratori emonogatari*, 33.

²⁶ Miyashita, *Katsuobushi*, 1989, 1:368.

²⁷ Walker, 'Commercial Growth and Environmental Change in Early Modern Japan', 333.

²⁸ Wilhelm, 'Ressourcenmanagement in der japanischen Küstenfischerei', 153; Toyota, *Tōhoku no rekishi*, 2:181–2; Kamagasawa, *Kinsei Sanriku no iwashi ami no hattatsu*, 10–12.

introduced the beach seine and the tongue-tie-net (*kojitaami*) that trapped sardines in a bag-like net. The latter technique used four boats with ten fishermen on each one and could be used wherever sardines were found, but it produced a much smaller harvest than a full beach seine. The locals quickly adopted both techniques and sardine fertiliser became the first proto-industrial product of the Sanriku Coast.²⁹ Some locals immediately saw the benefits of learning these techniques and invited Kii fishermen to their village, as recorded on the Hei Coast in Morioka domain.³⁰

Far more controversial than sardine fishing, however, was the introduction of bonito fishing. When the influential Kodate family from the Karakuwa Peninsula near Kesennuma in Sendai domain invited a group of over ninety Kii fishermen to their village in 1675, the fishermen from the surrounding villages drafted a petition complaining that these foreigners were using too much firewood and food while taking away the bonito stock from the locals. The Kodate family countered with their own petition explaining that the Kii fishermen were here to resurrect bonito fishing, which had been given up in Kesennuma twenty years ago. Most locals had not even known that migrating bonito stocks arrived not only in winter but also in the early summer months outside of the bay. Also, the amount of additional imported rice was minimal and the higher prices for firewood just meant better payment for the locals gathering wood. In the end, the Kii fishermen were allowed to stay for the rest of the season and returned to their home province with a good harvest.³¹

We do not know exactly when the first Kii fishermen arrived on the Oshika Peninsula. Considering the geographical position of the peninsula, we can assume that it must have been their first stop before going farther north to Kesennuma or even to the Morioka domain. In any case, the new sardine fishing technique had been disseminated successfully among the local fishing communities by 1677. According to the 1677 petition, the number of travelling fishing groups had increased in recent years and in 1676 the Sendai domain had banned all foreign fishing activities. However, two groups of Kii fishermen headed by Kondō Kihei and Tokuzaeon respectively were excluded from this ban for unknown reasons.³²

²⁹ Kamagasawa, *Kinsei Sanriku no iwashi ami no hattatsu*, 12–13, 99.

³⁰ Sasaki, 'Sanriku kinkai no ōmono gyogyō', 141.

³¹ Kesennuma shishi hensan iinkai, *Kesennuma shishi: Kinsei*, 3:246–9.

³² The historian Tajima Yoshiya suggested that these groups might have been protected by the Kii-Tokugawa family. As the rulers of Kii Domain, the Kii-Tokugawa family supported the migration of their fishermen to other domains to bring back fish fertiliser to trade in Osaka to boost their local economy. It is reasonable to assume that they provided

It was against these activities of Kondō Kihei and Tokuzaeon that in 1677 a petition entitled *Request to stop the whalers from Kishū* (Kii domain) was drafted.³³ While this first petition was concerned with banning whaling and bonito fishing activities conducted by those two Kii fishing groups, a second petition from 1685 repeated the request to ban bonito fishing but not whaling, which had probably already been given up at this point. The 1677 petition was signed by all forty-four village headmen of the Oshika Peninsula and the three district headmen of the Oshika coastal districts. In contrast, the 1685 petition was signed by only eleven people, including the district headman of Kitsunezaki and the village headman of the island of Tashirojima. No official answer from the government has survived, but the 1685 petition gives us a few clues of how the first petition was received.

Polluting the Coast

What makes the 1677 petition so interesting for our purposes is that it is the earliest written document from the Sanriku Coast that shows the role whales and whaling had in the local ecological knowledge of the fishing communities. The petition is divided into five complaints made against the Kii fishermen. The first three of these complaints are concerned with the Kii whaling operations, while the fourth complaint is a protest against bonito fishing – a point that is repeated in the 1685 petition – and the last complaint is about the general ecological and economic impact of the travelling fishing groups. The petition indicates that both leaders of the Kii fishermen, Tokuzaeon and Kihei, came to the Oshika Peninsula to conduct bonito fishing. At some point Kihei's group also began to target the plentiful whales that were roaming in the Sea of Kinkazan. It is unclear if the whaling operations had been part of the original intent of Kihei or if this was an *ad hoc* decision. For the latter speaks that Kihei was apparently not using the newly developed net whaling method from his home domain but the simpler harpoon whaling method.

The petition does not give us much detail about the specifics of Kihei's whaling venture, but there exists a single whale scroll that possibly depicts

official travel permits for their fishing groups and used their political influence to ensure that they were not rejected in the other domains. Sendai Domain might have been unwilling to risk a dispute with the powerful Kii-Tokugawa family or it may have encouraged the activities of the Kii fishermen to promote bonito fishing in the region, see Tajima, *Kinsei Hokkaidō gyogyō to kaisan butsu ryūtsū*, 127–8.

³³ My analysis of the primary sources is based on the reprints in the Ishinomaki source compilation. Up until 2011, the originals were stored in the Ishinomaki Bunka Center, but since the 2011 tsunami, the centre has been closed to the public and it is unclear if the original still exists. See Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:274–5, 290–1.



Figure 3.2 Scene of harpoon whaling on the Ayukai Whale Scroll (ca. 1700). Courtesy of Ayukai Ayako.

such a harpoon whaling operation in the Northeast that was produced around the same time. This scroll is part of the private collection of the Ayukai family in Kesenuma. During the Edo period, the Ayukai clan was a senior vassal of the Sendai domain and ruled over Kesenuma. It is not clear if the scroll shows a Kii whaling operation or an attempt by locals to conduct harpoon whaling, but it gives us some visual indications on how such an operation might have looked like in the Northeast.³⁴ On one part of the scroll (Figure 3.2), we see how a group of fishermen have surrounded a whale on the open water and attacked it from all sides with simple harpoons that are shot into the back of the whale. Afterwards, the captured whale is fixed with ropes to the boats and towed to the beach.

On the scroll we can see that during the hunt one ship is destroyed (maybe rammed by the whale?), indicating the dangers of harpoon whaling. And indeed, whales were often able to escape injured, leaving behind a trail of blood, grease, and oil in the water. For the petitioners, this was a major problem:

According to an old saying, when [you] pierce a whale, the oil will float into the bays and seaweed, octopus, and abalone won't grow or live in the area. This saying

³⁴ I am indebted to Ayukai Fumiko, who invited me into her home and showed me the scroll during my fieldwork in 2017. Furthermore, I would like to thank Kawashima Shūichi and Saito Midori for their help in securing the reprint copyright permission. The scroll was also exhibited in 2016 in the Tōhoku History Museum, see Tōhoku rekishi hakubutsukan, *Tokubetsuten*, 23.

is actually true. The oil of the whale is driven by winds and currents and does harm. [Because of this] there are no seaweed, octopus, and abalone at the coast of Izushima, Enoshima, and Kinkazan. Until this year between spring and middle of summer . . . [we] brought abalone to Minato and Ishinomaki to sell them. Since there were no abalone this year, however, business cannot be done at Minato and Ishinomaki, which has caused distress for the fishing villages.³⁵

The petitioners made a direct connection between the pollution caused by harpoon whaling and the well-being of the coastal ecosystem on which they depended. As we have seen, the bodies of whales' function in the cetosphere as massive biomass containers full of nutrients. When whales are killed or injured close to the shore, these nutrients are spilled into the ocean and subsequently spread across the coastal ecosystem by currents and wind. The concentration of biomass often proves too much for the system to absorb and local flora and fauna are literally drowned in nutrients, leading to their withering, and dying.³⁶ This directly influenced the economic prospects of the fishing communities as these relied on the harvest of seaweed, octopus, and abalone to sell at the market in Ishinomaki. The economic and ecological impact of Kihei's whaling is further stressed later in the petition, where it is stated that his group was stationed on the island Izushima a bit north-east of the peninsula. Unsurprisingly, the pollution was the most severe here, as whale grease accumulated near the shore, making it impossible to fish or produce salt at the beach.³⁷ The petitioners explained:

Izushima is indeed so small an island that even the few fishing crews cannot find lodgings here . . . [The island] is experiencing a shortage of firewood, and if Kihei is to bring so many of his crew along and cut the trees, there will be no firewood to boil [the lords] cauldrons [to make salt] from now on, and the forest will become bare.³⁸

As in many other places in Tokugawa Japan, firewood had become a scarce resource in the late seventeenth century in the Sendai domain. The founder of the domain, Date Masamune (1567–1636), had already implemented strong regulations concerning the use of wood. Without

³⁵ For smoother reading, some of the words are rearranged and repetitions are left out. I stay as close to the original meaning as possible, however. Also, there is no punctuation in *sōrōbun* sentences; therefore, I treat the verb *sōrō* as an end of sentence marker when it seems appropriate. Cited after: Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:274.

³⁶ Kondō, *Nihon engan hōgei no kōbō*, 291–4. We will return to the question of pollution caused by whaling in later chapters.

³⁷ For more on the production of salt on the Sanriku Coast, see Iwate-ken, *Iwate-ken gyogyōshi*, 43; Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Minzoku Seikatsu*, 3:346–8.

³⁸ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:275.

official permission, it was forbidden to cut bamboo or trees, but the gathering of dead branches and smaller wood for firewood was allowed if overseen by the village headmen.³⁹ On a small island like Izushima, the possibilities of gathering wood were limited, especially as firewood was needed for cooking saltwater to produce salt, which the locals did for the authorities and was their primary source of income. Kihei needed the firewood probably to produce transportable marine products he could bring back to Edo and Kii, such as fish and whale oil or fertiliser.

From these descriptions we can see that the ecological impact of whaling had immediate consequences for the local ecosystem. Kihei's activities were perceived as disturbing the ecological balance of the coast, which directly threatened the economic foundation of the communities. On the other hand, the large influx of whalers and their activities was also a direct strain on landlocked resources such as firewood, which had already become scarce due to overuse by the locals. The petitioners claimed that the Oshika Peninsula had little farmland and that marine products were the only means of income for the locals. Should the whaling operations not be stopped, the tax payment to the government was, therefore, also in danger.

As historian Luke S. Roberts has argued, the central pillar in the relationship between the samurai caste and common people in Tokugawa Japan was the commoners' duty to pay taxes, while the authorities had to ensure that commoners were able to practice their occupations. In times of crisis, for example, during famines or war, it was the duty of the authorities to find a solution by either reducing the tax burden, changing the policies, or organising relief supplies.⁴⁰ The threat of being unable to pay taxes was, therefore, a common trope in the petition genre.

For example, in 1639, Kii whalers had tried to establish whaling on the Izu Peninsula southwest of Edo. This led the village headmen (*namushi*) of six villages on the west side of the Izu Peninsula to come together to write a petition that stated that: 'because of the many whales killed, blood and liquid float on the water making it hopeless to capture fish, either with nets or fishing rod'.⁴¹ To further emphasise the gravity of the problem, the village headmen added that fishing was responsible for a third of their yearly tax payment, which was now in danger. The petition claimed that if the situation was not resolved quickly, the fishing communities would all starve to death. By claiming that whaling would threaten the fishing communities' ability to pay their taxes or even endanger their livelihood,

³⁹ Totman, *The Green Archipelago*, 55; Kinsei sonraku kenkyūkai, *Sendai-han nōsei no kenkyū*, 138.

⁴⁰ Roberts, *Mercantilism in a Japanese Domain*, 173.

⁴¹ Cited after: Ishida, *Nihon gyominshi*, 20.

the Izu and Oshika petitions elevated their disputes with the whalers from an internal matter to a crisis the government had to solve. In the eyes of the petitioners, it was the elite's moral duty to ensure the well-being of the coastal ecosystem so that the economic base of the fishing communities was not endangered.

Bringing a Whale to the Village

While the Oshika fishermen were not actively hunting whales, when they found drifting or beached whales, they did not hesitate to make use of the carcass. As we have seen in the [previous chapter](#), the nutrients a whale contained, often in the form of meat and oil, were highly valued among the locals. The question to whom a drifting whale body belonged was often of great importance for the Oshika fishermen. Let us return to the fishermen of Kōbuchi, which we have met at the beginning of this chapter, and take a closer look at how their struggle was presented in the petition:

Every year the people of Tōshima (Oshika Peninsula) find several drifting whales (*yorikujira*, lit. approaching whales) by chance and picked-up whales off the coast and brought them back to the mist of the beach (*hama no kasumi*). In the third month [of this year], the fishermen from Kōbuchi bay found a drifting whale (*nagarekujira*) while fishing cod 150 *ri* south of Kinkazan.⁴² They captured and killed it and presented [part of the whale] to the lord as is demanded and sold the rest to an outside merchant. However, Kihei and his crew [went to the district headman and magistrate], claiming that he and his crew targeted the whale with their own hands [before it got away]. The magistrate ordered the district headman to give half of the sale to Kihei.⁴³

According to the petitioners, Kōbuchi fishermen had found a severely injured whale drifting in the Sea of Kinkazan and brought it back to their village for flensing and selling the meat and oil. Kihei, however, claimed his crew had injured the whale and therefore half of the profit belonged to him. Disputes among fishing groups caused by beached whales were a common occurrence on the Sanriku Coast. In 1753, a whale was chased by a killer whale into Kesenuma Bay. When the carcass was found a few days later at a nearby beach, two local fishing groups went to harvest the remains. Shortly after that, a third group arrived arguing that this beach belonged to their village and therefore a part of the profit from the whale

⁴² A *ri* is a measurement originally from China that was used in the Edo period. One *ri* is approximately 3.9 kilometres. In this case, the authors seem to have made a mistake as it is unlikely that the fishermen traveled 600 kilometres.

⁴³ Cited after: Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:275.

belonged to them, causing a massive dispute among the three groups.⁴⁴ However, we can also see here clear parallels to the dispute of 1664, where the Kyūbun fishermen had felt that the Ōhara fishermen had stolen their dolphin catch, as the dolphins would have swam into their village's exclusive fishing zone. In the end, the Kyūbun fishermen did indeed receive half of the catch, despite not having hunted a single dolphin, so Kihei's demands do not seem completely unreasonable on a first glance. However, in the case of Kihei and the Kōbuchi fishermen, it is important to also consider the spatiality of ocean.

Kihei, as a fisherman from a different domain, did not possess an exclusive fishing right near the coast, but could only hunt in the open waters which were part of the *iriai*. Here, every fishing group had the same claims, so when the Kōbuchi fishermen found a drifting whale without another group nearby, they could reasonably expect to keep their catch for themselves. They further solidified their claim by bringing the whale to the 'mist of the beach', a term used to describe the exclusive harvest zone of a village.⁴⁵ Everything inside the 'mist of the beach' was considered part of the village, which not only included the houses, fields, and the nearby forest but also the bay with all the marine resources. In the eyes of the petitioners, by bringing the whale from the open water into the 'mist of the beach', the whale rightfully belonged to the people of Kōbuchi and could no longer be challenged. This spatial exclusivity was so important that in the case of Ōhara-Kyūbun dispute, the mere chance that the dolphins would have swam into the mist of the beach of the Kyūbun community was enough that the other side had to give up half of their catch.

Kihei's interference by the magistrate threatened to disrupt these spatial zones of exclusivity. From Kihei's perspective, every whale that had been injured by his crew belonged to him, regardless of where the particular whale was found or transported to. The petitioners feared, as they laid out in the following paragraphs of the petition, that in the future Kihei would claim every stranded or beached whale found in the Sea of Kinkazan, by arguing that he had chased them beforehand. This was a problem, as Kihei's group was the only one that did engage in whaling, while the Oshika fishermen did not actively pursue whales, but waited until they beached at the shore or drifted in the ocean. In this way, Kihei would gain exclusivity over the resource 'stranded whale', undermining the spatial rights of the local fishermen and denying them the chance to profit from injured and dead whales.

⁴⁴ Ōshima kyōdoshi kankō iinkai, *Ōshimashi*, 307–9; Kesenuma shishi hensan iinkai, *Kesenuma shishi: Shiryōhen*, 8:82–3.

⁴⁵ Private discussion with folklorist Kawashima Shūichi, October 2017.

The spatiality of the ocean also plays a central role in the fourth paragraph of the 1677 petition. Here, the petitioners explain that Kihei and Tokuzamon have larger boats that could host up to fifteen people, compared to ten people on the local boats. Furthermore, the Kii boats had more space for provisions and could even be slept on, making it possible to stay out on the ocean for several days, while the Oshika boat had to return to the beach every few hours to change crews. With these boats, the Kii fishermen would roam the coast and the open sea to catch sardines, which they used as bait to attract bonito offshore. This method of fishing was troublesome for the locals, as it allowed the Kii fishermen to harvest the *iriai* much more efficiently than the locals, taking out up to 300 bonito in a single day.⁴⁶ Thus, the bonito would be hunted before they reached the coast, making the near-coastal nets of the locals useless. A key feature of a sustainably managed commons is the assumption that all participants have only limited access to the commons so that ecosystem cannot be overused. In case of the open sea *iriai*, this restriction had been ensured by the small size of the Oshika fishing boats that had not allowed a longer stay in the offshore regions. With the introduction of the Kii boats and their new fishing techniques, fish could now be harvested farther offshore, removing them before they could reach the shore. The 1685 petition shows that in the intervening seven years, the Oshika fishermen had adopted the bonito fishing techniques and Kii boat designs. In this petition, it is explained that the petitioners had recently started bonito rod fishing and that the continued activities of Kihei and Tokuzamon would interfere with these efforts.

Driving Sardines into Coves

There was one more complaint from the petitioners regarding Kihei's whaling activity. This complaint is very brief, and a less observant reader could easily overlook it and go straight to the next paragraph. For me, however, this brief paragraph is the most intriguing one in the whole of the 1677 petition. It reads:

When fishermen were to fish sardines off the coast of Tōshima, [sardines] were driven into the cove by whales. Since Kihei found a whale [there] and caught it with a spear, sardines stayed away from the cove, which is troublesome for the local fishermen because they cannot fish sardines anymore.⁴⁷

⁴⁶ This was the amount six Kii vessels were able to harvest per day in Kesenuma in 1675. We can assume that Kihei and Tokuzamon's groups were about the same size: Kesenuma shishi hensan iinkai, *Kesenuma shishi: Sangyōhen*, 5–2:111.

⁴⁷ Cited after: Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi. Shūryōhen 3 Kinsei*, 9:275.

According to the petitioners, whales were responsible for bringing sardines into coves and harpoon whaling was, therefore, hurting fisheries. To the best of my knowledge, this paragraph marks the first instance where such a relationship between whales, sardines, and humans was recorded in Japanese sources.

The Sanriku fishermen were also not the only ones who made a connection between whales and fish catches. Let us return once more to the Izu Peninsula, where over 150 years after the 1639 petition, in 1796, a would-be whaler tried to establish whaling for a second time on the peninsula. In response to his request for a three-year trial whaling permission, thirty-eight local village headmen complained via a petition to the local magistrate. The petitioners explained that they had heard from their forefathers that when whaling had been conducted in Kanei 17 (1639–40), the fish catch of that year had been non-existent. Picking up dead whales from the water had, in the past, led to bad fish catches for the respective village. Since old times, whales had been crucial for driving large fish swarms of bonito and sardines from the open sea into the small coves of the Izu Peninsula, where the fishermen had installed their nets and fishing rods. The locals would even call the fish that could always be seen in proximity ‘children of the whales’ (*kujira ko*). Should the whales be killed, they could no longer drive the fish into the coves. The petitioner explained that poor fish catches would also affect agriculture as sardines were essential to produce fish fertiliser.⁴⁸

Unfortunately, our primary sources do not specify the species of whales that was allegedly responsible for bringing sardines closer to the shore. The most likely candidates were, however, sei whales. The name sei whale comes from Norwegian where in 1828 an unidentified whale species was given this name (‘seje’ means ‘black codfish’) as it was believed that this species would drive codfish towards the shore.⁴⁹ In Tokugawa Japan, sei whales were similarly called *iwashi kujira* (sardine whale) or *katsuo kujira* (bonito whale) as they were often encountered with these two fish species.⁵⁰ This makes a strong case for the whales mentioned in the 1796 Izu petition also being sei whales as they were accompanied by sardine and bonito swarms, which the petitioners called ‘children of the whales’.

There was some confusion regarding the whale species, however. For example, Bryde’s whales were also called *iwashi kujira* (nowadays named *nitari kujira*, meaning ‘look-alike whale’) and rorqual species like minke

⁴⁸ Unfortunately for the Izu fishermen, the magistrate did not rule in their favour and trial whaling was allowed. Cited after: Ishida, *Nihon gyominshi*, 20–3.

⁴⁹ Andrews, *Whale Hunting with Gun and Camera*, 122–3.

⁵⁰ Ōtsuki, ‘Geishikō’, 1926, 88–9.

whales were not identified as separate species at all.⁵¹ It seems likely that the Sanriku and Izu fishermen were referring to sei whales in their respective petitions, or at least to other rorquals who feed sometimes on small fish like sardines and anchovy. In the whaling regions, rorquals were not often hunted as they were too big and strong to be captured with nets. Also, sei whales were more common in northern Japan as they do not travel along the Kuroshio but reach the Japanese Coast in spring and summer from the open sea to the east.

One curious point is the naming of sei whales as bonito whales (*katsuo kujira*) in Japanese. Unlike sardines, the larger bonito are not part of a rorqual's diet. Nevertheless, our sources often place these fish close to sei whales. According to Japanese historian Tajima Yoshiya, the close connection in the historical sources between bonito and sei whales was, however, no accident but part of a survival strategy developed by the bonito. Bonito are often pursued by sharks and carnivore tuna species and would swim before or between the bigger 'bonito whales' to give the appearance of having a giant bodyguard. This relationship was not one-sided, however. The main targets of the bonito are small fish like sardines and during a hunt, a bonito swarm will disperse and attack a sardine school from all directions at the same time. The sardines react to this by clumping together and swimming towards the surface, where they are hunted down by the bonito. The sardines that escape this trap are then swallowed up by the nearby whales.⁵² These bonito-whale-hunts were rare in western Japan but common in the Northeast. Before the sei whale stock off the Sanriku Coast was eradicated in the early twentieth century, columns of sei whales and bonito reached up to ten kilometres each spring.⁵³ Sanriku bonito fishermen would look for sea birds called *katsuo-dori* (bonito bird) above the whale-bonito columns as they knew that the birds were also hoping to catch scattered sardines from the hunts.⁵⁴

This hunting regime is an interesting example of how in the cetosphere not only humans but also other species, such as bonito and sea birds, were directly profiting from the presence of whales. As baleen whales, sei whales and other rorquals were no direct danger to bonito and birds, but rather provided protection against other predators and opportunities for easy fish catch. Through observation, fishermen were aware of these hunting regimes and were constantly on the lookout for gatherings of sea birds and whale columns, as these indicated the presence of sardines and

⁵¹ Omura, 'Bryde's Whale from the Coast of Japan'.

⁵² Tajima, *Kinsei Hokkaidō gyogyō to kaisan butsu ryūtsū*, 123; Miyashita, *Katsuobushi*, 2000, 26–8.

⁵³ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Minzoku Seikatsu*, 3:527.

⁵⁴ Miyashita, *Katsuobushi*, 2000, 26–8.

bonito. Dispersing, or even killing whales disrupted this regime, making fishing much more difficult.

Conclusion

As demonstrated in this chapter, the Oshika fishing communities had learned how to make use of cetaceans when venturing into the Sea of Kinkazan. Prior to the arrival of the Kii fishermen, the sea around the Oshika Peninsula was separated into two different spheres: the human-influenced near-coastal regions; called the mist of the beach and the offshore Sea of Kinkazan which reached into the perturbed region where Kuroshio and Oyashio intermingled. While the Sea of Kinkazan was considered *iriai*, open for all fishing activities, the human presence was quite limited here as weather, currents and the inadequacy of the small fishing vessels made longer stays in this region dangerous. Instead, marine megafauna, especially cetaceans, were here the primary initiator of top-down pressure on the ecosystem. Entering this cetosphere, local fishermen are believed to be dependent on the help of whales for successful fish catches.

The analysis of the 1677 petition has allowed us to identify the different roles whales fulfilled in the local ecological knowledge of the Oshika fishermen: drifting or beached whales were seen as a rich resource that could be harvested and brought riches to a community, while hunting whales directly was not commonly practiced. For one, whales were mostly foraging in the offshore regions of the Sea of Kinkazan, making it difficult and dangerous to reach in the small boats of the Oshika fishermen. Furthermore, killing a whale risked polluting the coastal flora and fauna, negatively affecting the harvest of other marine resources, while the cooking of whale meat and production of whale oil needed a substantial amount of firewood, a resource that was already scarce. Whales were also responsible for bringing fish towards the shore. As we have seen in the previous chapters, whales are seen as agents that can be reasoned with and that actively influence the lives of the coastal communities through their behaviour. The appearance of the Kii fishermen at the Oshika Peninsula had many social and ecological repercussions. With their larger boats and better equipment, they pushed the boundaries of the human influence zones farther offshore, not only allowing a more stable harvest of offshore fish but also began hunting whales actively, disturbing the socio-economic and ecological foundation of the locals.

Overall, Kihei's whaling operation seems to have not been very successful. The 1685 petition implies that Kihei had given up whaling in the intervening seven years. It remains unclear if the local opposition had

influenced this outcome. As David Howell has argued, the introduction of new fishing techniques often caused social unrest as they threatened the social and economic order of the community. Typically, authorities initially tried to forbid or limit the use of these technologies before they became widely accepted and adapted by the locals.⁵⁵

While the locals tried to ban whaling, without securing the technology for themselves, the situation was different in the case of the sardine and bonito fishing techniques brought by the Kii fishermen. The Sanriku fishermen first incorporated sardine fishing into their repertoire in the early 1670s and then bonito fishing after 1677. With its many cliffs and few open beaches, places to install the long beach seines for sardine fishing were limited on the Oshika Peninsula.⁵⁶ In addition, many of the shallow parts of the shore were already being used for salt production. Therefore, while the northern parts of the Sanriku Coast became specialised in sardine fertiliser production, the Oshika Peninsula instead focused on bonito fishing. Despite the initial opposition, some of the Kii fishermen moved permanently to the Oshika Peninsula in 1684, helping to develop a new proto-industry based on the export of *katsuobushi* (bonito flakes) and bonito fertiliser to Edo and Osaka, while sardines were relegated to a role as live bait.⁵⁷ The introduction of new fishing techniques from Kii allowed the expansion of the human sphere farther into the ocean, while also slowly diminishing the underlying fish stocks over time, causing a shifting baseline syndrome, as we will explore in future chapters.

⁵⁵ Howell, *Capitalism from Within*, 52.

⁵⁶ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 170.

⁵⁷ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 193–8; Miyagi kenshi hensan iinkai, *Miyagi kenshi*, 10:70.

4 Establishing Whaling in the North

In early 1808, the Confucian scholar Ōtsuki Heisen (1773–1850) was just finishing his magnum opus *Geishikō* (Manuscript on Whale History), when news broke about a mass whale stranding in northern Japan: eighty-seven whales of all sizes had beached near the village Tanabu in Morioka domain (today Mutsu City, Aomori Prefecture). As Heisen recounts, a merchant from Edo heard of this news and – expecting an opportunity to get rich – travelled to the Shimokita Peninsula to harvest as much of these whales as possible. However, when the merchant arrived at the scene days later, he discovered that the animals had turned into rotten stinking carcasses. To make matters worse, he found no one among the locals with the right flensing tools – or even enough space to store the whale bones. With all his hopes crushed, the would-be whaler had to return home empty-handed. Heisen drew two lessons from this incident: first, one had to be prepared with tools, capital, and workers before entering the whaling business, and second, the frequent whale strandings demonstrated the immense potential of the Northeast as a whaling place.

Heisen and his cousin once removed, Ōtsuki Gentaku, were among the most prominent voices calling for the establishment of whaling in northern Japan. However, while whaling proliferated in western Japan, all attempts to establish whaling groups at the Sanriku Coast had ended in failure. Only in the 1830s, did the Sendai government decide to closely investigate the possibility of a state-sponsored whaling enterprise in the north. At the time, Japan was ravaged by the fierce Tenpō famine (1833–1837), which hit the coastal communities especially hard. Under these circumstances, the prospect of additional whale meat that could save the starving fishing communities gave much hope to the locals. Nevertheless, after only four years, this new whaling operation was once again given up.

This chapter will follow the debate surrounding the establishment of whaling in northern Japan in the late Edo period, through the eyes of whale scholars like Ōtsuki Heisen and Ōtsuki Gentaku, as well as the

physician Sasaki Bokuan (1785–1861) who was tasked by the Sendai authorities to make whaling a reality in the north. This chapter examines the reasons why proto-industrial whaling was never able to take root in northern Japan. As I will argue, besides organisational deficits, lacking funds, and demand for whale products in the north, were also the changing environmental circumstances that affected the cetosphere in the nineteenth century and thus also the prospect of new whaling enterprises.

The Whale Scholars

Among the Japanese elite of the Edo period, knowledge about whales and whaling was disseminated commonly through picture scrolls and handwritten manuscripts. According to the historians Mori Hiroko and Miyazaki Katsunori dozens of these whale scrolls and manuscripts from the main whaling regions of the Kii Peninsula and northern Kyushu existed.¹ As discussed in the [previous chapter](#), only a single scroll has been found in the Northeast, which is in the possession of the Ayukai family, and it remains unclear what kind of whaling enterprise it does depict. Heisen's *Geishikō* belongs to the most well-known and widely discussed manuscripts of the time. As Heisen was a scholar working for the Sendai domain, he also discussed at various points in the manuscript the current whaling situation at the Sanriku Coast and in Ezo, lobbying for the establishment of whaling in the north. Heisen's comments are thus a rare insight into scholarly knowledge regarding proto-industrial whaling and the Ebi whale culture in northern Japan.

The *Geishikō* is a product of *honzōgaku* (natural knowledge studies). This scholarly field emerged in the first half of the Edo period by drawing inspiration from *materia medica* texts that ordered plants and animals according to a Chinese classification system. Based on the Japanese translations of these texts, scholars made similar investigations of Japanese flora and fauna. As Japanese scholars began to realise how inaccurate this knowledge system was, however, the scholars began to make their own observations of the natural world and thus created new scholarly knowledge. This process was accelerated under the sponsorship of the eighth shogun, Tokugawa Yoshimune (1684–1751), who encouraged experimentation with agricultural ideas and the translation of Dutch books. The latter led to a separate field of inquiry called *rangaku* (Dutch learning), which had an especially strong impact on medicinal and

¹ See for a full list: Mori and Miyazaki, *Kujiratori no shakaishi*, 93–6; Arch, 'Bringing Whales Ashore', 2014, 127–8. Some of these picture scrolls were reprinted in a museum catalogue by the Mie Prefecture Kumano Kodo Center in association with the Taiji Whale Museum, see Sakurai and Ishihara, *Rikugei or Six Types of Whaling*.

anatomical knowledge production.² With this, early modern European natural knowledge began to disseminate among the intellectual elite of Edo Japan and influenced the further development of *honzōgaku*.³ Federico Marcon argued that *honzōgaku* stood in close relationship to the increased commercialisation of agricultural and proto-industrial products. Through the commodification of plants and animals in isolation from their original ecosystem, the secularisation of nature and objectification of natural species became stronger.⁴ Similarly, the *Geishikō* not only incorporated other Japanese scholarly texts of the time but also referenced Chinese classics and even made use of translated Dutch books, which covered a wide range of topics from medicine to natural knowledge.

The origin of the creation of the *Geishikō* begins, however, not with Heisen but with his cousin once removed Gentaku. The Ōtsuki's were a wealthy farming family that also bore the title of district headman in Nishi-Iwai in Ichinoseki domain, a subsidiary domain of Sendai. Many male members of the family served as physicians and scholars for the Sendai domain.⁵ Among those, Gentaku was the most successful, serving as the personal surgeon of the Sendai daimyo in his Edo residence and opening his own *rangaku* school in Edo. Today, Gentaku is remembered for translating Johan Jonston's *Historia naturalis* from Dutch into Japanese in the 1780s. One animal portrayed in the book was the narwhale and Gentaku became interested in the pharmaceutical uses of their horns and whales in general.⁶ In 1785, he met a fellow physician in Kyoto who had just returned from a visit to Ikitsukishima in Hirado domain, where he had treated the sick chief of the local whaling group. The eyewitness account of the whaling village left a deep impression on Gentaku. As he was working on a revised edition of the *Kaitai shinso* (New Text on Anatomy), the first Dutch anatomical book translated into Japanese by Gentaku's teacher Sugita Genpaku (1733–1817), he developed an interest in the anatomy of whales. In 1800, Gentaku had the chance to meet a whaler in Edo from Hirado domain who had been ordered by the shogunate to supervise whaling in Iturup (Etorofu) on the Kuril Islands. Based on this conversation, Gentaku wrote the *Geigyosōwa* (Miscellaneous Stories about Whale Fish) in 1801.⁷

² See, for example, the memoirs of one of the founders of *rangaku*: Sugita, *Dawn of Western Science in Japan*. For further reading, see Jansen, 'Rangaku and Westernization'; Jackson, *Network of Knowledge*.

³ Marcon, *The Knowledge of Nature and the Nature of Knowledge in Early Modern Japan*.

⁴ Marcon, *The Knowledge of Nature and the Nature of Knowledge in Early Modern Japan*, 5–6.

⁵ Katō, *Hitodsukuri fūdoki*, 3:184–5. ⁶ Arch, *Bringing Whales Ashore*, 2018, 126.

⁷ Mori and Miyazaki, *Kujiratori no shakaishi*, 193–207.

For his anatomical studies, Gentaku needed first-hand descriptions of whale carcasses. As he was the headmaster of his *rangaku* school, he did not have time to travel to the whaling places in Kyushu. In 1803, Gentaku wrote a letter to the Sendai authorities and inquired if his oldest son Genkan (1785–1837) could go to Nagasaki to learn Dutch and study whaling practices in Ikitsukishima in his stead. As Gentaku worried for the safety of Genkan – who was only eighteen years at the time – he asked for permission that the thirty-one-year-old Heisen would be allowed to accompany him. Both Genkan and Heisen were at the time enrolled in the *Shōheizaka gakumonjo*, the Confucian academy of the shogunate in Edo. Heisen and Genkan would eventually stay for over two years in Nagasaki, where they learned among many famous *rangaku* scholars.

During their stay in western Japan, in the first month of 1804, they made the trip from Nagasaki to Ikitsukishima in Hirado domain and stayed for one week at the house of the chief of the whaling group.⁸ Especially Heisen became intrigued with the whaling business, and when they returned to Edo in 1805, Heisen began working on his own whaling book, the *Geishikō*. While writing his manuscript, Heisen was appointed as an official Confucian scholar of the Sendai clan and in 1806 returned to Sendai to become headmaster at the *Yōkendō*, the Confucian school of Sendai domain. He finished the *Geishikō* there in 1808 and although the manuscript was not printed, copies of it circulated among the scholarly elite of Tokugawa Japan and were widely read.⁹

The *Geishikō* is considered the most comprehensive and sophisticated study of whales and whaling to this date in Tokugawa Japan.¹⁰ In the first three of the six volumes, Heisen traces the etymology of the word ‘whale’ in different languages, introduces and categorises all known whale species, and presents the first account of whale anatomy (probably co-written by Gentaku). While the first three volumes were concerned with the classification and knowledge about whales as a biological species in the tradition of *honzōgaku*, the following three volumes, called ‘appendix’, showed whaling as a profession, mainly, but not only, based on Heisen’s observation in Ikitsukishima (Figure 4.1).

In the fourth volume, Heisen describes the current state of whaling in Japan and in the rest of the world. Based on his readings of Dutch books he believes that whaling operations in other places were more widespread and successful than in Japan. He was aware of whaling in the South Sea of China, apparently with very similar methods to those in Japan. He also

⁸ Mori and Miyazaki, *Kujiratori no shakaishi*, 167–71.

⁹ Mori and Miyazaki, *Kujiratori no shakaishi*, chap. 7; Jackson, *Network of Knowledge*, 95–6.

¹⁰ Mori and Miyazaki, *Kujiratori no shakaishi*, 158.

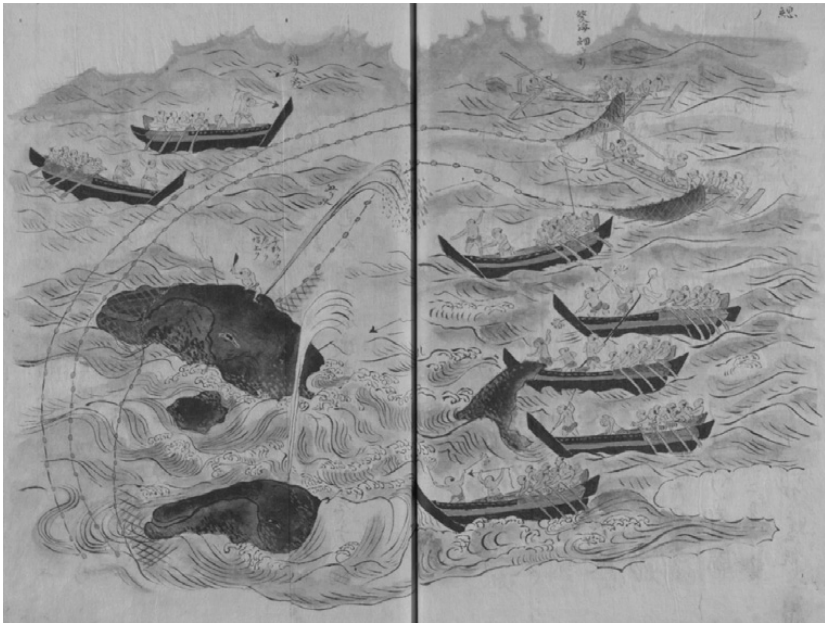


Figure 4.1 Net whaling operation in western Japan, *Geishikō*. Courtesy of the National Diet Library of Japan.

referred to whaling in America and in Europe, especially in the Arctic region around Spitsbergen and Greenland.¹¹ He then lists all known whaling places in Japan, ordered by region. According to his count, over fifty whaling places were active in Japan at the time, concentrated in western Japan.

In northern and eastern Japan, whaling was non-existent, however. Instead, Heisen explained, local fishermen in Matsumae domain in southern Ezo or on the Izu Peninsula would often refer to whales as *ebisu-kami* (god Ebisu) and believe that they were gentle animals who were keen to not hurt humans. Even more, as the whales loved herring, they would drive them directly towards the boats of the fishermen.¹² Another noteworthy point for Heisen was the frequent strandings of whales in the north. Commenting on the Tanabu Incident of 1808, Heisen also mentioned the Akamae mass stranding we have discussed in [Chapter 2](#).

¹¹ Ōtsuki, *Geishikō*, 1976, 289–92. ¹² Ōtsuki, *Geishikō*, 1976, 51.

According to the *Saiyakushiki* in a certain year (1701) 139 whales beached at once in the bay of Akamae village in Ōshu, and they all died after three days. Incidents like this happen occasionally in the Sea of Ōshu (Sanriku Coast). If a whaling group should be established here, without a doubt, a great number of whales could be hunted, and the *kokueki* would be furthered immensely.¹³

Heisen's uses here the term *kokueki* (national interest), which, as Luke Roberts has shown, describes a form of inter-domainal contest to establish and attract proto-industries to secure economic advantages over the other domains.¹⁴ For Heisen these strandings were a clear sign that the region would be ideal as a whaling base, as whaling would be beneficial not only for the locals but also for the finances of the domain. He had little concern for the role the whales played for local fisheries and was rather transfixed by the idea of bringing whaling to the north. Heisen highlighted the various benefits organised whaling could have for the northern domains: 'The truth is that the whole domain will become prosperous. As the common saying goes: One whale will make seven villages flourish.'¹⁵

One realisation Heisen had through the study of foreign books was that European and American whalers were so successful as they could follow whales along their migration routes off the coast of Greenland and America. He speculated that whales in the Pacific must also follow a similar route. Likely whales would gather in the winter months in the south to hunt fish, before swimming northwards along the Japanese coast in spring and summer: 'But what is the farthest point north? . . . During the summer, many right whales gather around the western sea of Ezo, but the most northern point of their journey is even farther than Ezo. From there they probably return south.'¹⁶ Indeed, ten years prior, a whale that was targeted by whalers near Shinagawa in the early fifth month was found a few weeks later stranded at the Sanriku Coast. This was proof for Heisen that the whales that were hunted during the winter season in western Japan belonged to the same group of animals that frequently stranded in the north during the summer.

Establishing Whaling in the North

As we have seen in [Chapter 2](#), an average whale stranding in the north generated around 18 *ryō* of wealth that was distributed among the authorities and the locals. Compared to the 150 *ryō* that whaling groups could expect in

¹³ Cited from: Ōtsuki, *Geishikō*, 1976, 297–8.

¹⁴ Roberts, *Mercantilism in a Japanese Domain*, 168. ¹⁵ Ōtsuki, *Geishikō*, 1976, 519.

¹⁶ Ōtsuki, *Geishikō*, 1976, 321–8.

western Japan, this was a rather small amount. For whale scholars like Heisen or Gentaku, this begged the question: Why were there no whaling groups operating at the Sanriku Coast? Looking at the Hachinohe records, we find two entries about would-be-whalers asking for permission from the domain to establish a whaling enterprise. Both entries are from 1699 and it is not entirely clear if these were connected or not. The first request came from a merchant from Edo who wanted to conduct net whaling in Same-ura. It was agreed that he would pay 6 *ryō* and 30 barrels of whale oil as tax for each hunted whale. The second entry is from a whaler from Hizen, who similarly tried to establish net whaling in nearby Minato. He wanted a whaling licence for seven years and was willing to pay for three years as well as 6 *ryō* and 30 barrels of whale oil for each whale while providing a 55 *ryō* deposit to the domain.¹⁷ As no further records of either enterprise exist, we have to assume that they were not successful. That the domain was satisfied with a tax of 6 *ryō* per whale might indicate that the government expected that a hunted whale would bring in around the same amount of money as a beached whale, of which the government would claim half of the profits as tax. The Hachinohe officials did apparently not expect that a hunted whale if processed correctly and if the necessary distribution system was established could be worth well over 100 *ryō*.

After the unsuccessful whaling attempt on the Oshika Peninsula in 1677, these two entries were the last recorded attempts to introduce whaling at the Sanriku Coast until the nineteenth century. Coming from a northern domain themselves, both Heisen and Gentaku promoted the establishment of net whaling in northern Japan, for example in Ezo. Gentaku wrote:

Oceans surround eastern Japan. Whales appear here often at river mouths, especially in the sea Northeast of Nosaku [in Ezo]. Therefore, if the whaling method would be transmitted to the fishermen, the economies of the domains would flourish, and the liveliness of the people would undoubtedly increase.¹⁸

Gentaku argued that it was not only the local fishermen but the northern domains as a whole that would profit from the introduction of whaling. In the late eighteenth century, many domanical lords had to fight chronic fiscal problems and local governments supported whaling and other proto-industries to secure economic advantages over the other domains. Gentaku specified, however, that it could not be expected that the local fishermen would learn whaling techniques themselves and that these would have to be ‘transmitted’ to them. This could be understood as a solicitation

¹⁷ Hachinohe shishi hensan iinkai, *Hachinohe shishi: Shiryōhen Kinsei*, 1970, 2:247, 255; Hachinohe shishi hensan iinkai, *Shinpen Hachinohe shishi: Kinsei Shiryōhen*, 2:231.

¹⁸ From the *Gyōyōyakushi*, cited after Mori and Miyazaki, *Kujiratori no shakaishi*, 208–9.

towards the shogunate or the northern domains to initiate whaling operations. For Heisen, the most pressing problems were the lack of experienced whalers and the difficulty of securing enough funding for a whaling enterprise:

In the past, I asked [someone] how much funding I needed to start whaling in the western sea [of Japan]. [He] answered that I needed 400 *kanme* of silver . . . The regions in the east and north are different, however. It is because there is no one who is engaged in whaling in the land in the Northeast; they only captured whales that happened to get close to the shore, and they have no experience in catching whales in the open water, which means that they have no methods and are not accustomed to it. If they wish to start a whaling enterprise, they should first hire [whalers] from [the southwest], and together with them employ some crews from their own area [the Northeast].¹⁹

According to Heisen, the Sanriku fishermen were not only inexperienced in whaling, but they also did not know how to flense a whale. Employing whalers from the whaling regions was expensive, however. An informant from Hirado estimated that introducing whaling to the Sanriku Coast would cost 800 *kanme* of silver (ca. 13,000 *ryō*), double the amount than in western Japan. Heisen himself, however, believed 500 *kanme* silver (ca. 8,125 *ryō*) would be sufficient. While he conceded that bringing whaling experts to the north would be expensive, Heisen argued that hemp, iron, rice, and firewood could all be produced locally and would be cheaper than in western Japan.²⁰

There was a further reason Gentaku and Heisen pressed to introduce whaling in the north. Due to the expansion of the Russian Empire towards the east, territorial conflict with Tokugawa Japan over the island of Ezo had become more urgent. Between 1799 and 1821, the Matsumae domain was under the direct control of the Tokugawa government to secure the border region against Russian intruders. During this time, the government also had plans of bringing settlers to the north to cultivate the land and develop the local fishing industry and among them were whalers from Hirado domain.²¹ Gentaku met the whalers in 1800 while they were passing through Edo. When the Hirado whalers arrived in Iturup a few months later, they found rich whaling ground but could not determine a suitable place for a whaling base. As Iturup was extremely remote, they were not able to recruit enough skilled locals and the plan had to be abandoned.²² According to Heisen, whalers could also function as part-time navy soldiers:

[T]he whaling group is the best guard for a country surrounded by the ocean . . . A whale boat can carry out the duties of a warship, and the spears and so forth that

¹⁹ Ōtsuki, *Geishikō*, 1976, 339–40. ²⁰ Ōtsuki, *Geishikō*, 1976, 340–3.

²¹ Itabashi, *Kita no hogeiki*, 52–3; Howell, *Capitalism from Within*, 33.

²² Mori and Miyazaki, *Kujiratori no shakaishi*, 175–7.

they used to bring down a whale can be converted into military weapons. Those who hunt whale-fish can move around on the ocean free and therefore are the most suitable war preparations for protection against foreign invaders.²³

For Heisen, the introduction of whaling was therefore not only necessary to boost the economy of a domain but also a critical military asset against foreign aggressors. For example, the coastal defence of the Sanriku Coast was heightened, with watchtowers looking for foreign ships. The same watchtowers were also used in western Japan to look for whales swimming by and to alert the whaling groups. Furthermore, after the Tokugawa takeover of the Matsumae domain, the Tokugawa government ordered that the northern domains bring troops to the northern border to defend against possible Russian intrusions in 1808. The Sendai domain, the most powerful of the northern domains, subsequently dispatched 1,700 soldiers to Hakodate. With this increased military presence, the Sendai government extended influence far beyond its own borders. Indeed, another Sendai domain physician and mentor of Gentaku, Kudō Heisuke (1734–1800), had even suggested that developing Ezo would make Sendai a prosperous region and that Sendai could one day become the new capital of Japan.²⁴ Seen in this light, the publication of the *Geishikō* just around this time is certainly no coincidence but shows a renewed economic and strategic interest in the northern domains. It seems plausible that the Ōtsuki family had a specific agenda for promoting whaling in the north as part of a scheme of expanding the influence of the Sendai domain.

The Disappearance of the Whales

Heisen's and Gentaku's calls for establishing whaling in the Sendai domain did go unheard for almost thirty years. Only in 1837 did the Sendai government show interest in the prospect of establishing a new proto-industry, when they ordered the physician Sasaki Bokuan to establish a whaling enterprise at the Sanriku Coast. However, by that time, some major shifts in the cetosphere were underway, as whales were disappearing from the waters around the Japanese Archipelago.²⁵ In the secondary literature, the decline of the whale stocks in the nineteenth century is attributed to the appearance of American whaling ships off the Japanese Coast, who hunted great whales on the open sea before they

²³ English translation by Jakobina Arch, see Arch, 'Bringing Whales Ashore', 2014, 200.

²⁴ Godefroy, 'Rethinking Ezo-Chi, the Ainu, and Tokugawa Japan in a Global Perspective', 390–1; Gramlich-Oka, *Thinking Like a Man*, 85.

²⁵ Nakazono, 'Whaling Activities of Ikitsuki Islanders', 145; Shimamura, 'The Introduction of Harpoon Gun Whaling to Tosa Whaling', 95.

could reach the coastal waters of Japan.²⁶ Indeed, sperm, bowhead, and right whale stocks collapsed all over the world soon after the appearance of American and European whalers.²⁷

By the 1810s, the American whaling industry had depleted the commercially desirable whale species in the seas close to the coast of South America. They subsequently moved across the Pacific Ocean to seek untouched whaling grounds.²⁸ A whaler from Massachusetts discovered the Japanese whaling ground in 1820.²⁹ The number of British and American whaling ships that participated in whaling around Japan increased steadily from around 100 vessels per year to over 800 in 1846.³⁰ The American whalers soon realised that the most promising whaling grounds were in the south around the Ogasawara Islands and farther north, off the Sanriku Coast, where the Kuroshio and Oyashio currents meet. Therefore, most of the ship sightings and landings took place in the northern domains. The following source from the nineteenth century details the situation from the Japanese perspective:

During the Bunsei period (1818-1830) many Chinese ships (i.e., foreign ships) were coming from the open sea to our coves [in Sendai domain]. The bonito fishermen had been exchanging many goods with them. But in Bunsei 6 (1823) their goods were confiscated [by the government], and they were ordered not to go near them. . . . As [I] understand it, the reason why these Chinese ships came was that they hunt whales and sperm whales. . . . Perhaps due to this, whales did not show up at our beach anymore. . . . Since the middle of the Bunsei Era we haven't seen a single whale and fishing has become extremely poor.³¹

Apparently, these foreign whalers had occasionally participated in commercial exchanges with the local population, something explicitly forbidden under Tokugawa law.³² The Sendai government increased the coastal security and erected a watch tower near Ayukawa, while hunters were ordered to defend themselves with their hunting rifles, in case of an unauthorised landing.³³ But if we believe this source, the appearance of

²⁶ Morita, *Kujira to hōgei no bunkashi*, 316–17.

²⁷ The reconstruction of the whale population before (and even after) the advent of scientific data remains one of the greatest challenges for marine environmental historians; see Taylor, 'Knowing the Black Box'; Josephson, Smith, and Reeves, 'Historical Distribution of Right Whales in the North Pacific'.

²⁸ Freeman, *The Pacific*, 130.

²⁹ Mcomie, 'Of Whale Oil and the Spirit of Adventure', 27.

³⁰ Kondō, *Nihon engan hōgei no kōbō*, 144. Recently, Jonas Rüegg has mapped the spread of western whaling ships in the 'Japan Sea' in his dissertation, see Rüegg, 'The Kuroshio Frontier', chap. 4.

³¹ Cited after Watanabe, *Kadoyashiki kyūsuke oboechō*, 33.

³² For a case study of such encounters, see Howell, 'Foreign Encounters and Informal Diplomacy in Early Modern Japan'.

³³ Kondō, *Nihon engan hōgei no kōbō*, 149–50.

the foreign ships also had a profound influence on the whole coastal ecosystem. Sightings of whales near shore became rare, while fish catches also decreased. This observation confirmed the locals in their belief that whaling and fishing were directly connected. The authorities, on the other hand, likely draw a different lesson from the activities of the foreign ships: it showed them that Ōtsuki Heisen and Gentaku had been right. There was great potential for proto-industrial whaling in the Sea of Kinkazan, but unfortunately, it was foreign powers and not their own fishermen that took advantage of this.

The American whalers were not alone to blame for the disappearance of the whales, however. Environmental circumstances like colder sea surface temperature during the period of the fierce Tenpō famine (1833–1837) might also have had a temporary influence. Moreover, whaling communities in western Japan had placed constant pressure on the whale stocks since the early Edo period and this pressure only intensified after the invention of proto-industrial net whaling in 1675. With more competitors at different points of the whales' migration route along the Japanese Coast, whales had a much higher chance of getting captured than in the centuries before. As noted in the Introduction, Jakobina Arch has estimated that the Japanese whalers hunted as many as 200,000 whales before the American whalers even arrived.³⁴ The Masutomi whaling group from Ikitsukishima alone was responsible for at least 20,000 killed whales.³⁵ We can only speculate on how the mass killing of whales influenced the behaviour of the animals. Heisen noted, for instance, that the humpback whales reached in recent years the Kii Peninsula a month later than in previous decades.³⁶ As discussed in [Chapter 2](#), whale strandings became much rarer in the Hachinohe domain, while killer whale attacks likely increased. By the early nineteenth century, the cetosphere had come under serious anthropogenic pressure and whale abundance and behaviour had begun to change.

The Tenpō Famine and Sasaki Bokuan

The aforementioned Tenpō famine likely played a critical role in the decision to establish a whaling enterprise in the Sendai domain. The famine coincided with the last cold phase of the waning 'Little Ice Age', a time interval between 1550 and 1850 when temperatures in the northern hemisphere were regionally cooler than in the periods before and after.

³⁴ Arch, *Bringing Whales Ashore*, 2018, 9, 71.

³⁵ Nakazono and Yasunaga, *Kujiratori emonogatari*, 136–7.

³⁶ Ōtsuki, 'Geishikō', 1926, 121.

Compared to the average temperatures of the second half of the twentieth century, the temperature in the northern hemispheres was 2°C below this baseline.³⁷ Already fifty years prior, during the Tenmei famine (1782–1788), caused by rainy and cold summers followed by volcanic activities, over 100,000 people had died of starvation in the Northeast and around 20,000 fled to other domains.³⁸ The Tenpō famine was even worse, with the cold *yamase* winds contributing to wet summers that destroyed the crops. Over 180 uprisings were recorded, and the population of the Sendai domain decreased by almost 100,000. The hardest hit people were not peasants living in the inland regions, however, but people living in coastal communities. As large-scale agriculture was not possible in the mountainous regions near the coast, the fishing villages were reliant on importing food from inland. As a consequence, between 30 and 60 per cent of the population on the Oshika Peninsula perished.³⁹

While the Northeast was ravaged by frequent famines, many domains in southwestern Japan coped considerably better. This was not only because of the less devastating weather (there were no *yamase* winds in the southwest) but also because of better disaster prevention measures. Indeed, economic historians have explained that the Tenmei and Tenpō famines were only this fatal in the northern domains as the local and central authorities had been less willing to dedicate resources to disaster relief programs.⁴⁰ This can be exemplified by whale oil as since the Kyōhō famine (1732–1733), southwestern domains had invested in huge stockpiles of whale oil that could be

³⁷ It is noteworthy, however, that the climate during this time interval was not uniformly cold and could differ drastically across regions and time. The coldest temperatures were recorded in Northwest-Central Asia, where the period from 1811 to 1840 was especially cold, see Matthews and Briffa, 'The Little Ice Age'. Crowley et al. argued that around forty per cent of the decadal-scale variance in the Little Ice Age can be traced back to volcanism, see Crowley et al., 'Volcanism and the Little Ice Age'. Historians have suggested that humans could also have provoked part of the climatic shifts during the Little Ice Age and some suggest that the downturn in carbon dioxide in the atmosphere was caused by the drastic depopulation of the indigenous population in the Americas in the sixteenth century after epidemics from Europe had been imported. This led to former fields and cities being taken over by natural vegetation that absorbed a substantial amount of carbon dioxide, thereby lowering the global temperature, see Headrick, 'Global Warming, the Ruddiman Thesis, and the Little Ice Age'; Ruddiman, *Plows, Plagues, and Petroleum*.

³⁸ Komatsu, *Uminari no ki*, 140. Fabian Drixler notes that the population in eastern Japan had been declining since 1700, a process that was accelerated during the Tenmei famine, see Drixler, *Mabiki*, 129.

³⁹ Komatsu, *Uminari no ki*, 141; Kikuchi, 'Kikinshi no riariti-'; Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 143–5. Amino Yoshihiko has made the argument that famines first occurred in urban places and other communities that were not directly linked to food production as they had to buy agricultural products, see Amino, *Rethinking Japanese History*, 104–7.

⁴⁰ Saito, 'Climate and Famine in Historic Japan', 280; Francks, *Japan and the Great Divergence*, 60.

utilised as a pesticide against planthoppers. Similar relief plans were not established in the northern domains, however.⁴¹ Therefore, it may not be a coincidence that Gentaku first became interested in whaling during the Tenmei period. Indeed, the traumatic experiences of this famine may have been one of the reasons why Gentaku and Heisen pushed to establish whaling in the north shortly after the Tenmei famine.

On a first glance, it may seem peculiar that the Sendai authorities chose a physician for the task of bringing whaling to their domain. Looking at Bokuan's biography more closely reveals much about the possible intentions of the Sendai domain to establish whaling. Sasaki Bokuan was born in 1785 in Nakatsuyama, an inland town in the Monō District a bit north of Ishinomaki. He had studied gynaecology in Kyoto and was trained in internal medicine and *honzōgaku*. In 1819, at the age of twenty-five, he returned from Kyoto to accept the position of principal at the *Igakkō*, the Sendai medicine school.⁴² Originally, the medical education in Sendai had been part of the domanial school *Yōkendō*, but when Ōtsuki Heisen became headmaster, he initiated reforms, such as the founding of the new medical institute *Igakkō* in 1812. Furthermore, on the initiative of his cousin Gentaku, Heisen made Dutch learning an integral part of the curriculum at the *Yōkendō* and the *Igakkō*.⁴³ As the principal of the *Igakkō*, Bokuan must have been a close associate of Heisen, who would remain headmaster of the *Yōkendō* until his death in 1850.

After the death of Gentaku in 1827, Heisen was the only remaining authority on the matters of whaling in the Sendai domain and was most likely consulted when the domanial authorities finally decided to establish a whaling group. Already sixty-five years old in 1837, Heisen found it probably easier to leave the establishment of whaling delegated to someone he trusted but was younger than him. Furthermore, the selection of Bokuan had probably two additional advantages for the authorities: First, he had already published in 1833 a small booklet about herbs and grasses that could be eaten during a famine; vital knowledge for many commoners starving during the Tenpō famine.⁴⁴ This might indicate that the authorities saw whaling as a famine relief program.

Second, he came from a respected family in the Monō District, making him familiar with the local politics, without being involved too closely in the politics of the coastal districts as his hometown was farther inland. Bokuan most likely knew many of the influential

⁴¹ For more on this topic, see Arch, 'Whale Oil Pesticide'.

⁴² Yamagata, 'Sasaki Nakazawa to Sasaki Bokuan', 2–6.

⁴³ Jackson, *Network of Knowledge*, 95–6.

⁴⁴ Yamagata, 'Sasaki Nakazawa to Sasaki Bokuan', 7. The book can be accessed online via the National Diet Library: Sasaki, 'Kyūkōryaku'.

families on the Oshika Peninsula. Since we last left the political scene of the Oshika Peninsula in the 1680s in [Chapter 3](#), a new class of wealthy families had consolidated most of the economic output in the coastal communities under their control. Political titles, such as village headman or district headman, had become virtually hereditary among these families, who often traced back their lineage to samurai families from the Warring States period or to descendants of Kii fishermen arriving on the Sanriku Coast in the 1670s. As go-between with the samurai authorities, these families also received various privileges otherwise reserved for the samurai caste. For example, district headmen were allowed to use surnames, were excluded from the annual tax, and even received a yearly stipend of up to fifty-five *koku*. They also had the right to wear a sword and silk kimonos.⁴⁵ In some instances, retired district headmen received honorary samurai status.

Contemporary sources called these influential families ‘net owners’ (*amimoto*) as they owned most of the nets, boats, and other fishing equipment. We can find the rise of the net owners at the beginning of the eighteenth century when after the opening of the new sea-route around the cape of Chōshi, salted and dried marine products and fish fertiliser were exported in large quantities from the Sanriku Coast to Edo and Osaka.⁴⁶ A significant portion of these marine products, namely abalone, sea slugs, seaweed (kelp), and shark fins was further exported via Nagasaki to China, where they were valued as medical ingredients. Net owners played a significant part in these transactions and could accumulate wealth, which they began investing in the sardine fertiliser proto-industry, often backed by additional capital from wholesale merchants in Edo or Osaka.⁴⁷

Concurrently, economic instabilities during the Tenmei and Tenpō famines had caused many of the poorer peasants and fishermen to flee the northern domains to Ezo, where they became *dekasegi* (migrant workers) in the herring fertiliser business.⁴⁸ Others stayed, but became heavily indebted to the net owners, losing their economic independence. They became paid workers of the net owners and were called ‘net children’ (*amiko*). The relationship between the net owners and the net children was close and members of the net children were sometimes adopted into the net owner families. All said, by the early nineteenth century, these net owners formed their own social class of ‘proto-capitalists’ that had accumulated most of the village’s capital, fishing equipment and political influence.⁴⁹

⁴⁵ Chiba, *Sendairyō no ōkimoiri*, 9. ⁴⁶ Iwate-ken, *Iwate-ken gyogyōshi*, 68.

⁴⁷ Arai, *Kinsei no gyoson*, 388–9. ⁴⁸ Howell, *Capitalism from Within*, 54.

⁴⁹ Tōhoku rekishi shiryōkan, *Sanriku no gyogyō*, 22. A similar socio-hierarchy also existed in agricultural communities, where so-called *gōnō* (translated as ‘wealthy farmers’ or ‘rural

The Net Owners' Whaling Enterprise

Most of our knowledge regarding the local politics of the Oshika Peninsula and the Monō District is based on the letters of the Hiratsuka family, who were themselves net owners and hold the title of district headmen of Kitsunezaki. Like many other local notables, the Hiratsuka family claimed to have been a vassal of a local warlord during the Warring States period. They apparently lost their samurai status at the end of the war, but by 1641, when the oldest document is dated, they possessed the title of district headmen of Kitsunezaki. They would keep this title for the rest of the Edo period, except during two short transitory periods. In other words, it was also a member of the Hiratsuka family that signed the 1677 and 1685 anti-whaling petitions we have discussed in [Chapter 3](#). Around 1800, the family took over all sardine fishing, fertiliser production, and trade in Kitsunezaki and the surrounding fishing hamlets, hiring other fishermen on a wage basis. In 1829, at age twenty-five, Hiratsuka Yūgorō became the new head of the family and functioned as district headman of Kitsunezaki until his resignation in 1840.⁵⁰

It is through the family documents of the Hiratsuka family that we know that Sasaki Bokuan was put in charge of the whaling venture.⁵¹ Bokuan's order was to assemble a whaling group from local fishermen and organise a trial hunting to see if a commercially sustainable whaling venture was possible. The Sendai government also hired Awajiya Seisaemon, a whaling expert from Osaka. Seisaemon was asked to evaluate the prospect of whaling in the domain and to identify a suitable place for a whaling base. He received a local guide and all the district headmen were instructed to provide him with a ship and to take him to all the places he wished to investigate. Seisaemon also met with Hiratsuka Yūgorō and requested a coastline map of Sendai domain. Yūgorō forwarded the appeal to the authorities, but they were not willing to show such a map to an outsider. In the end, based on Seisaemon's report, Ōsu-hama (lit. Ōsu Beach) on the Ogatsu Peninsula in Monō District was chosen as the base of the new whaling group.

entrepreneurs') controlled much of village economic output, see Pratt, *Japan's Protoindustrial Elite*, 2–3.

⁵⁰ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Sangyō Kōtsūhen*, 5:214–16; Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Tsūshihen (Shita no 1)*, 2:458–67.

⁵¹ A reprint of these letters can be found here: Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:282–90. The letters have been briefly discussed in Japanese in the following books: Karakuwa chōshi hensan iinkai, *Karakuwa chōshi*, 346–8; Tōhoku nōseikyoku Ishinomaki tōkei jōhō shucchōjo, *Michinoku kujira monogatari*, 14–16; Kondō, *Nihon engan hōgei no kōbō*, 141–3; Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Sangyō Kōtsūhen*, 5:218–31.

Bokuan recruited the fishing group in Ōsu-hama, which was led by the young village headman Abe Ganzamon (1815–1872). Hiratsuka Yūgorō was also offered to join, as he was one of the largest and most influential net owners in the region with the necessary capital to finance such an operation. Together, the three men made first calculations for the necessary capital that would be needed from the Sendai domain for such an undertaking. We do not know for how much money they initially asked for, but thirty years earlier, Heisen had estimated that a full-fledged whaling enterprise in the north would require the equivalent of at least 8,000 *ryō*, so we can assume that Bokuan asked for the sum of several thousand *ryō*. However, the Sendai domain denied this request, arguing that they only wanted a trial whaling operation, with one or two whales caught. The five-year-long struggle against the Tenpō famine and other bad investments had drained the domain's finances. Bokuan tried again with a reduced plan for 589 *ryō*, but even this was cut by the government to 400 *ryō*; 200 *ryō* for each fishing group to buy equipment, while all other costs, such as paying the wages for the hired fishermen, had to be financed by the net owners themselves.⁵²

With these underwhelming funding prospects, the whaling project was already in jeopardy before it had even started. In order to save the operation, Bokuan wrote a confidential letter to Yūgorō proposing that Yūgorō should hire ten whalers from Kii domain as instructors. As the Sendai domain lacked the financial capacity to fund this, Yūgorō needed to advance the money and Bokuan offered to be liable with his own stipend in case the domain did not pay the money back later. Also, Bokuan urged Yūgorō to burn the letter after he had read it, indicating that this scheme could get Bokuan in trouble. As the letter remains today and we have no reports about whalers from Kii arriving in the region, it seems likely that Yūgorō was not willing to follow Bokuan's suggestions. Despite all this trouble, Yūgorō started a net whaling operation in the summer of 1838 in Ōsu-hama. It was reported, however, that the inexperience of the local fishermen led to no whales being seized. Without additional monetary assistance from the domain, Yūgorō ceased all further whaling operations. As Yūgorō resigned shortly thereafter as district headman in 1840 at the young age of thirty-seven, there may have been other factors at play here as well.

Losing Yūgorō was a major setback for Bokuan, but in the same year, a local cargo merchant, Nagunama Jōsaku, put forward his own whaling request. As Bokuan's whaling project was on hold, the responsible local

⁵² To put this number into perspective, buying a new trap net for sardine fishing cost around 300 *ryō*, while a small pull net cost 30 *ryō*, Arai, *Kinsei no gyoson*, 388.

official was very eager to direct Jōsaku's appeal to his superior. The magistrate who reviewed the request was more cautious, however, and ordered an inquiry into the feasibility of the project. All district headmen were asked for their opinions and although they did not explicitly advise against Jōsaku's whaling proposal, they raised some major concerns in a joint letter:

We have learned that [Naganuma Jōsaku] is considering using firearms to kill the whales. In the western region of the country, when they hunt whales, they surround them with boats and intimidate them by rhythmic beats from the boats and drive them into nets. Because whales don't like the sound of the beats from the [whaling] ships, they fear even more the sound of the firearms and flee from the shore to the open ocean. We know that since the ancient past fishermen on the beach detested the sound of firearms. The use of firearms is harmful not only for hunting whales but also for hunting other types of fish.⁵³

The district headmen did not argue against whaling per se, but against the method Naganuma intended to use as they saw firearm whaling as a possible disturbance to their own fishing operations. While there was a restriction on firearms during the Edo period, they were sometimes used by hunters in the mountains. That this could be a problem for fishermen can be seen with a prohibition from Matsumae domain dating back to 1691, according to which the discharge of firearms was forbidden within earshot of the ocean so as not to startle the herring.⁵⁴

I suspect there was also another reason the district headmen argued against the new whaling proposal: the other net owner families might have regarded Naganuma Jōsaku as an unwanted upstart. The Naganuma family had only recently made their fortune by transporting rice on their cargo ships on the Kitakami River and introducing fixed shore-net salmon fishing in their district.⁵⁵ In 1839, Naganuma Heizaemon, most likely a relative of Jōsaku, became the first member of the Naganuma family to hold the title of district headman of Kugunari.⁵⁶ The Naganumas may have been seen as competitors and their involvement in organised whaling may have been perceived as a threat to the other powerful net owner families. Unfortunately, we have no further information on Jōsaku's project, but it was likely refused, possibly because of the concerns put forward by the other district headmen. We have to conclude that both the

⁵³ Cited from Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Sangyō Kōtsūhen*, 5:229–30; Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:286–7.

⁵⁴ Howell, *Capitalism from Within*, 35–6.

⁵⁵ Sasaki, 'Sanriku kinkai no ōmono gyogyō', 144.

⁵⁶ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Tsūshihen (Shita no 1)*, 2:463–4.

Hiratsuka net whaling and Naganuma firearm whaling projects failed at an early stage.

With the withdrawal of the powerful families of Kitsunozaki and Kugunari, Abe Ganzaemon, the young village headmen (and later district headman) of Ōsu-hama was the last remaining net owner interested in continuing the trial whaling. Ganzaemon was the fourth family head of the local Abe dynasty. His grandfather had started a successful fishing business and had worked as village headman, while Ganzaemon's father had become the first district headman of the family and had even received honorary samurai status after retirement. Ganzaemon himself became wealthy in 1835 – when he was only twenty-one years old – through the shipping of commodities between Matsumae and Edo. A year later, in 1836, at the peak of the Tenpō famine, he became famous throughout the region due to his relief support. As mentioned, the famine was especially severe for the coastal communities on the Sanriku Coast and to make matters worse, the famine also coincided with poor fish catches. To ease the situation in his home district, Ganzaemon organised the transport of 1,600 straw bags of rice from the Akita domain overland with cattle and horses to the Sanriku Coast. He also bought and opened up new land to be transformed into rice paddies.

All told, Ganzaemon invested more than 600 *ryō* in his relief effort to save the sixteen fishing villages in the Monō district. In his own home village of Ōsu-hama, not a single person died of starvation, leading to the local saying: 'More than Buddha, more than the gods, we are grateful for the master of Ōsu.'⁵⁷ As historian Maren Ehlers has argued, such private famine relief programs were not an altruistic gesture but an integral part of the Tokugawa society. While domainal lords were eager to prevent social unrest in castle towns and other centres of commerce during famines, they expected the local elite of agricultural and fishing villages to mitigate disaster effects by themselves. In return, local notables such as district headmen were given titles and privileges.⁵⁸ Ganzaemon also profited indirectly from his generosity as he could expand not only his political influence in Monō district but also his commercial interest in fishing.

Boukan's request for whaling might have been a good opportunity for Ganzaemon to further enhance his position as the most important net owner in the district. In 1839, he hired local fishermen and assembled a small fleet of thirteen fishing boats for his whaling operation. Each of these thirteen boats had a crew of six to eight fishermen and the fleet was

⁵⁷ Ogatsu-machi kyōdoshi hensan iinkai, *Ogatsu machishi*, 207–26.

⁵⁸ Ehlers, 'Benevolence, Charity, and Duty'.

divided into two groups of six ships plus a head boat that organised the hunt. The crew of around a hundred novice whalers used the harpoon method to catch four humpback whales in the first year. Another three animals were injured but escaped and their dead bodies were later found ashore by other fishermen. Already in 1837, the authorities had declared that because of the trial whaling, all beached whales injured by harpoons belonged to the respective whalers. The local fishermen ignored these orders, however, and secretly disposed of the harpoons and nets that were attached to the beached whales. When Genzaemon learned of this, he went to Bokuan, who wrote to the local authorities on his behalf. Bokuan argued in the letter that the illegal harvest of whale carcasses was a terrible loss for the whalers as they lost their harpoons and net equipment, which cost over 100 *ryō*.

The ad-hoc flensing of beached whales by local fishermen was a highly improvised and messy business. Whale meat was only one of the products a ‘correctly’ flensed whale carcass produced: whale blubber needed to be cooked in order to produce whale oil, while bones were crushed and made into fertiliser. Bokuan argued that this uneconomic treatment of the whale was also an economic loss for the domain. He requested that every beached whale should be handed over to the whalers, regardless of the cause of death. The bureaucrats in Sendai agreed to this but insisted that the finder of a beached whale would receive one-third of the profit when the whale products were sold on the markets.

During their second whaling season in 1840, the whalers from Ōsuhama killed several right whales and humpback whales. This was not nearly enough to sustain the high fixed costs of the operation, let alone to reimburse the initial investments used to buy the flensing material and build a coastal base where the whales could be flensed. In the seventh month of 1840, Ganzaemon wrote a petition to the Sendai authorities:

Since last year, I have been entrusted of establishing a whaling operation, which I have done at my own financial expense. This spring we have caught six whales with harpoons outside of the coastal area and together with stranded and drifting whales we found, we caught nine whales in total, which was a great result. Compared to before, the skill of my fishermen has increased tremendously. The tools we have used until now, were just [normal fishing] equipment we picked up and these cannot compare to the tools used in the whaling areas in the western part of the country. We hope that our whaling operation can become as large as in the western part, but it is difficult with our current equipment to make a nice catch.⁵⁹

⁵⁹ Cited after: Karakuwa chōshi hensan iinkai, *Karakuwa chōshi*, 346–7.

Ganzaemon estimated that he would need 5,000 *ryō* for a full-scale whaling operation. He told the authorities he would be able to shoulder most of the funding, but that he needed a loan of an additional 1,500 *ryō* to continue operating. He further argued that he could lend additional money from another domain if the Sendai domain had difficulties in funding his operations, but in this case the whale meat, oil, and fertiliser would be brought to the other domain, which was not in the interest (*kokueki*) of the Sendai domain. However, the bankrupt Sendai Domain refused his request and instead of finding a different investor, Ganzaemon downscaled the operation for the 1841 season from thirteen to six boats. They caught another three humpback whales, but in the following year, not a single whale was captured.

The whalers did not have much more luck when they tried to sell their whale products on the markets. As they were hunting during the summer, their main problem was getting the fresh whale meat from Ōsu-hama to Sendai before it spoiled. Bokuan asked for permission to use the post-horse system of Sendai domain, which was able to transport the products in four days, but consumers in Sendai still preferred tuna, sea bream, and raw bonito over raw whale meat. As an alternative, Bokuan requested that the meat be salted and together with whale dregs (used for fertiliser) be sold outside the domain. The authorities agreed in principle but stated that the whale oil had to remain in the domain and be sold there, even though the demand remained minuscule. All told, the Ōsu-hama whalers had trouble catching enough whales and there was also no interest for whale products in Sendai. After not being able to catch a single whale in 1842, Ganzaemon gave up on his whaling operation at the end of the season.⁶⁰

The Failed Whaling Venture

This second attempt to start a whaling proto-industry on the Oshika Peninsula failed just like the Kii fishermen had to give up their operation over a hundred years earlier. This time, however, the reason seemed not to have been the opposition of the local population. First, we have to understand why the local fishermen did not protest as vehemently against whaling as they did in 1677. Indeed, conflict with the locals only occurred due to the sound of the firearms used when hunting whales and regarding who was allowed to flense a beached whale. Our primary sources do not convey any large-scale opposition against whaling or mention any

⁶⁰ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Sangyō Kōsūhen*, 5:218–31; Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:282–90.

religious concerns. This can be partly explained by the bias of our sources as they are all letters and petitions written by Bokuan, the involved net owners, and the authorities, giving little room for the perspective of the ordinary fisherman.

The weak resistance might also have been related to the fact that the whaling was conducted by the local net owners, whom many fishermen were indebted to or worked for, rather than whalers from other domains. The Tenpō famine had only strengthened these dependencies as in the years prior to the whaling venture, thousands of fishermen had starved and the survivors had been mostly dependent on the relief supplies provided by the net owners.⁶¹ Net owners like Abe Ganzaemon had taken over the responsibilities of the local government, which had been unable to provide proper famine relief. It, therefore, would have been difficult for the locals to protest against the whaling enterprise of their net owners.

It seems likely that the Tenpō famine was also the principal reason the Sendai authorities had pushed for trial whaling. The development of a whaling enterprise not only promised to replenish the domain's finances, but whale meat was probably also seen as an alternative to fish for feeding the population. Apart from this, the prohibition of the domain to not sell whale oil to other regions despite it being the most valued whale product indicates that the domain knew about the properties of the oil as an insecticide and saw it as crucial for fighting locust invasions.

Although the whaling enterprise was supposed to strengthen the domain's *kokueki*, the authorities had underestimated the financial investment necessary to build a new proto-industry. Besides the inexperience of the contracted fishermen, the stakeholders themselves identified the lack of financial backing as the main reason for the failure of whaling. Ganzaemon estimated that about 5,000 *ryō* would be necessary to build a sustainable whaling venture, but the domain finances allowed for less than a tenth of this sum, making the financial cooperation of the net owners indispensable. Instead of working together, however, the three net owners involved persisted in their own schemes and even actively sabotaged Naganuma's proposal. Not even the wealthy Abe Ganzaemon could shoulder the cost alone, having just spent a fortune on his famine relief program.

Even if the necessary capital had been available, however, the trial whaling was too small in scope. Abe Ganzaemon had been able to assemble a fleet of thirteen ships and one hundred men, but if we look

⁶¹ Fukai and Ueno, 'Tenpō Kikinki, Ecchū Himichō No Gyokyō to Gyomin', 579–80.

at whaling operations in Taiji or Kyushu, it can be seen that even a simple harpoon whaling operation needed at least twenty ships, while hundreds of people and dozens of ships were needed for a successful net whaling operation.⁶² It is unlikely that the half-starved and inexperienced Sanriku fishermen could have pulled off net whaling without the help of instructors from an established whaling group, which Yūgorō had most likely not been willing to pay for.

Naganuma Jōsaku's firearm whaling would probably have been not successful either. As far as I am aware, Jōsaku's proposal in 1838 to use firearms for whaling was the first of its kind in Japan. Just two years later, however, a whaling group from the Gotō Islands in western Kyushu ordered a whaling gun from a Japanese gun manufacturer in Nagasaki. The gun manufacturer had been instructed by a Dutch expert from Deshima on how to manufacture firearms, but his skill was not sufficient enough to produce a gun that could be used for whaling.⁶³ If the whaling groups near Nagasaki, where all the knowledge about western technologies was concentrated, could not obtain a whaling gun, how did Jōsaku in Sendai intend to get one? The domains and the Tokugawa government carefully safeguarded the stock of firearms in Japan and although professional hunters had access to these weapons, as seen during the wild boar famine in 1749 in Hachinohe,⁶⁴ it is doubtful that these hunting rifles could have killed a whale due to their thick blubber. An alternative was to buy a whaling gun from an American whaling ship that had appeared off the coast since the 1820s, but it was forbidden to trade with them and it is also doubtful whether the Americans would have sold their guns as they were essential for their hunts. We also know from later accounts that the Japanese had trouble using the American bomb lance whaling technique, which became popular in the 1850s. As we will discuss in the [next chapter](#), even fifty years later not a single whaling group had been able to use the American bomb lance whaling successfully enough to establish a sustainable whaling business.

In the end, the most straightforward and least advanced technique of harpoon whaling turned out to be the only method that brought results. Genzaemon's crew of over one hundred whalers only managed to kill eleven whales in four years. Under ideal circumstances, the Ōsu-hama whalers could sell one right whale for 60 *ryō* and a humpback whale for 25 *ryō*. This was not nearly enough to cover the wages and food provisions of

⁶² Wakayama kenshi hensan iinkai, *Wakayama kenshi*, 4:453.

⁶³ Kondō, *Nihon engan hōgei no kōbō*, 139.

⁶⁴ Walker, 'Commercial Growth and Environmental Change in Early Modern Japan'.

the workers, which amounted to 550 *ryō* per season. All said, Ganzaemon and his partners lost 1,046 *ryō* between 1840 and 1842.⁶⁵

To make matters worse, the whalers also had difficulty selling their products at the markets. The local demand for whaling products was negligible as no established whale product merchant network existed in the domain. This meant most of the products had to be shipped outside of the domain, which was theoretically beneficial for the domain as it increased its trade balance, but it also added substantially to the transport costs. While whaling was conducted mainly in the winter months in western Japan, whaling operations on the Sanriku Coast had to be conducted during the summer months, when most whales reached the region on their yearly migration. However, this brought the problem of fast spoilage of whale meat because of the summer temperature. Moreover, the Tenpō famine had effectively ended in the early 1840s and the population did not have to get accustomed to new forms of meat. As for the use of whale oil, the low prices indicate that the Sendai merchants did not recognise its potential as a pesticide. In other words, to be profitable, the whalers would have had to hunt at least twenty-five to thirty whales in the four-year trial period and would have needed to establish a market for whale products in Sendai.

Conclusion

While socio-economic circumstances were not favourable and partly to blame for the failure of the Sendai trial whaling, I suggest that the Tenpō famine itself may have also played a role in the disappointing fish and whale catches. Fishing was a highly seasonal occupation and could not be operated around the year. For example, during the Tenmei famine in the 1780s, many coastal villages were only saved from starvation in late spring when the fish swarms arrived on the Kuroshio and Oyashio currents.⁶⁶ The Tenpō famine in the 1830s, however, also coincided with several years of poor fish catches.⁶⁷ In a letter to the domain, the Hiratsuka family argued that whaling would bring relief for the struggling fishermen as ‘recent years have continuously brought bad fish catches and especially the last year has been difficult’.⁶⁸ Here, whaling was presented as a solution for the poor fish catches. This is an interesting inversion of the local knowledge of the locals, who believed that whales were necessary for good fish catches, as they brought them to the shore. The net owners,

⁶⁵ Tōhoku nōseikyoku Ishinomaki tōkei jōhō shucchōjo, *Michinoku kujira monogatari*, 16.

⁶⁶ Kanō, ‘Nendaiki [1784]’, 218.

⁶⁷ Ogatsu-machi kyōdoshi hensan iinkai, *Ogatsu machishi*, 217.

⁶⁸ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Shiryōhen 3 Kinsei*, 9:284.

on the other hand, seem to have believed that poor fish catches could be compensated with whale catches.

Poor fish catches during famines were a common phenomenon. On land, the cold and wet *yamase* winds that spoiled the rice in the north during the summer were generated by the unusually low sea surface temperature of the Oyashio Current.⁶⁹ In the Atlantic, such drops in the sea surface temperature during the Little Ice Age had been known to influence the abundance of boreal marine species like salmon, cod, and herring.⁷⁰ In Japan, the lower sea surface temperature and slower velocity of the Oyashio Current actually increased the salmon and cod catches on the Sanriku Coast in early spring. When this current collided with the warmer waters of the Kuroshio Current in summer, however, it caused more rain and mist that would haunt the coastal regions for weeks, making fishing activities much more difficult.⁷¹

This probably influenced not just fishing, but the whaling activities of the net owners as well as these were also conducted during the summer months. Zooplankton in the perturbed region and fish species migrating on the Kuroshio Current such as sardines were also influenced by the lower sea surface temperature. Studies of sediment cores and historical data show that while not perfectly matched in time, most of the poor sardine catches occurred during the cooling phases of the Little Ice Age. Here, it is especially important to note the partial collapse of sardine catches between 1820 and 1840.⁷² Also, while interdecadal regime shifts are a natural phenomenon, their frequency and force can be influenced by global climate changes like the Little Ice Age. A recent study from Peru suggested that after 1820, radical changes in the ocean biochemistry caused a mass disappearance of sardines.⁷³ Unsurprisingly, many whale species as consumers of zooplankton and sardines also react to oceanographic regime shifts. For example, changes in blue whale migration routes have been correlated with regime shifts in the eastern North Pacific.⁷⁴

⁶⁹ Arakawa, 'Meteorological Conditions of the Great Famines in the Last Half of the Tokugawa Period, Japan', 112–14.

⁷⁰ Lajus et al., 'The Use of Historical Catch Data to Trace the Influence of Climate on Fish Populations'.

⁷¹ Komatsu, *Uminari no ki*, 141.

⁷² Sugimoto et al., 'Shigen hendō no rekishiteki hensen', 564.

⁷³ Gutiérrez et al., 'Rapid Reorganization in Ocean Biogeochemistry off Peru Towards the End of the Little Ice Age'.

⁷⁴ Mantua and Hare, 'The Pacific Decadal Oscillation'; Calambokidis et al., 'Insights into the Population Structure of Blue Whales in the eastern North Pacific from Recent Sightings and Photographic Identification', 827.

In summary, the cold Tenpō weather most likely caused famines on land and also led to poor fish catches due to lower plankton and sardine abundance. Whaling was supposed to compensate for the bad fish catches, but due to the increased whaling activities of the American pelagic and Japanese coastal whalers and the reduced abundance of zooplankton and small fish like sardine, whales were probably also scarcer on the Sanriku Coast. It would not be until the 1870s, when both forms of whaling were subsiding, that whales returned in large numbers to the coast and the cetosphere recovered slightly.

Part II

Destroying the Cetosphere, 1850–2019

5 The Whaling Empire

After all, we owe it to whales that Commodore Perry from the United States came to Japan and broke our dream of isolation and opened up the country. Therefore, we should not only acknowledge Perry as the benefactor of Japan's opening to the world, but also honour the virtue of whales as the progenitors our civilization.¹

With these words, Ōashi Bō opened his congratulatory address to the new whaling station of Tōyō Hogeī in Same-ura on 11 June 1911. In his speech, Ōashi, a representative of the regional newspaper Ōnan Shimpō, further praised the benefits that the whaling station would bring not only for the nation but also for the local fishing community:

The fact that this national power expanding historic project [the Same-ura whaling station] has occurred in our region is indeed a good omen for the promotion of the region. We cannot celebrate this enough. We have long been advocating the need for the construction of a fishing port along our coast, and we believe that the start of whaling in this area attests our urgent need for a fishing port. Even from this point of view, the people in provincial areas like us have good reason to welcome the station and celebrate it greatly.²

Little did Ōashi know that the newly christened whaling station would by the end of the year be reduced to ash by the very same fishermen he believed should congratulate the construction of such stations. But how did it come so far? As we can see in this speech, by the late Meiji period whales had been inextricably linked to the founding myth of the emerging Japanese empire and were seen as a key component of enhancing the power of the nation, while also proclaiming that whaling would help industrialise local fisheries.

As we will explore in this chapter, the rise of industrial whaling altered the interaction between humans and cetaceans forever, leading to the anthropogenic destruction of the cetosphere. During the Meiji

¹ Ōnan Shimpō, 'Kaijōshiki ni okeru Ōashi-shi enzetsu no taii'.

² Ōnan Shimpō, 'Kaijōshiki ni okeru Ōashi-shi enzetsu no taii'.

period, new ideas of how to make use of nature, inspired by European and American industrialisation, emerged in Japan. Stakeholders in the bureaucracy and among capitalists often believed in a sharp dichotomy between humans and nature, indicating that industrial processes – and in extension humans making use of these processes – were inherently removed from nature. Once a natural resource was swallowed by the industrial complex it was converted into a commodity that was no longer part of the natural world. This dualism was further expanded on knowledge systems where objective scientific methodology was juxtaposed with a pre-industrial knowledge system that was allegedly based on irrational superstitions. However, as Japanese historians have shown, the reality was much more complicated than these simple bifurcated lines indicate.³ Similarly, the building of a Japanese whaling empire was far from smooth sailing. In this chapter, we will trace how whales became an industrial commodity that was detached from coastal ecosystems and how groups of fishermen around the country began to counter this narrative.

Opening the Country

The nineteenth century was a period of great change in the ocean around the Japanese Archipelago. American and British whaling ships had since the 1820s hunted thousands of sperm whales in the so-called Japan Grounds, while Japanese whalers with the net whaling method effectively emptied the near-coastal regions of right whales and other species. In 1853, Commodore Matthew Perry of the United States Navy arrived in Edo Bay with a fleet of warships, putting pressure on the Tokugawa government to open a number of ports to foreign trade.⁴ As suggested by Ōashi, whales did indeed play a role, as one of Perry's goals was to allow American whalers to refuel water and coal at Japanese harbours. American politicians had especially been annoyed by the poor treatment shipwrecked sailors experienced in Japan but by the 1850s, American whaling already showed first signs of decline due to poorer catches. Probably more important was the recent annexation of California, which had brought the 'Pacific frontier' into the minds of US expansionists and Japan as a way station where the new steamships could refuel their coal reserves.⁵ Perry's visit

³ Miller, *The Nature of the Beasts*, 1–3; Stolz, *Bad Water*; Thomas, *Reconfiguring Modernity*.

⁴ Japan has not been completely 'closed' from the outside world but had been conducting limited trade not only in Nagasaki, but also on the Ryūkyū Islands, Tsushima, and Matsumae during the Edo period, see Hellyer, *Defining Engagement*.

⁵ Mitani, *Escape from Impasse*, 87–97; Rüegg, 'The Kuroshio Frontier', chap. 5.

and the subsequent rise of contact with foreign nations caused widespread political turmoil in Japan. Eventually, samurai from the western domains of Satsuma, Tosa, and Chōshū joined forces to overthrow the Tokugawa Shogunate and ‘restore’ the emperor in the ‘Meiji Restoration’ of 1868.

The introduction of new whaling technology following the opening of the treaty ports Nagasaki, Kobe, Yokohama, and Hakodate seemed like a chance for revival of the struggling whaling proto-industry. Nakahama Manjirō (aka John Manjirō, 1827–1898) was a Japanese fisherman who was cast away in 1841 and rescued by an American whaler. From this experience, Manjirō learned not only English and western navigation techniques but also the fundamentals of American whaling. After his return to Japan, he became crucial in the negotiation between the Tokugawa Shogunate and Commodore Perry. Manjirō was a strong advocate for the introduction of American whaling techniques. He wrote:

If we start whaling in our near coastal waters, we will be able to kill two birds with one stone: [Hunting] whales will not only be of great benefit (*rieki*) for our country, but it will also allow us to learn the art of sailing.⁶

For Manjirō the advantage of western-style whaling lay in the ships themselves as the American sailing ships were able to leave the near-coastal area and hunt the whales on the open sea. As early as 1858, he would spearhead an expedition to the Ogasawara Islands to experiment with the American bomb lance technique, which had only recently been developed in 1846. While his first attempt was of limited success it nevertheless marked the first Japanese push into offshore whaling.⁷ In the long run, these efforts proved insufficient to stop the rapid decline of whaling in the northern Pacific. After a series of poor catches, the Masutomi whaling group of Ikitsukishima, the largest whaling group of western Japan, was forced out of business in 1860.⁸ Similarly, many American whalers ceased their operations in the Japan Grounds after the discovery of crude oil in Pennsylvania in 1859 and due to the hostilities of the American Civil War.⁹

While the decline of American whaling progressed, Japanese officials imagined a revival of whaling in the Meiji empire. Fujikawa Sankei (1817–1889), a major advocate for offshore fisheries and whaling, promoted the usage of American bomb lance whaling in the 1870s on the

⁶ Cited after: Kondō, *Nihon engan hōgei no kōbō*, 160.

⁷ Rüegg, ‘Mapping the Forgotten Colony’, 126–32.

⁸ Nakazono, ‘Whaling Activities of Ikitsuki Islanders’, 145.

⁹ Dolin, *Leviathan*, 293–325.

Ogasawara Islands and in Katsuyama on the Bōsō Peninsula.¹⁰ Fujikawa made the case that through the harvest of marine resources the Japanese empire should expand from its coastal waters into the open ocean.¹¹ The hunting of whales in the offshore region played a key role in this scheme. In the preface of his 1889 published book *Hogeī Zushiki* (Illustrated Whaling), the politician Nagaoka Moriyoshi (1843–1906) claimed similarly that the ‘knowledge of the use of whales drives the wealth and power of the nation’.¹²

Following the example of Fujikawa, a group of bureaucrats formed the semi-official Fisheries Society of Japan (*Dai-Nihon Suisan Kai*) in 1882. As stated in the editorial of the first issue of its monthly magazine, the goal of this organisation was the active promotion of fisheries knowledge and science in the whole empire, thus enhancing through maritime activities the government policy of ‘wealth and power’.¹³ In their eyes, there was an ‘excess of marine products in our near coastal places such as whales, otters, and seals’.¹⁴ In the following issues, writers for the magazine advocated strongly for the establishment of American-style whaling:

Whaling is for a maritime nation indispensable to guarantee its coastal defense . . . It helps to expand the navy and to detect the influence of other countries [in our waters]. Securing the inexhaustible marine resources is of great benefit for the nations interest and people’s welfare. The whaling industries in the United States and Europe are extremely prosperous and they are always in close contact with their navies. Together they are an essential part of coastal defense, just as the two wings of a bird or the two wheels of a carriage.¹⁵

While Manjirō had in the 1850s emphasised the importance of offshore whaling for gaining sailing knowledge, now whalers were imagined as an extended arm of the navy, echoing the argumentation of Ōtsuki Heisen and Gentaku in the 1800s. This pro-whaling propaganda campaign, however, did not target common fishermen and whalers, but other members of the Meiji government.¹⁶ The discussions surrounding the Fisheries Society of Japan were thus an elite discourse with little regard towards the opinion of the actual fishermen.

¹⁰ Ishida, *Nihon gyominshi*, 36.

¹¹ Arch, ‘Nineteenth-Century Japanese Whaling and Early Territorial Expansion in the Pacific’, 62.

¹² Fujikawa, *Hogeī Zushiki*, 5 reverse. See also, Arch, *Bringing Whales Ashore*, 2018, 73–4.

¹³ Morita, “‘Dai-Nihon suisan kaihō (koku)’ ni okeru kujira, hogeī kanren kiji (1)”, 13–14.

¹⁴ Dai-Nihon suisan kaihō, ‘Honkai setsuritsu no tenmatsu’, 4.

¹⁵ Dai-Nihon suisan kaihō, ‘Kaibō no kyūmu hogeī ni ari’. Cited after, Ishida, *Nihon gyominshi*, 36–7.

¹⁶ Ishida, *Nihon gyominshi*, 36.

The Castle of Sperm Whales

The bomb lance whaling technique was eventually adopted by some of the traditional whaling groups in Tateyama, the Gotō Islands, and in Hirado domain. However, the results of the methods remained underwhelming. In the 1880s, the western Japanese whaling groups hunted altogether only around 150 whales a year.¹⁷ Unlike American whalers, Japanese whaling groups mainly hunted for whale meat, which was often destroyed when using the bomb lance. Some modifications of the lance mitigated the problem to a certain degree, but overall, the bomb lance was mainly used for hunting sperm whales, while other cetaceans were still targeted with the classical net whaling methods.¹⁸

Therefore, members of the Fisheries Society of Japan became involved in spreading American-style whaling to new whaling grounds, where no traditional whaling groups had operated before. One such place was the northern island Hokkaido (formerly Ezo), where the Meiji government was undertaking large-scale colonisation efforts on land and water.¹⁹ However, the local fishing population met attempts to introduce American-style whaling with fierce resistance. For example, in 1885, a whaling ship appeared in the town of Iwanai during the herring season. After they successfully harpooned a whale, the local fishermen went into uproar and demanded that the whale was freed immediately. The whalers had no other choice than to comply.²⁰ Such reports were deeply worrying for Sekizawa Akekiyo (1843–1897), an engineer working for the Ministry of Agriculture and Commerce and later a professor at the Tokyo School of Agricultural and Forestry. Sekizawa had promoted whaling in Hokkaido and had, therefore, a keen interest in countering the anti-whaling protests on the northern island. He wrote in 1887 in the *Journal of the Fisheries Society of Japan*: ‘So far, when whales come close to the shore of Hokkaido, they gather herring and other fishes. This is why they are called Ebisu-sama. If [whales] are hunted, [people] thought that this would cause a poor catch of herring and other fishes.’²¹ According to Sekizawa’s description, the fishermen hunting in Hokkaido during the 1880s regarded the world in the same ecological framework as fishermen at the Sanriku Coast. Whales were called Ebisu and believed to be responsible for herring and other fish to come close to the shore. Indeed, as already discussed in the [previous chapter](#), many

¹⁷ Kondō, *Nihon engan hogeji no kōbō*, 178–9.

¹⁸ Kondō, *Nihon engan hogeji no kōbō*, 182–4.

¹⁹ See, for example, Mason, *Dominant Narratives of Colonial Hokkaido and Imperial Japan*; Walker, *The Conquest of Ainu Lands*.

²⁰ Itabashi, *Kita no hogeiki*, 72–5.

²¹ Sekizawa, ‘Rokoku hogeji kaisha setsuritsu no kyo wo kite kan ari’, 15.

fishermen working in Hokkaido were actually *dekasegi* (migrant workers) from the Sanriku Coast, who only came north during the herring runs. It is, therefore, not surprising that these fishermen would also bring their local knowledge when travelling north, explaining their anti-whaling stance. But Sekizawa did not believe that whaling was directly related to poor fish catches. He explained in the same article:

Because the whaling industry has a lot to do with local fishing industry, they should not start an operation without considering the possible [harmful] effects. I did a survey on this. Already in western countries a few years prior there were some people who mistakenly argued that the whaling industry is harmful. However, Dr. Sars conducted research in the local area, and he has made it clear that catching whales will not hinder local fisheries.²²

Sekizawa refers here to the Norwegian zoologist Georg Ossian Sars (1837–1927). As explained by Sekizawa in the following issue of the magazine, the province Finnmark in northern Norway had one of the highest abundances of marine products and also a proliferating whaling industry. However, according to the ecological knowledge of the Finnmark fishing communities, whales would drive herring and other fish towards the shore. Because of the pressure of the fishermen, the Norwegian assembly (*Storting*) had enforced limitations on whaling, but the relationship between whaling and fishing was still poorly understood. Sars was therefore tasked in conducting an impartial field study. After some studies at a whaling station in Finnmark, Sars came to the conclusion that the influence of whaling on the fishing industry was negligible, arguing that fish like capelin swam towards the shore by instinct to lay eggs and whales as well as predatory fish species like cod would simply follow capelin to the shore. Therefore, hunting whales would not influence the behaviour of other fish species.²³

As the Japanese fishing historian Ishida Yoshikazu has argued, Sekizawa introduced his audience in the *Journal of the Fisheries Society of Japan* to Sars's research with the goal to discredit the ecological knowledge of the Japanese fishermen as mere 'superstitions' that were based on misguided religious beliefs.²⁴ To make the connection between the Norwegian and the Japanese case even stronger, Sekizawa claimed that the Norwegian fishermen believed that the whales were 'messengers from heaven' (*ten no shisha*). My own research into the Norwegian primary sources could, however, not find any mention of this term and

²² Sekizawa, 'Rokoku hogeï kaisha setsuritsu no kyo wo kite kan ari', 15.

²³ Sekizawa, 'Hogeï to nishinryō no kankei ikan'. See also, Holm, 'Bringing Fish to the Shore'.

²⁴ Ishida, *Nihon gyominshi*, 25–32.

I suspect that Sekizawa invented it to draw a parallel to the Ebisu belief of the Japanese fishermen.

Sekizawa asserted that impartial western sciences, as represented by the study of Sars, had allegedly shown that whaling and fishing were not connected and, consequently, the anti-whaling protests in Hokkaido had to stop. Using the Norwegian internal colonisation of Finnmark as an example, Sekizawa further suggested that industrial whaling would help create a 'rich country with a strong army' (*fukoku kyōhei*), as the popular Meiji period slogan went, by protecting the northern border against Russia and bringing new industrial technologies and capitalistic practices to the coastal periphery. Following the example of industrial whaling, Sekizawa was convinced that other fisheries would also 'modernise' and subsequently elevate the lives of the poor fishing communities.²⁵ Nevertheless, American-style whaling in Hokkaido never lived up to its promise and came to an inglorious end in the 1890s.

Unperturbed, Sekizawa would next set his gaze on the Sea of Kinkazan, which had for a long time been discussed as a possible whaling site. Only recently, in 1887, had a local entrepreneur caught a sperm whale off Kinkazan in the region the locals called 'the castle of sperm whales'.²⁶ However, a lack of funding, as well as inadequate equipment and fishing boats had made further expeditions unfeasible so far.²⁷ In July 1893, the schooner *Sekikōmaru* set out from Tokyo to the Sea of Kinkazan for investigating the prospect of whaling in the region. As a western-style sailing ship that also used steam power, the *Sekikōmaru* was able to penetrate the Sea of Kinkazan much deeper than any of the small fishing vessels before. The researchers on the *Sekikōmaru* were astounded when they found in the perturbed region not only an abundance of schools of sardines, mackerel, and bonito, but also of sei, fin, and right whales. Completely unexpected for the crew was also the presence of Baird's beaked whales. The expedition successfully caught two sperm whales in the Sea of Kinkazan using the American-style bomb lance whaling techniques.²⁸

The search for a coastal base at the Sanriku Coast, where ships could anchor during the frequent storms and from where sperm whale hunts could be started, was one of the primary goals of the expedition. The researcher on the ship believed the Sea of Kinkazan to be one of the most

²⁵ Ishida, *Nihon gyominshi*, 25–32.

²⁶ Ōu Nichinichi Shimbun, 26 August 1887, cited after: Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 218.

²⁷ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 214–15.

²⁸ Kaburagi, 'Kinkazanoki no gyōba ni tsuite'.

promising candidates for offshore sperm whale hunting, as the mixing of ocean currents and the high sea temperature attracted countless groups of whales during the summer months. Furthermore, they had heard that the region had been visited by foreign whaling ships fifty years ago.²⁹ In their preliminary report about the expedition, published in the *Journal of the Fisheries Society of Japan*, they concluded: 'There is great potential in the future here. It was only regrettable that because of our limited time here we have seen sperm whales only once.'³⁰ Despite these promising results, Sekizawa did not manage to establish a whaling operation in the region prior to his death in 1897.

By 1900, it had become apparent that the transition from net whaling to American-style whaling had failed. While western sailing techniques allowed Japanese whalers for the first time to leave the near coastal ground and to deeper penetrate the offshore regions, they struggled with the implementation of the bomb lance technique, which was not suitable for securing whale meat. Furthermore, the American whaling technique was limited to a set range of whale species, which did not differ much from the species already hunted with the net whaling technique. Japanese coastal whaling and American pelagic whaling had together caused the deaths of hundred of thousands of sperm, grey, right, and humpback whales in the North Pacific. Other cetacean species were less targeted, either because the available technology was not reliable enough to catch them or their economic value was too low. Therefore, blue, fin, and sei whales as well as many smaller cetaceans could probably expand their sphere of influence. On the other hand, species that were overhunted were scattered across the ocean and recovered only slowly. Confronted by local opposition and without a way to access the so-far untapped whale stocks of rorquals, Japanese whaling seemed to be at an ecological and economic deadlock and would likely have disappeared from history.

Then, something unexpected happened. In 1890, the markets in Nagasaki suddenly experienced a surge in fin and blue whale meat, even though regional Japanese whaling groups were further reducing their hunting activities. As it turned out, the meat came not from Japan but from Korea, where Russian whalers had recently adopted a new whaling method from Norway, which allowed the efficient hunting of rorquals. The introduction of the Norwegian-style whaling method to Japan would change the industry forever and facilitate the killing of millions of cetaceans in the twentieth century.

²⁹ Kaburagi, 'Kinkazanoki no gyōba ni tsuite'.

³⁰ Dai-Nihon suisan kaihō, 'Chōsha shūryō', 49.

The Rise of Industrial Whaling

When Sekizawa introduced the research of Georg Ossian Sars to a Japanese audience, he acknowledged that the Norwegians were using steamboats for hunting whales, but he completely missed the deeper significance of the new technology for whaling. The new whaling techniques that were developed in Norway in the 1860s were nothing short of a revolution, radically altering not only how whaling was conducted but also fundamentally changing the relationship between cetaceans and humans.

Since the sixteenth century Basque, British, German, French, and Dutch whalers travelled around the northern coasts of Norway and as far as Spitsbergen to hunt for right whales and sperm whales. However, these operations had little relevance to the local population, and it was not until the 1860s that Norwegian entrepreneurs started their own whaling operations. One of the first was the former seal hunter Svend Foyn (1809–1884). In 1863, Foyn commissioned the world's first steamship built for catching whales and established the first modern whaling station in Vadsø, an all-year ice-free harbour in a fjord in eastern Finnmark near the Russian border. Foyn used his coastal whaling station to experiment with new uses for all parts of the whale carcasses to minimise the enormous waste. In addition to the traditional processing of whale blubber into oil, Foyn developed products such as whale fertiliser, margarine, cattle feed, tinned whale meat, and glue from whale bones. This allowed him to reduce the industry's dependence on the commodity of whale oil, which had become less competitive due to the rise of crude oil and find new economic markets for whale products.³¹

Finally, Foyn and his engineers perfected a new design for killing whales efficiently. The so-called harpoon cannon was mounted at the ship's bow and shot steel harpoons into the flesh of the whales where black powder would explode, killing the cetacean instantly, if aimed correctly. The combination of these three new technologies – steamship, harpoon cannon and whaling station – were the fundamentals of industrial whaling in the emerging marine anthroposphere. It was now possible to hunt every whale species, regardless of size and speed and process the carcass efficiently for all its parts.

However, Foyn's inventions also had some major drawbacks, leading to rising protests in the local population. For one, the coastal whaling stations caused widespread environmental pollution, as unprocessed grease, oil, and blood of the whale carcasses were let into the bay, hurting the coastal ecosystem. The firing of the harpoon cannon was also noisy,

³¹ Tønnessen and Johnsen, *The History of Modern Whaling*, 26–32; Niemi, 'Modern Whaling on the Norwegian Arctic Coast', 68–72.

and locals feared that it would drive away fish. Moreover, as discussed above, local fishermen believed that whales would drive capelin and other fish species closer to the shore. While Sars' research was not able to confirm this, later investigations showed that some whales, such as fin whales, did indeed have an at least indirect effect on coastal fishing.³²

Over the course of the next three decades, thousands of whales were killed in the waters around northern Norway, making use of Foyn's new technologies and even whaling supporters had to acknowledge that the whale stocks were declining at an alarming rate. At the turn of the century, a series of bad fish catches further worsened the relationship between whalers and fishermen. A drastic increase in seals from the Russian Coast, which competed with the fishermen for the same fish resources, was believed to be the result of the dwindling whale stocks. Finally, on 1 June 1903, over 1,000 frustrated fishermen gathered in Mehamn, a small fishing town in Finnmark, and went after an argument with the local whalers on a rampage, burning down the local whaling station. Shocked by this outburst of violence, the Norwegian assembly decided soon after on a ban of coastal whaling starting in 1904.³³

The emergence and eventual demise of industrial whaling in northern Norway had also consequences for whaling in East Asia. Otto Lindholm (1832–1914) and Akim G. Dydymov (?–1891) were the first Russians to conduct whaling in the Russian Far East. Lindholm started as early as 1864, working with indigenous people from all around the Pacific.³⁴ In 1885, Lindholm not only faced bankruptcy, but he was also heavily attacked by Akim G. Dydymov, a former Naval Lieutenant, who apparently detested Lindholm for having Finnish ancestry. In 1886, Dydymov left the navy and travelled to St. Petersburg to prevent Lindholm from receiving a monopoly on whaling using his political contacts. Dydymov acquired capital for his own whaling enterprise, where he was introduced to the Norwegian-style whaling method. In 1889, Dydymov hired Capitan Foyn, a relative of Svend Foyn, and several Norwegian whalers, who should instruct the Russian crew on the new whaling techniques. In their first season in 1890, the Russian whalers captured seventy-three whales in the Korean sea. The whale carcasses were brought on land at the Korean port of Wonsan (today part of North Korea), where Dydymov had built a land whaling station after the model of Foyn's stations in Finnmark. Originally, Dydymov had intended to discard the whale meat or donate it to the locals. However, learning from Lindholm's experience,

³² Hjort, *Fiskeri og hvalfangst i det nordlige Norge*.

³³ See Holm, 'Bringing Fish to the Shore'.

³⁴ For more on Lindholm, see Jones, *Red Leviathan*, chap. 2.

he instead brought seven tons of whale meat to Nagasaki to sell it there. His ship disappeared with its whole crew in 1891 in the Korean Sea.³⁵

After the tragic end of Dydymov, other Russian entrepreneurs started their own industrial whaling operations. The most successful was Count Heinrich Hugovistsj Kejzerling (1866–1944), who founded the Pacific Whaling Company in 1894. Kejzerling not only took over the land whaling station from Dydymov in Wonsan, but also bought two Norwegian whaling steamers, the *Nikolaj* and *Georgij*, and hired Norwegian gunners. Like his predecessors, Kejzerling sold the whale meat to Nagasaki and even moved to Nagasaki, where he hired Japanese experts to perform the salting process of the whale meat. Kejzerling's biggest coup was the purchase of a 3,643 metric ton factory ship that was remodelled in Danzig to become the world's first whaling factory ship under the name of *Michail* in 1903. The *Michail* could not only dismantle whales on board but could also process the blubber into whale oil, making a land-based whaling station redundant and increasing the quality of the oil. As it was a prototype, however, not everything worked as planned and only the oil of one whale per day could be processed instead of the planned six. With his whaling fleet, Kejzerling could now follow the whaling migration route in the Sea of Japan between Kamchatka and the Korean Peninsula all year long. This maximised his profits but put further pressure on the already struggling blue whale stocks.³⁶

Norwegian-Style Whaling in Japan

The sudden appearance of the Russian whale meat in 1890 in the markets of Nagasaki caused concern among Japanese whalers. Plans to work with the Russians were dissuaded by the Meiji government, which saw Russian whaling as a threat to Japanese maritime interests. The establishment of land whaling stations and the hunting of whales off the Korean coast was seen as a way for the Russian empire to intensify their colonisation efforts on the Korean Peninsula. It was also feared that the Russians would hunt whales near Hokkaido and the Kuril Islands and thus undermine the still volatile colonial Japanese presence there, bringing Heisen's fear into fruition almost one hundred years later. To counter these Russian advances, Japanese politicians encouraged private investors to start their own Japanese whaling operations in the Sea of Japan (East Sea).³⁷

³⁵ Neff, 'Russian Whaling in Korea'; Kaminaga, 'Hokutō Ajia ni okeru kindai hōgeigyō no reimei', 53–8.

³⁶ Kaminaga, 'Hokutō Ajia ni okeru kindai hōgeigyō no reimei', 59–62; Tønnessen, *Den moderne hvalfangsts historie*, 2:186–8.

³⁷ Kaminaga, 'Hokutō Ajia ni okeru kindai hōgeigyō no reimei', 57–8; Okamura, 'Modern Whalers of Nagato Kitaura', 103–4.

Among the first Japanese entrepreneurs to pursue industrial whaling was Oka Jūrō (1870–1923) from Hagi in Yamaguchi Prefecture (formerly Chōshū domain). Oka had studied at Keio University under Fukuzawa Yukichi (1835–1901), one of the most prominent Meiji period intellectuals, and became a local politician in Yamaguchi Prefecture in 1896. To raise funding for his whaling enterprise, Oka went to Tokyo and received support from politicians, many of whom were also of Yamaguchi descent. In May 1899, when the necessary funding was finally secured, Oka left as a temporary employee of the Ministry of Agriculture and Commerce to learn more about Norwegian-style whaling in Europe. In Kristiania (renamed Oslo in 1925), he bought whaling equipment and placed an order for a steam whaling ship. Next, he went to the north to witness Norwegian-style whaling in Finnmark firsthand at the Mehamn whaling station (the same station that would be burned down four years later). Back in Japan, Oka's founded a whaling company, Nihon Enyō Gyogyō, in 1899. He hired the Norwegian gunner Morten Petersen, who had worked on a Russian whaling ship. Oka paid him the extraordinary wage of 200 yen per month plus 30 yen for each whale caught and gave him a three-year contract. As ordering a whaling ship from Norway would take too long, Oka commissioned a steam whaling ship from a Japanese shipyard, which would be called *Chōshūmaru* and began operating in 1900. However, the ship was stranded in December of the same year on a sandbank during a storm and could no longer be used.³⁸

Oka had also leased the *Olga* from an English-Russian whaling group and, after the shipwreck of the *Chōshūmaru*, chartered the Norwegian ships *Rex* and *Regina*. These ships were under the command of two experienced Norwegian gunners: Frederik Olsen and Carl Amundsen. The Norwegians received the high sum of 5,000 yen a month for the charter, but they were not allowed to open their own whaling stations on Japanese soil and were contractually obligated to sell only to the Japanese. This system was intended to exclude foreign competitors from the Japanese whale stocks, while still making use of the foreign expertise. Indeed, Norwegian gunners were instructed to teach Japanese sailors how to use the harpoon cannon, leading to the (justified) fear in Norway that Norwegian gunners would make themselves obsolete in time.³⁹ However, it was not until the early 1930s that all Norwegian gunners had been replaced by Japanese.⁴⁰

³⁸ Akashi, *Honpō no noruē-shiki hogeishi*, 205–6; Okamura, 'Modern Whalers of Nagato Kitauro', 104–7; Okamura, *Kujira to hoge no monogatari*, 125–9.

³⁹ The Journal of the Fisheries Society of Japan, 'Training Whaling Gunners'.

⁴⁰ Mageli, 'Norwegian-Japanese Whaling Relations in the Early 20th Century'.

With these three ships, the company captured over sixty whales in their first three seasons. Despite being made out of steel, these early types of whalers, weighing between 100 and 130 metric tons, were nimble and reached up to ten nautical miles per hour. They had an operation range of up to 100 nautical miles. The crews consisted of a Norwegian gunner, a Japanese captain, an engineer, firefighter, and around ten sailors, some of them being poorly paid Korean workers. The whaling cannon was mounted on the bow of the ship. On a hunting day, the ship set out at 5 o'clock in the morning and travelled to the whaling ground. A lookout on a watchtower would report any whale sightings and the ship would close to around forty metres when the gunner fired the cannon. If hit, the head of the cannon exploded inside the body of the whale, and an attached wire cord with a winch tied the injured animal to the ship, preventing it from escaping or sinking to the bottom of the sea when killed. The carcasses were towed to the boat and brought to the coastal flensing stations.⁴¹

The introduction of Norwegian-style whaling transformed cetaceans into industrial commodities. While the hunt itself was fairly similar to its Norwegian counterpart, Oka saw industrial whaling as a continuation of net whaling and aimed for similar markets, most notably the selling of whale meat. Initially, the flensing process, as well as the drying and salting of whale meat at the whaling coastal stations resembled more the traditional Japanese flensing styles than the new Norwegian methods, even though some innovations, like the usage of a winch, were transferred from Norway and adapted to fit the Japanese working conditions.⁴²

The Rise of the Japanese Whaling Empire

Most of the early East Asian industrial whaling activities were concentrated on the Korean Sea, where Japanese and Russian whalers fought over territorial dominance and access to marine resources. In February 1904, rising hostilities between the two empires eventually escalated to the Russo-Japanese War. During the war, the Japanese Imperial Navy confiscated four of Keizerling's whaling ships, among them was the factory ship *Michail*. One reason for the confiscation was the suspicion of the Japanese navy that Russian whaling ships were used for spying.⁴³ Keizerling vehemently denied this allegation and demanded to have his ships returned to him, but to no avail.⁴⁴ After the Japanese

⁴¹ Akashi, *Honpō no noruē-shiki hōgeishi*, 3–4.

⁴² Kondō, *Nihon engan hōgei no kōbō*, 207–8; Morita, 'Shokuminchi shihaika no Kanbantō engan hōgei to nihon no kogata engan hōgei bunka no seisei'.

⁴³ Japan Times, 'A Suspicious Whaling Vessel in Korean Channel'.

⁴⁴ Kaminaga, 'Hokutō Ajia ni okeru kindai hōgeigyō no reimei', 74–5.

victory in 1905, Oka pressured the Korean government to nullify Keizerling's leasing contract on his whaling stations under the pretext that Keizerling had not paid rent during the war. Oka then took over the three former Russian whaling stations in Korea and bought the confiscated Russian whaling ships from the navy. Japanese whalers not only possessed most of the Russian whaling assets in East Asia, but they had now also exclusive access to the Korean whale stocks.

In this way, the Japanese victory over Russia in 1905 marked the beginning of the Japanese whaling empire. During the war, the Japanese army had discovered canned whale meat as a cheap and effective alternative to beef, thus stimulating demand for whale products.⁴⁵ After 1905, twelve whaling companies were quickly established and among these, Oka Jūrō's newly founded Tōyō Gyogyō was the uncrowned king. He commanded a whaling fleet based on the four whalers *Rex*, *Regina*, *Olga*, and *Nikolaj* and the factory ship *Michail*. The latter, however, seems never to have been used by the Japanese to produce whale oil, as had been originally intended. Instead, the *Michail* was used as a transport ship.⁴⁶

Already in 1906, the competition in the Korean Sea between the newly established industrial whaling companies was fierce. With most of the former net whaling groups gone or in deep decline, the Japanese whaling grounds were unattended. Again, Tōyō Gyogyō was the most assertive company. From March to July 1906, they followed the traditional pilgrimage route of the whales from the old whaling places in Nagato, Kii Peninsula, and Tateyama to new places along the Sanriku Coast. The catch of a total of 111 whales along this route can be considered very successful for the whalers as many places did not have a whaling station yet and many whales had to be flensed on board.⁴⁷ In the following years, provisional whaling stations were established along the coast every seventy to eighty nautical miles. In western Japan, the industrial whaling companies focused on places where whaling had already been conducted during the Edo period. Farther north, however, new places for whaling had to be found. Tōyō Gyogyō established their stations in Tateyama, Chōshi, Ayukawa, and Ryōishi while competing companies located their stations in the same or nearby villages.⁴⁸ Before the widespread introduction of the factory ships in the 1920s and 1930s, of which the *Michail* can be seen as the first prototype, whaling stations functioned as bridgeheads to the offshore whaling grounds. Their introduction together with the power of the steamships encouraged people to rethink the boundaries of

⁴⁵ Ishida, *Nihon gyominshi*, 73.

⁴⁶ Ishida, *Nihon gyominshi*, 72–3; Watanabe, *Japan's Whaling*, 26–35; Yamashita, *Hogeii II*, 184–5.

⁴⁷ Ishida, *Nihon gyominshi*, 76. ⁴⁸ Kondō, *Nihon engan hōgei no kōbō*, 291.

the coast. For the fishermen, the coastal sea had previously ended where they lost sight of land, but now the limit was the distance a steamship could travel from a land station.⁴⁹

This sudden burst of whaling activities in the Korean and Japanese waters put a lot of stress on the slowly recovering whale stocks. The Norwegian Embassy, keeping an eye on the Norwegian gunners in Japan, had a special interest in documenting the development of the Japanese whaling industry. In 1907, the embassy concluded that the whaling industry had created an economic bubble and would soon be in financial trouble.⁵⁰ The report for the next year was similarly dramatic: 'Whaling, which has been conducted in the Japanese and Korean waters for the past five years, has risen to great importance. It is, however, to be expected that it will not be of long duration, as the hunting is done too violently, and the animals will have gone extinct in the near future, if the hunt is not regulated.'⁵¹ That regulation was needed also became apparent to the Ministry of Agriculture and Commerce, which had jurisdiction over fisheries and whaling. In the 1908–1909 season, the whaling companies captured together 1,312 whales on a total of 28 ships.⁵² According to one report, during the winter months, thirteen whaling ships were hunting in southern Shikoku and ten off the coast of the Kii Peninsula, but in summer they all moved to the Sea of Kinkazan and twenty-two ships were here during the high peak of the season, overexploiting the whaling grounds.⁵³ Because of the migration patterns of the slower-moving cetaceans, net whaling groups had mainly hunted during the winter in western Japan. The new steamship could hunt faster whale species and follow them to their spring and summer grounds in the Sea of Kinkazan and Hokkaido. Prices for whale carcasses in the summer months were, however, much lower than in winter, as whale meat could not be stored efficiently without refrigeration technology and so most whale carcasses were processed into less valuable fertiliser. To make the situation worse, this method was extremely inefficient and large parts of the carcass were thrown into the ocean, unused.

The ministry, therefore, proposed a whaling ban during the summer months, modelled after the Norwegian example, to protect whale stocks and the price of whale meat. On 2 September 1907, a delegation of most whaling companies was invited to the ministry's office to debate the new law. Unsurprisingly, the whalers criticised these plans arguing that a ban would only affect Japanese whalers and foreign vessels could conduct

⁴⁹ Yonemoto, 'Maps and Metaphors of the "Small Eastern Sea" in Tokugawa Japan (1603–1868)'.

⁵⁰ Utenriksdepartementet, '32/07 Japan (Tokio) 1907', 7.

⁵¹ Translated by the author from German. Utenriksdepartementet, '32/08 Japan 1908', 8.

⁵² Tønnessen and Johnsen, *The History of Modern Whaling*, 142.

⁵³ Maki, 'Noeruē-shiki hogei gōdō ni kan suru iken'.

whaling at their leisure.⁵⁴ At this point, foreign whaling activities had almost completely ceased around Japan, nevertheless, the ministry gave in to the pressure of the whaling lobby and retracted its proposal. Instead, the ministry urged the whalers to consolidate in order to reduce the competition between them. Oka Jūrō immediately jumped at the chance and used his contacts in the government and his influence to bring most of his competitors together under a new company called Tōyō Hogeï on 1 May 1909. Oka Jūrō had again secured the position as president and his company controlled twenty of the twenty-eight whaling boats, making him the undisputed king of the Japanese whaling industry.⁵⁵

The consolidation, did, however, little to release the pressure on the whaling stocks. Oka, himself did not believe that overhunting was a problem. At an investor conference in Osaka in January 1910, he explained that two theories existed regarding the sustainability of whaling. The first theory was that continued whaling over time would kill all reproductive females, leading to the extinction of a whale species. The second theory argued that the size of the ocean would allow whale populations to recover in offshore regions. As long as there was food near the coast, new groups of whales would keep coming and whaling could continue indefinitely. According to this logic, whaling would even lead to an overall increase in the number of whales in the ocean. Unsurprisingly, Oka himself was a supporter of the second theory.⁵⁶ The decoupling of nature and humans allowed whalers to imagine whales as a limitless resource in the vast oceans that could fuel the Japanese whaling empire for eternity. In this way, the whaling industry absolved itself from any criticism regarding overhunting.

Rising Opposition Against Industrial Whaling

The rapid expansion of industrial whaling and the construction of whaling stations all over the Japanese Archipelago provoked a backlash among the local fishing communities. In 1910, Akashi Kiichi, a leading employee of Tōyō Hogeï, wrote:

At that time, coastal fishermen in the area were not aware of the real nature of the whaling industry, and when this type of business was first attempted in the

⁵⁴ Dai-Nihon suisan kaihō, 'Zenkoku hogeï gyōsha daikai'.

⁵⁵ Tønnessen and Johnsen, *The History of Modern Whaling*, 142; Akashi, *Honpō no noruē-shiki hogeishi*, 276–8. The smaller companies from the old whaling towns in Kii and Tosa could not be convinced to join, however, as the old whaling families from these regions were not willing to work with 'outsiders'. Also, they could rely on local consumer markets that would buy their whale meat. Some other small companies were later integrated into Tōyō Hogeï, see Ishida, *Nihon gyominshi*, 99–100.

⁵⁶ Akashi, *Honpō no noruē-shiki hogeishi*, 28–34.

vicinity, they felt that it would be greatly disrupting their own fishing industry due to the large scale of the operation. In particular, the bonito and sardine fishermen have a kind of superstition (*meishin*) about whales, and they do not understand that whales are devouring bonito and sardines, which are the basis of their fisheries. They have been insisting . . . that whaling is harmful because . . . blood from dissecting whale bodies causes the death of sardines . . . Any negotiations are futile due to their stubborn resistance.⁵⁷

As we can see Akashi asserts that the ecological knowledge of local fishermen was nothing more than ‘superstition’ and that the local fishermen did not understand how industrial whaling worked nor were the locals interested in any form of compromise. Akashi remains, however, vague on how widespread these anti-whaling resistances were. We find some clues to this in a 1910 published article in the *Journal of the Fisheries Society of Japan*. Its author, Ayabe Kazuo, a bureaucrat working for the Fisheries Bureau, reports that there were protesters against industrial whaling in Kii-Katsuura (Wakayama Prefecture) and Totoro (Miyazaki Prefecture). Moreover, in Ushitsu City on the Noto Peninsula (Ishikawa Prefecture), all fishermen had gathered in a large movement which aimed to stop whaling at all costs. Ayabe further noted that the pollution issue caused by Norwegian-style whaling was not new and referred to the Mehamn Incident of 1903.⁵⁸

Matsuzaki Masahiro, a leading employee of Tōyō Hogeï, insisted in the following issue of the journal that the anti-whaling protests were not as frequent as suggested by Ayabe, rather some technical and legal issues were responsible in the mentioned places for the delay of whaling. While he acknowledged that there were some small conflicts between whalers and fishermen, he argued that these were not specifically against whaling. Such disputes could be seen every time new fishing methods – for example purse seines or drag nets – are introduced and local fishermen perceived their traditional ways of living as being threatened. Matsuzaki reassured the readers of the *Journal of the Fisheries Society of Japan* that over time such prejudices would disappear, and fishermen would recognise that whaling was not hurting fisheries.⁵⁹

In most cases, primary sources about the introduction of industrial whaling are few and far between, but at least in the case of Ushitsu City, Matsuzaki’s claims that technical or legal issues were responsible for a delay in whaling do not withhold closer scrutiny. A series of reports from the *Hokuriku Times* in the years 1909 and 1910 show that fishermen of over thirty villages came together to intervene directly with the

⁵⁷ Akashi, *Honpō no noruē-shiki hogeishi*, 242–4.

⁵⁸ Ayabe, ‘Noeruē-shiki hogeï ni taisuru gojin no kibō’.

⁵⁹ Matsuzaki, ‘Noeruē-shiki hogeigyō no hinan wo benzu’.

Ministry of Agriculture and Commerce as well as with the Governor of Ishikawa Prefecture to stop whaling.⁶⁰ We also have a rare eye-witness account from the protests surrounding the whaling operations in Chōshi (Chiba Prefecture). Ōno Shishiku, a writer for the magazine *Bungei kurabu* (Literature Club), travelled in 1907, like he did every year, to Chōshi to escape the Tokyo summer heat. In this year, however, the whole town was in uproar because of the whaling activities by Tōyō Gyogyō. Ōno heard from the locals that the whalers had unexpectedly arrived in March of the previous year with two whaling ships: the *Olga* and the *Nikolaj*. Even though there was no flensing station in Chōshi, the whalers brought three to four whales a day onshore:

The truth is it was prosperous circumstances. . . . However, the local fishermen driven by their envy, their own interests, and their feelings for their district (*chihōteki kanjō*), made a fierce commotion. . . . Corresponding to this resolution, some wanted to negotiate [with the whalers], but others cried to destroy the whaling place. . . . Every evening, a crowd of fishermen was meeting before the station, and the situation has become unbearable.⁶¹

Ōno showed little empathy for the problems of the fishermen, which he regarded as petty. Nevertheless, from his report it becomes clear that the protests were not small-scale but consumed the whole town. He further reported that the main concern of the locals was that sardines would no longer come to the coast. Furthermore, they feared that the coastal pollution caused by the whale blood in the water would scare away fish from the coastal waters.⁶² On the Sanriku Coast, the situation was similarly tense as in Chōshi. In Iwate Prefecture (formerly Morioka domain), the local government actively tried to attract whaling companies, but opposition from all large ports, including Miyako, Yamada, and Kamaishi, made the search for a suitable whaling place difficult. After many discussions with the local fishing unions, the station was eventually built in the little fishing port of Ryōishi.⁶³

Conclusion

Since the arrival of the American ‘black ships’ under the command of Commodore Perry in 1853, Japanese policymakers pushed forward the idea of pelagic whaling as a way to rekindle the struggling net whaling proto-industry and expand the influence of the emerging Japanese empire into the offshore regions of the Japanese Archipelago. Pioneers like

⁶⁰ Katsuyama, *Kitariku Umi Ni Kujira Ga Kita Koro*, 213–19.

⁶¹ Ōno, ‘Chōshi monogatari’, 556. ⁶² Ōno, ‘Chōshi monogatari’, 556.

⁶³ Kamaishi-shi hensan iinkai, *Kamaishi Shishi*, 118.

Nakahama Manjirō introduced American whaling techniques in order to close the technological gap between Japan and its western competitors. However, bureaucrats such as Fujikawa Sankei and Sekizawa Akekiyo saw the building of a whaling empire as a matter of national security, as it pushed the borders of the Japanese empire farther into the ocean and secured valuable marine resources. However, while American whaling expanded the physical range of whaling operations into the open sea it did not allow to hunt for new species that had not already been decimated by Japanese and American whalers in the past decades. Coupled with the anti-whaling protests in Hokkaido and the inability to adapt the new technique to harvest whale meat, the most important commodity for the Japanese whalers, it had to be given up.

The arrival of Norwegian-style whaling techniques through Russian whalers changed the situation completely. Now, industrial whaling became a tool of competition and expansion against the Russian Empire over the control of the Korean Peninsula and its marine resources. This conflict eventually ended in the total dominance of the Japanese whalers over the Korean waters and it functioned as an important steppingstone to bring industrial whaling back to the Japanese main islands. As industrial whaling allowed for the first time to hunt whales also during the summer months, more potential whaling ground became available for the emerging industry, at the forefront being the 'castle of sperm whales' in the Sea of Kinkazan. But without the ability to properly store whale meat in the summer heat, environmental pollution also increased, while many fishing communities had in the past centuries learned to depend on the summer migrations of whales for their own fishing. In the following three chapters, we will take an in-depth look at how the introduction of industrial whaling was negotiated at a local level and eventually, after fierce debates and the burning of a whaling station, accepted and embraced by the local population.

6 The First Whaling Town

In the summer of 1910, the American explorer and naturalist Roy Chapman Andrews (1884–1960) arrived on the Oshika Peninsula to visit the newly opened Tōyō Hogeī whaling station in Ayukawa. Andrews was on a three-year-long journey to East Asia, where he hoped to not only study cetaceans but also obtain whale skeletons he could bring back to the American Museum of Natural History in New York. During his four-month stay in Ayukawa he studied and photographed sixty-five whale carcasses while also befriending the Norwegian gunners in the town and documenting the life on and around the whaling station.¹ His first impressions of Ayukawa were quite idyllic, as he writes in his 1916 published travel monologue:

After spending a delightful month at [Kii-]Oshima, where three fine whale skeletons were secured, I returned to Shimonoseki to send them to New York, and then traveled northwards to Aikawa (Ayukawa), three hundred miles from Tokyo. Aikawa is a typical little fishing village, situated at the end of a beautiful bay which sometimes harbors as many as fourteen whale ships from the four neighboring stations.²

In Andrews's report we encounter Ayukawa as a buzzing whaling port full of hope and opportunity (Figure 6.1). However, always looming in the background of the village is the gigantic factory ship *Michail*, a machine turning life into death, separating the bodies of whales into consumer goods: meat, oil and fertiliser. Too massive to dock at the small pier of Ayukawa, the *Michail* must stay outside the coastal boundaries of the village, while at the same time extending the anthroposphere far into the open sea. The whaling station itself is featured prominently in Andrews's account; people are working hard but seem to be always content to quickly interrupt their bloody work to smile into the camera.

¹ Andrews, *Journals 1908–1912*. Andrews' visit in Ayukawa has only recently been rediscovered and analysed by Uni Yoshikazu and Katō Kōji, see for their joint publication: Katō and Uni, 'Roy Chapman Andrews no geirui chōsa shashin'.

² Andrews, *Whale Hunting with Gun and Camera*, 91.



Figure 6.1 Scene of Ayukawa with whaling station on the right side and the factory ship *Michail* in the open sea. Photo taken by Roy Chapman Andrews in 1910. Courtesy of the American Museum of Natural History.

In some pictures we see how dozens of townspeople gather at the pier of the local whaling station, watching with interest how whale bodies are dissected (Figure 6.2).

This chapter traces the development of the backwater fishing hamlet of Ayukawa into the first modern Japanese whaling town over the course of only four years. As I will argue, whaling towns like Ayukawa functioned as an industrial bridgehead to harvest the riches of the cetosphere and transform them into terrestrial commodities. In this way, not only the station itself, but the whole village became part of an industrial complex that devoured whales in ever faster quantities. Looking closer at Andrews's pictures, we get an idea of how much the ecological foundation of the town has changed in only four years. The hills are barren, all the trees have been cut to feed every hungry whaling station. Everywhere in the town, fertiliser plants have sprung up and instead of planting rice or barley, the fields surrounding Ayukawa have been stockpiled with whale



Figure 6.2 Flensing a whale with onlookers at the new Tōyō Hogeï whaling station in Ayukawa. Photo taken by Roy Chapman Andrews in 1910. Courtesy of the American Museum of Natural History.

meat, which is drying in the sun before being processed. While Ayukawa's transition into a whaling town was swift, it was not less disruptive and divisive for the community. The external ecological cost of industrial whaling threatened the cohesiveness of the community and the price for securing social stability paid was the destruction of the cetosphere, which was replaced by a less resilient and less diverse coastal anthroposphere.

The Decline of Coastal Fishing

Even before the *Michail* entered the bay for the first time in spring 1906, an ecological crisis was brewing in Ayukawa that threatened the socio-economic survival of the community. The elite of the town had been worried for some time about the community's economic dependence on proto-industrial fisheries and tourism. While fishing had always been the main income for the community, tourism had also been important for Ayukawa's economy. For centuries, pilgrims had stopped on their way to

the sacred island of Kinkazan in Ayukawa, providing the town with a modest secondary revenue. As we have seen in [Chapter 1](#), when Ōtsuki Gentaku made his pilgrimage to Kinkazan in 1812, he also visited Ayukawa before reaching Kinkazan. However, in 1897, only one year after a tsunami had partly destroyed the town, a fire broke out in Kinkazan. Due to the rough sea, firefighters from Ayukawa could not cross to the island and had to watch how the flames destroyed most of the newly renovated temple buildings.³ This setback showed how fragile the local tourism industry was.

Even more concerning, however, was the development of proto-industrial fisheries. As elsewhere on the Oshika Peninsula, sardine and bonito fishing were originally developed in Ayukawa by Kii fishermen, some of which moved permanently to the village in the late seventeenth century, building also the local Kumano Shrine.⁴ More than half of the population of Ayukawa in 1905, 294 people to be precise, were engaged in fishing, while many were also working as farmers during the off-season on the few millet and vegetable fields around the town.⁵

Due to its proximity to the fish-rich waters around Kinkazan, Ayukawa had an advantage over the other fishing communities on the peninsula, which the Oshika communities harvested as commons (*iriai*). However, in 1875, the Meiji government abolished the *iriai* system and nationalised all Japanese coastal waters, and fishing licences were sold to individuals. Following this change, more people than ever before engaged in fishing in the Japanese waters, leading to a tripling of the fish catches but also to increased conflicts between the communities as well as forced a collapse of coastal fish stocks.⁶

After several attempts to reform the fishing system, the Meiji government eventually enacted in 1901 the Fisheries Law that standardised many practices. This law gave exclusive fishing rights to fishing unions (*gyogyō kumiai*). In order to continue fishing, each community had to reorganise itself into a union. The role of the union was to fairly distribute fishing rights inside the community, while also preventing disputes with outside fishermen, by controlling the access to coastal and offshore waters. The unions were controlled by the most influential and wealthy individuals of the communities, often the descendants of the net owner families from the Edo period. The leaders of the

³ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 152.

⁴ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 240.

⁵ Over the course of the Meiji period, many fields were transformed into rice paddies and a professionalisation between farmers and fishermen took place, see Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 129–30, 202.

⁶ Makino, *Fisheries Management in Japan*, 24–5.

fishing unions had an interest in developing offshore fisheries, as they were often the only ones in the communities with the necessary capital to buy and operate mechanised fishing vessels. In this way, while the fishing unions greatly reduced disputes among fishing communities, they did little to conserve coastal marine resources, and even encouraged the expansion into the offshore regions, thus accelerating the decline of the coastal ecosystems.⁷

The former common fishing grounds around Kinkazan became part of Ayukawa exclusive fishing zone, excluding the other communities. Unsurprisingly, this decision was fiercely challenged by the other fishing villages. The conflict between Ayukawa and the other fishing communities was only solved in 1910 and probably accelerated the decline of the local fishing grounds as the unclear jurisdiction led to a ‘tragedy of the commons’ situation.⁸ Under the 1901 fishing law, the coastal ecosystem could not withstand the uncontrolled and increased fishing activities and sea bream, sardine, bonito, and tuna catches declined drastically in the Sea of Kinkazan.⁹ The regional newspaper *Kahoku Shimpō* lamented in 1906:

It is not difficult to imagine that the complete depletion of the coastal fish stocks is not far off. From now on, the only possible development of this place left is long-distance fishing ... Fisheries in our district is in decline, and the peninsula will probably fall more and more into misery with every day and month passing by.¹⁰

Offshore fishing was still largely undeveloped, as it relied on motorised fishing vessels. Of these, only three were in operation on the Oshika Peninsula, while all other boats were still coastal bound and continued to harvest the overfished coastal stocks.¹¹

The Arrival of the Whalers

At the beginning of the twentieth century, Ayukawa’s ecological and economic future was thus in serious jeopardy. Without additional outside capital, it seemed uncertain that the town could survive for long on the dwindling coastal fish stocks, while new investments were needed to repair the town after the devastating 1896 tsunami, the fire

⁷ Yamamoto, ‘Development of a Community-Based Fishery Management System in Japan’, 24–5; Ericson, ‘Nature’s Helper’, 203–4.

⁸ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 172.

⁹ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 171; Miyagi kenshi hensan iinkai, *Miyagi kenshi*, 10:126–31.

¹⁰ *Kahoku Shimpō*, ‘Oshika hantō no gyogyō’.

¹¹ *Kahoku Shimpō*, ‘Oshika hantō no gyogyō’.

in Kinkazan in 1897, and a crop failure in 1905.¹² The local elite, who monopolised most of the village's political capital through the political institutions, such as the mayor's office, the town's council, and the local fishing union, was heavily involved in attracting whaling companies from western Japan that were in search of a suitable place for a whaling station near the 'castle of sperm whales' at the Sea of Kinkazan.¹³ As discussed in the [previous chapter](#), after the Russo-Japanese War, whaling companies were expanding their operations along the Japanese Coast, following whales on their migration on the Kuroshio Current.

In early 1906, the whaling company Tōyō Gyogyō announced its plans to buy around 734 m² of former rice fields near the border of the village. As the planned station was close to the river and the town's primary school, concerns regarding public health were raised by the locals. According to the *Kahoku Shimpō*, locals feared that 'when whales are caught, sardines will disappear and sea grass will wither'.¹⁴ A representative of the whaling company found these concerns completely unfounded: 'We have seen the reverse situation in the Korean area: the catching of whales attracts sardines.'¹⁵ Fearing for their health and livelihood, local fishermen continued to protest and began disrupting town and fishing union meetings. To resolve the situation, the mayor and other members of the elite presented themselves as mediators between the anxious population and the whaling company. After some negotiations, Tōyō Gyogyō agreed to pay the town's office a tax of 300 yen per year. This money was used to build a new primary school higher up the hill, away from the potentially dangerous station.¹⁶ The town elite propagated this compromise as a major breakthrough and construction for the whaling station began soon thereafter.

However, not everything was going smoothly. A major obstacle during the construction was the inadequate infrastructure in Ayukawa as the next sawmill was in Ishinomaki and timber had to be transported by boat to the village and then assembled by hand. This delayed the construction of the station till June 1906, when the whaling season was supposed to start. The whaling company therefore brought the factory ship *Michail* to Ayukawa,

¹² Kato, *Tsunami to kujira to pengin to*, 78.

¹³ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 154, 160; Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 217.

¹⁴ Kahoku Shimpō from 18 June 1906, cited after: Kondō, *Nihon engan hōgei no kōbō*, 235–6.

¹⁵ Kahoku Shimpō from 18 June 1906, cited after: Kondō, *Nihon engan hōgei no kōbō*, 235–6.

¹⁶ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 160.

where the captured whales could also be flensed.¹⁷ In the end, the construction of the station was finished on 9 June, just when the catcher boat *Nikolaj* arrived. The subsequent flensing of the captured whales was, therefore, conducted at the station and not on board the *Michail*.

The industrial whaling stations had first been conceived as seasonal outposts of whalers from southern Norway coming to Finnmark. These stations were situated at the edge of a town and were often physically separated from the rest of the population through walls and brick buildings. The only way inside the station was through a gate which was only opened for the workers. While the locals could not enter the station without permission, the station released polluted air and water back into the village. Norwegian historian Einar Niemi has thus argued that these stations were often regarded as colonial outposts from the empire's core region.¹⁸

This first whaling station in Ayukawa consisted of only five buildings: a salting factory; a storage room; a whale meat packing house; a sleeping place for the workers; and a whale oil factory.¹⁹ Other parts of the local environment had also to be adjusted: the local river was partly diverted through a pipe to the new station to obtain water for storage, cooking, and operating the boiler.²⁰ Moreover, a new pier was constructed directly adjunct to the station and the mouth of the river, allowing harbour for whaling ships during storms, which had in the past been a major obstacle for making Ayukawa a whaling base.²¹ According to the *Kahoku Shimpō*, the new pier was equipped with an electrical winch, which could tow the fluke of whale carcass into the air. Workers standing on a small boat near the pier then began flensing the whale from top to bottom using flensing knives.²²

The new pier was one of the main points of dispute between the pro- and anti-whaling factions in the town. To get permission to build the pier, which was only around fifty metres away from the town's border and directly at the mouth of the river, the whaling company had to convince the town's council that its construction would not pose 'harm to the

¹⁷ We know from a picture taken by Andrews that the *Michail* would return to Ayukawa at least until 1910. After this, the fate of the world's first factory ship is unknown, see Katō and Uni, 'Roy Chapman Andrews no geirui chōsa shashin', 74–5.

¹⁸ Niemi, 'Modern Whaling on the Norwegian Arctic Coast', 76. See also Chapter 5.

¹⁹ Kondō, *Nihon engan hōgei no kōbō*, 231–2, 241.

²⁰ Ayukawa means 'sweet fish river'. Besides sweet fish, this small stream had been a source of various fresh water resources, such as sculpin, eel, minnow, and shrimp, see Kondō, *Nihon engan hōgei no kōbō*, 242–3.

²¹ Oshika chōshi hōsen iinkai, *Oshika chōshi: Chūkan*, 214–15; Kahoku Shimpō, 'Kinkazan-oki no hōgei jigyō'.

²² Kahoku Shimpō, 'Kinkazan-oki no hōgei wo miru (Shita no 2)'; Uni, 'Senzenki nihon no engan hōgei no jittai kaimei to bunkateki eikyō', 101–2.

public waters'. The council argued that the pier would be beneficial for Ayukawa as other fishing boats could use the pier during storms as a safe anchor point and unilaterally passed the whaling company's request. This decision enraged many locals who feared that the flensing of the whales at the pier would destroy the local flora and fauna, such as small fish, shells, and seaweed on whose collection many of the fishermen relied.²³ Indeed, take the following description of Andrews of a similar pier in Kii-Ōshima:

Sometimes a kimona-clad, bare-footed girl slipped on the oily boards or treacherous, sliding, blubber cakes and sprawled into a great pool of blood, rising amid roars of laughter to shake herself, wipe the red blotches from her little snub nose and go on as merrily as before . . . The spirit of the place was infectious, and as I splashed about in the blood and grease, I talked and joked with the cutters in bad Japanese²⁴

Considering the negative connotation blood and pollution had in Shinto religious practices, Andrews's joyful and positive portrayal of the blood-covered pier is quite striking. It illustrates, however, that whale waste did lay around on the pier and presumably ended up in the ocean. Indeed, when the whalers began operating the provisional whaling station, rotting whale intestines, bones, grease, and whale blood were dumped into the ocean, leading to widespread pollution and the withering of seaweed and shellfish in the bay. The worst fears of the locals had become a reality.²⁵

Nevertheless, the commercial success of this first provisional whaling station encouraged the competitors of Tōyō Gyogyō to open their own stations in the surrounding bays, leading to similar environmental problems. Meanwhile, the communities themselves were overwhelmed by an influx of immigrants. In the first season of 1906, Ayukawa and the neighbouring villages had to accommodate over a hundred foreign whalers during the summer season.²⁶ Ayukawa's population grew from around 500 at the beginning of the century to 1,135 in 1915, with many people from the inland moving to the booming town.²⁷

As in many other industrial whaling places, however, the companies hired mainly skilled whalers from western Japan, while non-skilled locals and immigrants were relegated to mundane and poorly paid jobs in the periphery of the whaling industry. For example, in nearby Onagawa, one

²³ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 159–60.

²⁴ Andrews, *Whale Hunting with Gun and Camera*, 82–4.

²⁵ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 162.

²⁶ Kahoku Shimpō, 'Kinkazan hyakunin'.

²⁷ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 129–30.

of the first new jobs created for the locals was the collection of rotten whale meat on the seafront as it had become a serious health hazard.²⁸ Other new job opportunities included supplying the whalers with water and coal, the transportation of whale products, or entertainment services for the employees such as restaurants and inns (later even a red-light district).²⁹ Whaling was conducted between May and October and after the season ended, the whalers would move to other whaling places while the locals were laid off.

Initially, ‘the castle of sperm whales’ did hold up to its name and hundreds of whales were caught every year. The provisional whaling station in Ayukawa soon proved to be too small in size to cope with the amount of whale meat that had to be processed, which was not only unsatisfactory from a business standpoint but also further accelerated the problem of environmental pollution and thus increased the risk of social unrest.

After the merger of several whaling companies to the new industry juggernaut Tōyō Hogeï in 1909, plans for two improved and larger stations were made in Oginohama and Ayukawa. The remaining competitors followed suit and submitted similar plans to the Ministry of Agriculture and Commerce. When Andrews visited Ayukawa in May 1910, the new station had just been opened. The new Tōyō Hogeï station was now situated around two hundred metres outside the town and had a total of thirty-one buildings, making it much bigger than its predecessor. For a more efficient workflow, the buildings were not only bigger but also had duplicates, for example, two storage rooms, two worker barns, and so on. Whales were hauled to the station with steam-powered winches, either at the pier where the animal was lifted on the fluke into the air or at an almost horizontal concrete slipway that reached into the water. The slipway greatly reduced the amount of blood and grease that flowed back into the water, making the whole process of flensing cleaner.³⁰ A further addition was two rooms near the pier to cool the whale meat with ocean water. The whale oil production and the salting of whale meat were also further expanded, and a new whale cannery was also included.³¹ All said, the new generation of stations was much more efficient and allowed for a much faster and streamlined process of flensing and processing the

²⁸ Onagawa chōshi hensai iinkai, *Onagawa chōshi*, 400–1.

²⁹ Kato, *Tsunami to kujira to penguin to*, 81–3.

³⁰ Yamashita, *Hogeï II*, 185; Uni, ‘Senzenki nihon no engan hogeï no jittai kaimei to bunkateki eikyō’, 45–6.

³¹ Nōshōkō, ‘Jūyō gyogyō no hōkyō oyobu shūkakudaka hōkoku hogeï konkyochi secchi negai no ken’.

whale carcasses. This also contributed to fewer waste products going into the ocean.

The Problem with the Whale Meat

Soon the whalers in Ayukawa were faced with another challenge: the local demand for whale meat was dismal. The expansion of the industrial whaling operations after the Russo-Japanese War to the Sanriku Coast was facilitated by the search for whale meat, while whale oil was considered a by-product. In the early days of Japanese industrial whaling, the process to win whale oil from blubber was crude and highly inefficient, despite the expanded possibilities to use whale oil not only to produce illumination and insecticide, as during the Edo period, but also to transform it through industrial processes into wax, soap, perfume, and machine oil.³² The Norwegian Embassy in Japan, for example, noted in 1907: “The principal object of [the whaling] companies is to procure whale meat, which is considered a great luxury by the Japanese and realises high prices during the winter months. Owing to the primitive methods of treating the blubber, large quantities of oil are lost and what is produced is far below the quality of the home article.”³³

More positive was Andrews’s assessment, who praised in an article in the *Metropolitan* in 1911 the Japanese for their use of whale meat:

Few people realize how important the capture of whales is to the Japanese because of the wonderful food supply which these animals furnish. When one stops to think that a single large blue whale will yield over forty tons (eighty thousand pounds) of red-meat, and that every ounce is used for food, it can perhaps be understood why the Japanese to-day have the largest whaling company in the world.³⁴

According to Andrews, the Japanese had not only studied the European whaling methods but had tweaked them to fit their own needs, thus surpassing the Western whaling industry: ‘until to-day there is no nation in the world which has progressed so far in this great industry as our friends in the Island Empire across the wide Pacific.’³⁵ In 1916, Andrews highlighted the advantages of whale meat to the European and American readers, trying to establish it as a new commodity: “It is most unfortunate that prejudice prevents whale meat from being eaten in Europe and America. It could not, of course be sent fresh to the large cities, but canned in the Japanese fashion it is vastly superior to much of the beef

³² Akashi, *Honpō no noruē-shiki hogeishi*, 8–9, 56–65.

³³ Utenriksdepartementet, ‘32/07 Japan (Tokio) 1907’, 7.

³⁴ Cited after: Japan Times, ‘Japanese Whales’.³⁵ Japan Times, ‘Japanese Whales’.

and other tinned foods now on sale in our markets.”³⁶ Although Andrews’s attempt to introduce whale meat to the Western world was not successful,³⁷ his comments helped to cement the image of Japan as a ‘whale-eating culture’ for a long time.³⁸ Historical research in recent years has painted a more nuanced picture, however. While whale meat was the most important commodity for the industrial whaling companies, its consumption before the Second World War had mostly been concentrated in the traditional whaling regions in western Japan and it was not part of the cuisine in most other regions.³⁹ In the Edo period, most inland communities probably never ate whale meat and it is only from the latter half of the nineteenth century onwards that we have reports of whale meat being sold at markets in Osaka, where it was restricted to the merchant and urban samurai classes.⁴⁰

Therefore, the industrial whaling companies had first to create a market for their new commodity of canned whale meat. In their first sales report released in 1906 the Tokyo Branch of Tōyō Gyogyō noted that ‘from Tokyo to the Northeast it is believed that whale meat is fatty and smelly’.⁴¹ To counter these prejudices, the company organised test samplings of whale meat in a park in Tokyo which was, according to their report, a huge success. They also started a large campaign of advertisements in over ten newspapers located in eastern Japan. Simmered whale meat in soy sauce proved especially popular and thousands of cans were sent all over the country, but the container proved to be faulty, leading to the spoilage of the product before it reached its destination. With this, many would-be consumers lost their appetite for whale meat.

As this publicity nightmare demonstrates, the conservation of whale meat turned out to be the biggest problem for the whaling companies. Traditionally, mainly white meat (blubber and connective tissues) had been eaten in western Japan, while red meat (muscle) had become popular only recently. However, the latter was also much harder to conserve during the summer months. Early attempts at salting or boiling red meat were imperfect and accounted only for a small fraction of the company’s revenue.

³⁶ Andrews, *Whale Hunting with Gun and Camera*, 89.

³⁷ For more on the history of whale meat in America, see Shoemaker, ‘Whale Meat in American History’.

³⁸ See for example: Komatsu, *Yoku wakaru kujira ronsō*; Yoshioka, *Hakujin ha iruka wo tabete mo OK de Nihonjin ha NG no hontō no riyū*; Akamine, *Kujira wo ikiru*.

³⁹ Watanabe, *Japan’s Whaling*; Uni, ‘Kinsei kindai no geiniku ryōri no shiyō bui to kindai Nihon ni okeru geinikushoku no fukyū katei’.

⁴⁰ Watanabe, *Japan’s Whaling*, 96.

⁴¹ From ‘Tōyō Gyogyō Tōkyō shucchōsho dai 1-ki jigyō hōkoku’, cited after, Uni, ‘Senzenki nihon no engan hōgei no jittai kaimei to bunkateki eikyō’, 116–17.

Economic historian Pieter de Ganon has argued that the Meiji government heavily promoted the consumption of beef and other forms of meat, something rarely eaten during the Edo period, in order to ‘nurturing a strong and healthy populace that could defend Japan against Western colonial power’.⁴² During the first Sino-Japanese War (1894–1895), officials identified whale meat as a cheap alternative to beef.⁴³ This allowed the whaling companies to open up sales channels directly to public institutions, such as prisons, schools, and the military to sell them fresh red whale meat. However, due to delays at the Chōshi and Ayukawa plants, the meat deteriorated, and many of the contracts were cancelled.⁴⁴ Unsurprisingly, the trouble of transporting whale meat during the summer months had a profound effect on the market prices. In the 1910 winter season, Tōyō Hogeï caught 324 whales, which could be sold in western Japan for as much as 4,000 yen each. This price fell to 2,200 yen by early spring, however, and by the summer, when the company caught 444 whales on the Sanriku Coast, it fell to about 600 yen per animal.⁴⁵

Despite an abundance of whales in the Sea of Kinkazan, its economic value was significantly diminished, which was compensated for by catching even more whales. As this large amount of whale carcasses could not be processed fast enough in the hot summer temperatures, even more whale waste was thrown into the ocean, further destroying local wildlife and threatening the near-coastal fishing industry. After the first few seasons of industrial whaling, Ayukawa was on the verge of an ecological disaster, and it became urgent to find a more sustainable solution.

Turning Whales into Fertiliser

In 1907, a year after the beginning of industrial whaling at the Sanriku Coast, a local entrepreneur from Ishinomaki found a new way to deal with the unattended and harmful whale waste products: he turned them into fertiliser. For centuries, bonito fertiliser production had been one of the main pillars of the Oshika fisheries proto-industry. With the bonito and sardine coastal stocks declining in the late nineteenth century, however, it had seemed that marine fertiliser production would soon have to be given up. The sudden influx of whale waste provided the struggling fertiliser factories with new and cheap raw material and soon fertiliser producers began buying whale waste directly from the whaling station. However, the emergence of whale fertiliser brought the local elite even closer to the

⁴² de Ganon, ‘The Animal Economy’, 134. ⁴³ Watanabe, *Japan’s Whaling*, 98.

⁴⁴ Uni, ‘Senzenki nihon no engan hogeï no jittai kaimei to bunkateki eikyō’, 118–19.

⁴⁵ Japan Times, ‘Whaling Lucrative Business’.

whaling companies and instead of creating a diversified economy like they had promised, they invested mostly in whale fertiliser plants.⁴⁶

When the first provisional whaling station in Ayukawa was closed in 1909 in favour of the larger Tōyō Hogeï station, the local entrepreneur Okada Gentarō bought the old station and turned it into one of the first whale fertiliser factories. Following this example, Nishimura Sōshirō built a second factory just outside the new Tōyō Hogeï station and other members of the elite soon followed with new fertiliser plants being established all over the Oshika Peninsula. Even the mayor of Ayukawa, Izumi Kōtarō, who had been instrumental in mediating a deal between the anti-whaling faction and the whalers, resigned in 1907 and established his own fertiliser plant in the following year.⁴⁷ Records show that these fertiliser plants not only processed whale fertiliser but also began buying fish scraps from other fishing places, thus revitalising the fish fertiliser industry that had been given up since the disappearance of the sardines a few years earlier. For example, the Miyamoto fertiliser plant opened in Watanoha in 1908 processed sharks, bonito, and tuna from Miyagi, Iwate, and Aomori Prefectures as well as whales. Additionally, herring was imported from Hokkaido to turn it into fertiliser.⁴⁸

These fertiliser plants proved to be an effective way of mitigating the coastal pollution problem. When submitting their requests to build the second generation of whaling stations in 1909 and 1910, the whaling companies had not only improved the processing technique to reduce waste but also promised to uphold new regulations: “All whale meat waste from the flensing has to be brought to a fertiliser plant. Other waste products like whale oil that swims on the water are two hours after the end of the production let out into the open sea away from the station.”⁴⁹

These new regulations ensured that the fertiliser plants would not run out of raw material as long as whaling continued. Because of the low market prices during the summer, it was often more profitable to sell even high-quality meat to the fertiliser plants. In the eyes of the bureaucracy, this development was, however, not desirable. In 1909, the Miyagi Fisheries Agency complained:

⁴⁶ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 162–3, 210.

⁴⁷ Uni, ‘Roy Chapman Andrews no geirui chōsa to Tōyō Hogeï Ayukawa jigyōjō’; Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 160–3. Among the owners of the fertiliser plants were also descendants of the former district headmen families of Naganuma and Hiratsuka, see Nōshōkō, ‘Nōshōkō – Hiryō’.

⁴⁸ Nōshōkō, ‘Nōshōkō – Hiryō’.

⁴⁹ Nōshōkō, ‘Jūyō gyogyō no hōkyō oyobu shūkakudaka hōkoku hogeï konkyochi secchi negai no ken’.

The amount of whale meat eaten in our prefecture [Miyagi] is at the moment negligible, and only one or two of the whaling companies are producing a small number of whale meat cans. Instead, most of the meat is used in Watanoha and Ishinomaki as raw material for the production of fertiliser which is then sold. It is regrettable that whale meat is misused for the production [of fertiliser]. Therefore, it is necessary to encourage producers in Watanoha and Ishinomaki and other areas to make more canned whale meat.⁵⁰

As discussed, officials saw whale meat consumption as a critical component in building a healthy populace for the empire and therefore regarded the production of whale fertiliser as wasteful. This problem affected marine resources in general: over the course of the Meiji period, the population on the Japanese islands had grown from thirty to fifty million and the consumption of fish, such as sardines and herrings had increased manifold. At the same time, however, the increased population also led to a higher demand in agricultural products and thus of marine fertiliser made from these fish.⁵¹ In the case of Hokkaido fisheries, new fishing technologies were developed that allowed a short-term increase of herring extraction at the cost of the long-term sustainability of the underlying stock, marking the decline of the herring fertiliser business.⁵²

To ease the dependence on fish fertiliser, the Japanese government saw the production and import of commercial fertiliser as a national priority. Soybean cakes and phosphate rocks were imported from Qing Manchuria (later the Japanese puppet-state of Manchukuo) and European nations, respectively, and it was aimed to expand the Japanese empire to the Pacific islands to secure nutrient-rich guano.⁵³ By the 1910s, most major European powers had switched from guano and animal fertiliser to mined ammonium nitrate and only 2 per cent of their commercial fertiliser was still of organic origin. The Japanese empire, on the other hand, still relied on organic fertiliser and this peculiarity led Toshihiro Higuchi to call Japan an 'organic empire'.⁵⁴

⁵⁰ Miyagi-ken suisan shikenjō, 'Miyagi-ken suisan shikenjō jigyō hōkoku'.

⁵¹ The Journal of the Fisheries Society of Japan, 'Fisheries and Our Farmers'. See also Cushman, *Guano and the Opening of the Pacific World*, 211.

⁵² Howell, *Capitalism from Within*, 106–8; Higuchi, 'Japan as an Organic Empire', 145–6. This phenomenon has also been coined 'the fisherman's problem', see McEvoy, *The Fisherman's Problem*.

⁵³ Kreitman, 'Feathers, Fertilizer and States of Nature'.

⁵⁴ Higuchi, 'Japan as an Organic Empire'.

The Japanese dependence on imported fertiliser was perceived by the military as a serious problem.⁵⁵ In 1911, the Japanese economy produced fertiliser with a net value of forty million yen, but they still had to import fertiliser worth fifty-two million yen, ten per cent of the total imports.⁵⁶ According to my estimations, around 12,000 metric tons of whale fertiliser could have been produced in 1911.⁵⁷ This is more than the 8,000 metric tons of fish fertiliser that was imported in the same year, but a small number compared to the around 500,000 metric tons of herring fertiliser produced in Hokkaido in 1911.⁵⁸ Nevertheless, it was a huge boost to the local economy and over fifty private entrepreneurs on the Oshika Peninsula and around Ishinomaki started their own, mostly small-scale fertiliser businesses. High-quality fertiliser was exported as far as Fukushima, Shizuoka, and Hyōgo Prefectures, while lower-quality fertiliser remained in the region. The low-quality whale broth was only sold around Ishinomaki.⁵⁹

Even the invention of cold storage units, which partly solved the problem of rotting whale meat, did not hinder the success of the new Oshika fertiliser industry. Cold storage units were first used for transporting whale meat in Shimonoseki and Osaka in 1911 and ice storage tests were carried out in Ayukawa and Same-ura for the first time in 1913. Ice transportation did not work the whole year round, however. Steamships with ice storage could be used in the colder spring and autumn months to transport fresh whale meat to the markets in Tokyo and Osaka, but during the summer months, the high temperatures did not

⁵⁵ Kreitman, 'Feathers, Fertilizer and States of Nature', 205–6.

⁵⁶ Utenriksdepartementet, '32/12 Japan 1912'. Over fifty per cent of the imports was soybean cake from Manchuria, followed by thirty per cent sulphate of ammonia and nitrate of soda. The quantity of imported fish fertiliser decreased every year and was only one per cent in 1911, while the import prices increased. One reason for the decrease was that since 1910, the dried fish from Korea was no longer counted as 'imported' but instead as 'domestic production'. Nevertheless, the 350 metric tons of dried fish from Korea was a fraction of the yearly imported 180,000 metric tons of soybean cake, see Utenriksdepartementet, '32/10 Japan 1910'.

⁵⁷ According to Akashi, around one-third of the weight of a whale could be transformed into fertiliser, see Akashi, *Honpō no noru-shiki hogeishi*, 60–1. In 1911, 1,919 whales were caught around Japan and I assume, based on the records of other years, that half of these were taken in the summer season and thus made into fertiliser. Using the average weight of each whale species, I calculate that around 12,000 metric tons of whale fertiliser could have been produced, see Kasahara, *Nihon kinkai no hogeigyō to sono shigen*, 1950, 9.

⁵⁸ Utenriksdepartementet, '32/10 Japan 1910'; Howell, *Capitalism from Within*, 108.

⁵⁹ Ishinomaki shishi hansen iinkai, *Ishinomaki no rekishi: Sangyō Kōtsūhen*, 5:288–9. As discussed in [Chapter 1](#), the chemical composition of whale fertiliser differed from fish fertiliser, as it had a higher phosphorus content. We can, therefore, assume that whale fertiliser was used for different agricultural purposes than herring fertiliser, for example. Unfortunately, there are no historical records that I am aware of that show the usage of whale fertiliser in the Meiji period.

allow for the usage of this method and the whaling companies continued to sell the meat to the fertiliser producers.⁶⁰ Over time, local consumption of whale meat increased, and ice storage and whale oil production technologies improved, bringing greater profit to the whaling companies from products other than whale fertiliser.

Reaching into the Cetosphere

Over the course of only four years, Ayukawa became Japan's first modern whaling town. This newfound wealth and fame were solely based on abundance of the whales foraging the Sea of Kinkazan during the summer season. Industrial whaling did indeed save the local fisheries on the Sanriku Coast, at least for a time. The *Kahoku Shimpō* had noted in 1906 that the only way to escape the collapse of the coastal fish stocks was to invest in motorised fishing vessels that could search for new fish stocks farther offshore. The recently arrived motorised whaling vessel from the whaling companies brought this necessary technological innovation to the region.⁶¹ Declining sardine stocks could be compensated for by the production of whale and imported fish fertiliser and as pointed out by the pro-whaling faction, industrial whaling helped to industrialise local fishing. With motorised boats and more efficient harvesting methods, fishing became less coastal bound and new fish stocks closer to the perturbed region became available.

Motorised fishing and whaling ships expanded the anthropogenic influence into the offshore region, changing the volatile ecological balance between humans and cetaceans. For centuries, humans had benefited from whales bringing fish to the shore, while making passive use of stranded or injured whales. Now, they ventured into the offshore regions of the Sea of Kinkazan to hunt fish and whales directly. In the first season, the whalers had mainly been interested in large whale species they knew from the Korean Sea and western Japan, like blue, fin, and sperm whales. While sperm whales remained important until the 1940s, fin whales were hunted excessively in the first few years, which led to a partial collapse of the stock as early as in the late 1910s.⁶² To compensate, the whalers started hunting a species that had so far been mostly unknown in western Japan: sei whales.⁶³

⁶⁰ Uni, 'Kinsei kindai no geiniku ryōri no shiyō bui to kindai Nihon ni okeru geinikushoku no fukyū katei', 19.

⁶¹ *Kahoku Shimpō*, 'Oshika hantō no gyogyō'.

⁶² The catch numbers of fin whales declined on the Sanriku Coast from 394 in 1911 to 49 in 1919, see Kasahara, *Nihon kinkai no hogeigyō to sono shigen*, 1950, 18–19.

⁶³ Of the 5,588 whales processed at the *Tōyō Hoge* Ayukawa station between 1910 and 1944, 40 per cent were sei whales, 47 per cent were sperm whales, and only 10 per cent

During the Edo period, one major reason fishermen protested against western Japanese whaling was that they believed that sei whales, locally known as ‘sardine whales’ or ‘bonito whales’, were responsible for driving sardines and bonito towards the coast. That sei whales were foraging for sardines in the Sea of Kinkazan is also confirmed by Andrews. He reports that in early spring mostly fin and blue whales could be found in the Sea of Kinkazan, but in June and July, sei and sperm whales arrived in great numbers. These two species, therefore, were not only the backbone of the cetosphere in the Sea of Kinkazan but also became the species Japanese summer whaling relied on the most.⁶⁴ On several occasions, Andrews watched on the whaling ship *Hogeimaru No. 5* how sei whales were hunting sardines, with sea birds hovering about the whales, looking for easy pickings.⁶⁵ However, when examining the carcass of four sei whales, Andrews found only shrimp in their stomachs.⁶⁶

We would expect that the Ayukawa fishermen were like their ancestors concerned with the ecological and economic consequences of hunting sei whales. However, the few contemporary sources we have, do not reveal a particular concern for the species the whalers targeted. The reason for this is simple: sardines and bonito fishing no longer played a significant economic role for the town. In 1862, bonito fishing and *katsuobushi* production had contributed to 38 per cent of the town’s income from coastal fishing, while sardine fertiliser contributed 4 per cent.⁶⁷ In 1911, coastal bonito fishing brought a profit of only 1,460 yen, which was 2 per cent of all near-coastal fishing in Ayukawa. At the same time, however, the new offshore bonito fishing had grown to 15,200 yen in just a few years.⁶⁸ Bonito was now hunted up to sixty kilometres off Kinkazan, a distance the older, non-motorised boats could not have reached.⁶⁹ The transfer from coastal to offshore bonito fishing happened around the same time industrial whaling was introduced. I, therefore, suggest that for offshore fishing, sei whales were no longer needed to bring fish closer to the shore, meaning the locals were only concerned with the pollution whaling caused and not with the role sei whales played in the local ecosystem.

were fin whales, see Uni, ‘Roy Chapman Andrews no geirui chōsa to Tōyō Hogeii Ayukawa jigyōjō’, 63.

⁶⁴ Andrews, *Whale Hunting with Gun and Camera*, 91.

⁶⁵ Andrews, *Whale Hunting with Gun and Camera*, 110, 121.

⁶⁶ Andrews, *Whale Hunting with Gun and Camera*, 127–8.

⁶⁷ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 171.

⁶⁸ Offshore bonito fishing was divided into Japanese-style boats and Western-style motorised boats. In 1911, twelve offshore Japanese-style boats with a total crew of 147 fishermen brought in bonito for 5,120 yen, while two Western-style boats with 38 crew members caught bonito for 10,080 yen, see Nōshōkō, ‘Meiji 44 nen – Seisan chōsasho – Naganen hozon – Oshika-gun’, 44.

⁶⁹ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Sangyō Kōsūhen*, 5:291.

But how did the whales themselves react towards the sudden appearance of the humans? Again, our sources are quite limited. Andrews reports that during one of their sei whale hunts, an animal injured by a harpoon suddenly swung around and took up speed coming directly towards the whaling ship:

The whale was coming at tremendous speed, half buried in white foam, lashing right and left with his enormous flukes. In an instant he hit us. We had half swung about and he struck a glancing blow directly amidships, keeling the little vessel far over and making her tremble as though she had gone on the rocks; then bumped along the side, running his nose squarely into the propeller. The whirling blades tore great strips of blubber from his snout and jaws and he backed off astern.⁷⁰

If the whale had hit squarely, Andrews surmised, the ship would have sunk. As Andrews writes later in his book, almost every whaler had stories of injured whales attacking whaling vessels. However, Andrews was convinced that such ramming was not intentional by the whale but had been the result of his death flurry and purely accidental. Only sperm whales, so Andrews believed, were able to deliberately attack a whaling ship.⁷¹ To this day it remains unclear if baleen whales were intentionally attacking whaling ships. However, the many stories of whales protecting their calves and becoming aggressive towards humans indicate that this was at least sometimes the case.⁷²

Conclusion

Seen from a short-term economic standpoint, the introduction of industrial whaling was a blessing for Ayukawa and the town's population tripled in only a few years with new businesses like whale fertiliser production thriving. With over fifty local entrepreneurs starting their own businesses, the demand for unskilled workers was great and as records show, up to 40 per cent of the employees were women.⁷³ The fertiliser producers bought not only whale waste, but also fish scraps from the whole of the Sanriku Coast and even herring from Hokkaido, thus revitalising the old fertiliser proto-industry. This time, however, most of the fertiliser was not produced for export but for farmers living in northern Japan, making the industry more locally oriented.

A closer inspection reveals that the benefits of whaling were unevenly distributed, however. The whaling companies were clearly benefitting the most and by establishing secondary industries, such as fertiliser and

⁷⁰ Andrews, *Whale Hunting with Gun and Camera*, 114.

⁷¹ Andrews, *Whale Hunting with Gun and Camera*, 115–16, 175–6.

⁷² Okumura, *Kujira no haha*. ⁷³ Anonymous, 'Hiryō ninpuchō'.

canned whale meat production, the local elite were using their political and economic capital to become junior partners of the large companies. On the losing side were not only the whales but also the less well-off fishermen, who had been against whaling from the start. Although they had predicted that the whaling operation would cause pollution and endanger their fishing operation, the decline of near-coastal fisheries due to overfishing had started much earlier, forcing a reorientation towards offshore fishing. Locals without the necessary capital found new ephemeral jobs such as working in the fertiliser plants or cleaning the beaches of whale carcasses.

By becoming a whaling town Ayukawa also lost many traditional side activities and seasonal work like collecting firewood or shells as well as cultivating fields. The rampant growth of the town's population and industry left many of the surrounding hills barren as former fields were either swallowed by the town or transformed into fertiliser plants. The remaining fields were consolidated and tilled by full-time farmers, a job category that had not existed before. The sharp increase in shipping activities also led to the construction of a stone harbour to protect against tsunamis and storms, resulting in former abalone and seaweed gathering places being lost.⁷⁴

Given the precarious situation for the subaltern class, it may be surprising that the local anti-whaling faction disappeared completely from the contemporary sources after 1906. Why there was no larger resistance against these social and ecological changes? Initially, the opposing fishermen were overruled by the small but firmly established local elite. As these families held all the capital in the town, most of the poorer fishermen were either working for them or had to pay back debts, making it difficult to oppose them. The local fishermen could not expect help from other communities as Ayukawa was in dispute over the fishing rights of the Sea of Kinkazan with its neighbouring villages. Moreover, the coastal pollution was mostly limited to the respective cove where the whaling station was situated and the limited exchange between the villages hindered the establishment of a region-wide anti-whaling movement. Also, with the decline of the coastal sardine and bonito fisheries, whales lost their importance to the fishermen as they were no longer needed to find and bring these fish species to the shore.

Large-scale immigration was, however, the main reason the opposition disappeared so quickly from the sources. In the first years after the introduction of industrial whaling, hundreds of immigrants moved from the surrounding villages, districts, and prefectures to Ayukawa,

⁷⁴ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 172–3.

Oginohama, and Onagawa in search of work in the periphery of the whaling industry, changing the social structure of the towns. Although these people were also living on the fringes of society, unlike the locals, they felt no moral obligation to preserve the local environment. On the contrary, they had migrated to the Oshika Peninsula to be part of the change. Many were unable to find a job in the whaling industry itself, but they could find work in secondary industries like construction, public services, or in fertiliser factories. This migration also explains why the anti-whaling faction is no longer present in the collective memory of the town today as most of the ancestors of the current population moved to Ayukawa after 1906. Therefore, I argue that the reason the opposition against whaling was not able to organise itself in Ayukawa was simply that the local fishermen became a small minority in their own town in just a few years, while everyone else profited from their loss.

7 Burning Down the Whaling Station

The raid on the Same-ura whaling station near Hachinohe on 1 November 1911, was a turning point for the Japanese whaling history. Unlike the fishermen in Ayukawa, the fishing communities around Hachinohe did not give up the cetosphere without a fight. The battle, as described in the Introduction, was bloody and laid open all the social rifts and injustices that had been brewing in the communities for decades. At the same time, however, the raid also stands symbolically for the end of the Ebisu whale culture and the integration of Japan's Northeast into the Japanese whaling empire.

The Same-ura Incident has been widely discussed in the Japanese literature, but so far only one chapter, written by Watanabe Hiroyuki, has been published in English about the topic. While Watanabe's discussion of the socio-economic background of the rioting fishermen was instrumental for this research, my own contribution is to include the larger ecological circumstances of the conflict and show how the riot would become the last stand of Japanese fishermen to defend the cetosphere. The outbreak of violence in Hachinohe represented the failure of the elite to engage with the economic, social, and ecological concerns raised by the local population. As I will argue in this chapter, the elite used scientific knowledge to discredit the ecological knowledge of the coastal communities, thereby, inadvertently, also showing the limitations and uncertainties of the scientific method. In the end, it was the whaling industry itself that provided a compromise with the rioters, offering jobs and relative prosperity in turn for giving up the cetosphere.

While we have relatively little knowledge of anti-whaling protests in other regions, the dispute in Hachinohe is well documented. One reason for this is that the major political factions in Hachinohe were drawn into the conflict. On the pro-whaling side stood the *Doyōkai* faction, which represented former samurai families and farmers. The *Ōnanha* faction, which was supported by merchants and the working class, took initially an anti-whaling position. Disputes were not only held in local parliaments and town offices but also in two regional newspapers: *Hachinohe*, which

was associated with the Doyōkai and its rival the *Ōnan Shimpō*. For this chapter, I analysed over eighty newspaper articles regarding the anti-whaling protests in Same-ura published in the *Ōnan Shimpō* between April 1909 and October 1912, while also looking at the rival *Hachinohe* and the more neutral *Tōō Shimpō* newspapers. Local historians have also collected additional primary sources and conducted interviews with survivors, which will also be taken into account.¹

Hard Times in Hachinohe

Even though the whaling issue was discussed among all social groups, most people who actively participated in the riot were part of the fishing industry in one way or another. The anti-whaling protests were concentrated in the four fishing communities Minato, Shirogane, Konakano, and Same-ura, all situated east of the Hachinohe city centre and today part of the city (Figure 7.1). After the Meiji Restoration, Hachinohe had lost its status as an independent domain and became part of the newly founded Aomori Prefecture. Over 16,000 people lived in Hachinohe city in 1908, which was centred around sardine fishing and fertiliser production. Many fishermen living in Hachinohe and the surrounding villages

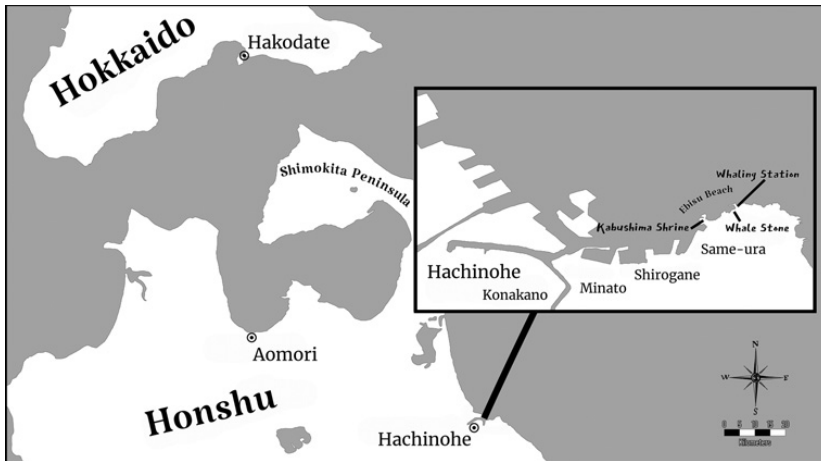


Figure 7.1 Map of the Hachinohe region (ca. 1912)

¹ See Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*; Satō, *Kujira kaisha yakiuchi jiken*; Ishida, *Nihon gyominshi*; Watanabe, *Japan's Whaling*.

were part-time farmers and worked either in a small-scale fishing family enterprise or as wage labourers for fish fertiliser producers around Hachinohe. Until the decline in the 1920s, around 2,000 to 4,000 local farmers and fishermen travelled to Hokkaido, Karafuto (Sakhalin), and Russia every year during the summer months as *dekasegi* to participate in the herring runs, earning around thirty to forty yen per season.²

Similar to Ayukawa, coastal fishing was in deep decline, when industrial whaling appeared on the scene. In 1880, half of the revenue generated from fishing in Aomori Prefecture came from sardine fishing, but ten years later, this percentage had declined to only 16 per cent. This massive drop can be explained by the disappearance of the sardine stocks, probably caused by a mixture of overfishing and natural regime change. The northern parts of Aomori Prefecture could compensate for the loss of sardines with herring fishing as the catch increased threefold after the introduction of new fishing nets in 1876. Herring was, however, uncommon around Hachinohe and the fishing communities remained dependent on sardines. Despite having the highest concentration of fishermen, the Hachinohe region contributed only 9 per cent of the prefecture's fish catches in 1900, whereas ten years prior it had been 18 per cent.³

In order to combat the declining fish catches, the local governments encouraged the introduction of more efficient fishing techniques. Furthermore, in 1894, a new train line was opened that connected the port of Hachinohe with the rest of Japan, allowing fishery products to be transported as far as Tokyo. Before this, fish had been sold locally or transported on horses or ships to nearby provinces, which made the selling of fresh marine products during the summer months difficult. The new railway raised the prices of fresh fish products by about 20 per cent.⁴

Even more important than government-funded schemes, however, were private initiatives that tackled the problem of declining fish stocks. In the first decades of the Meiji period, small-scale fishing was conducted with the beach seine (*jibikiami*) or fixed shore nets (*teichiami*), both techniques relied on sardines and other small fish coming close to the shore. The entrepreneur Hasegawa Tōjirō (1855–1933) set out to change this situation. Noticing the increasing demand for fish fertiliser in his home prefecture of Mie, he migrated to Hachinohe in 1886 to open his own fish fertiliser business. He was integral in developing a round haul net

² Hachinohe shishi hensan iinkai, *Shinpen Hachinohe shishi: Tsūshūhen Kingendai*, 3:87. Older literature estimated that every year more than 10,000 people from the Hachinohe region participated in the herring run, see Hachinohe shakai keizaishi kenkyūkai, *Gaisetsu Hachinohe no rekishi*, 1:203. See also, Howell, *Capitalism from Within*.

³ Yamane, *Hachinohe no gyogyō*, 12–14. ⁴ Yamane, *Hachinohe no gyogyō*, 26–7.

(*aguriami*), which entrapped schools of sardines in a bag-like net between two fishing boats. This new fishing technique, which was, after 1897, used across Japan and made Hasegawa a wealthy man, allowed not only to catch hundreds of sardines in a single haul but also shifted fishing operations farther offshore.⁵

Hasegawa's round haul net further accelerated the social division among fishermen. While industrial fishing companies invested in the new technology and expanded their activities to new fishing grounds offshore, self-employed fishermen still relied on the old techniques. For them, the drop in sardine catches was even more dramatic as the sardines were now fished offshore before they could reach the coast. Facing rising protests from locals, Hasegawa had to withdraw his round haul net operation from Kushiro in Hokkaido, while also being exposed to threats and physical attacks from fishermen in the Hachinohe region. Another problem Hasegawa faced was the price erosion of sardine fertiliser in Tokyo and other places. Especially as after the Sino-Japanese War, cheap soybean fertiliser from Manchuria poured into Japan.⁶ Hasegawa therefore looked into alternatives to fish fertilisers and in 1908 became involved in a scheme to introduce industrial whaling to the region.

Hasegawa's Whale Fertiliser Scheme

The exact circumstances of how industrial whaling came to the Hachinohe region remain somewhat obscure. Since the end of the Russo-Japanese War, building a whaling station near Hachinohe had been of great strategic interest to the whaling industry. As the Norwegian-style whaling ships had a range of around 100 nautical miles, the industrial whaling companies strived to establish a whaling station every seventy to eighty miles to cover the whole Sanriku Coast. From Ayukawa, the next whaling station was in Ryōishi near Kamaishi, but from there was a gap if the whalers wanted to connect Hokkaido to the rest of the coastal network. The Hachinohe region was the logical spot for this last whaling station.

In April 1909, the *Ōnan Shimpō* reported of secret meetings between Hasegawa and a representative of the whaling company Dai-Nihon Hogeï. According to the newspaper, Hasegawa urged the whaling company to build their next whaling station in Same-ura, where Hasegawa possessed land. After some negotiations, Hasegawa invited the four union

⁵ Hachinohe shiritsu toshokan, *Hachinohe Nanbu shikō*, 180–2; Hachinohe shakai keizaishi kenkyūkai, *Gaisetsu Hachinohe no rekishi*, 1:201–3.

⁶ Ishinomaki shishi hensan iinkai, *Ishinomaki no rekishi: Sangyō Kōtsūhen*, 5:282.

heads of Shirogane, Minato, Konakano, and Same-ura to Ishida Tako's guesthouse, who was a close friend of Hasegawa and a supporter of whaling. The newspaper alleged that the union heads were 'bribed' (*kōhaku*) with a large feast and promised exclusive deals with the whalers if they wrote a recommendation letter to the governor. For the *Ōnan Shimpō*, these secret dealings made Hasegawa a 'bitter enemy of the fishermen'.⁷ A few days later, Dai-Nihon Hogeï officially announced its plans to build a whaling station in Same-ura at Ebisu Beach near the famous Kabushima Shrine, a small island dedicated to the Goddess Benzaiten. Shortly after this news broke, over 200 fishermen from Minato marched to the mayor office to submit an official petition against these plans. The *Ōnan Shimpō* immediately took the side of the fishermen, writing that a permission for a whaling station would 'completely wipe out coastal seaweed and shells in the surrounding area'.⁸ This would drive 'thousands of fishermen into famine'.⁹

While the whalers did not need the approval of the fishing unions to conduct whaling, as such a permission was granted by the prefectural government, it was common to arrange an agreement with all interested stakeholders beforehand to promote group harmony and prevent strife. This process, which the *Ōnan Shimpō* branded as 'bribery' of the union heads, is called *nemawashi*, a form of interpersonal consensus building conducted prior to formal decisions, which is an integral part of the Japanese political process.¹⁰ The problem in this case was that as the fishing unions' heads were promised personal benefits from the whaling company, such as exclusive deals for receiving fertiliser from the station, their interests did not align with the subaltern fishermen, which they allegedly represented. Indeed, during a crisis meeting of the Minato fishing union, its head Kanda Shigeo was accused of having illegally given the consent for the establishment of the whaling station in the name of the union without the approval of its members. Kanda had to resign and his successor, Yoshida Keizō (1877–1968), a young fertiliser producer and rival of Hasegawa took a decisive stance against whaling. Only a short while later, the fishing unions of Shirogane and Same-ura also gave in to the pressure and supported the anti-whaling protests. On April 12, the prefectural government declined the request of Dai-Nihon Hogeï to build a whaling station in Same-ura.¹¹

⁷ *Ōnan Shimpō*, 'Dai-Nihon hogeï kaisha no kikaku'.

⁸ *Ōnan Shimpō*, 'Gyomin no chinjō shotei shutsu'.

⁹ *Ōnan Shimpō*, 'Gyomin no chinjō shotei shutsu'. ¹⁰ Saito, 'Nemawashi'.

¹¹ Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*, 35–6, 88–93.

The 'Superstition' of the Fishermen

The initial failure to establish a whaling station was a bitter setback for the pro-whaling faction in Hachinohe. In their eyes, the fears and worries of the opposition were completely unfounded and irrational. For example, Hasegawa considered the arguments of the anti-whaling faction to be based on the 'superstitions of fishermen'.¹² But how did the locals justify their anti-whaling position? Unlike in Ayukawa and at other sites of anti-whaling protests, many newspaper articles written by fishermen have survived in Hachinohe, giving us the rare opportunity to better understand their concerns. For example, one fisherman, who opposed the planned whaling station, wrote in the *Ōnan Shimpō*:

I am but a simple and mostly illiterate fisherman and even without any scientific knowledge on how whaling works, I have some opinions [in regard to the whaling question] which are based on what my father has told me and what I have experienced myself. . . . To begin with, because whales chase sardines to eat them, sardines fear whales just as a sparrow fears the falcon. When sardines see a whale on the open sea they crowd together and try to escape the whale by swimming towards the shore. In this way, it becomes easy for us fishermen to catch [the sardines]. If no whales are around, sardines disperse throughout the open sea, which makes it extremely inconvenient to catch them; it is a lot of work with little reward, so we have to give up.¹³

As we can see, the arguments presented here are strikingly similar to the concerns expressed two centuries earlier during the 1677 whaling dispute on the Oshika Peninsula. The author of the article reiterated the old belief that whales were instrumental to the success of coastal fishing as they brought sardines towards the shore. He further explained that conducting whaling would result in damaging the livelihoods of hundreds of fishermen, while only a handful of outside whalers would profit from the new industry.¹⁴

The second theme discussed in these newspaper articles was the fear of environmental pollution caused by whaling, a topic that had also come up during the 1677 petition and only a few years earlier in Ayukawa. Interestingly, the whale pollution was discussed as a religious, ecological and scientific problem all at once, as the following newspaper article shows:

According to an ancient saying, a whale coming to shore brings seven years of bad fish catch. Moreover, both from a scientific and experimental standpoint, it is a fact that whale oil and blood have an effect on sardine and bonito catches. It will

¹² Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*, 333.

¹³ Ōnan Shimpō, 'Hogei mondai ni tsuite'. ¹⁴ Ōnan Shimpō, 'Hogei mondai ni tsuite'.

also hinder the growth of seaweed and *konbu* and *norī* will become extinct. If seaweed withers, abalone, sea urchin and other seafood will likewise die.¹⁵

The ancient saying cited here is an inversion of the popular Edo period saying, ‘one whale brings fortune to seven villages’. However, in this version, the arrival of the whale brings seven years of bad catch. The wording makes it unclear if the saying refers to beached or hunted whales. Local folktales, such as the Sameuratarō story discussed in previous chapters, would indicate that the latter is meant. This ancient wisdom is, according to the fishermen, backed up by scientific and experimental (i.e., observational) evidence, thus indicating that the ecological knowledge of the locals is more than just superstition. The reader is, however, not given more details about which scientific research is referenced here. Instead, the cascading effects whale oil and blood have on a coastal ecosystem are further explained. Recognising that the direct link between whaling and coastal pollution is not universally accepted, the article further states:

Even if we would make the assumption that whale oil and blood have no impact on the fishing industry, Hinode Beach [Ebisu Beach] at Kabushima is an inexhaustible reservoir of sardines. If a whaling station is established, it will become impossible to engage in fishing here. Kabushima is also a breeding ground for seagulls, which is the only place where fishermen can detect the arrival of schools of fish and has been declared a no-fishing zone by the fishermen. The establishment of a whale flensing station will prevent the arrival of seagulls and cause trouble (*fuben meiwaku*) for the fishermen.¹⁶

This paragraph further shows the intimate understanding of the fishermen regarding the coastal ecosystem and its feedback loops. In order to protect spawning sardines and the breeding of seagulls, the fishing communities have long restricted the access to the waters around Kabushima Shrine and Ebisu Beach. The seagulls are given here a similar role as whales, as their presence indicates, where schools of sardines can be found on the open water. Protecting the breeding grounds of the seagulls is therefore also an essential part of the consideration of the locals. Even today, one can find hundreds of seagulls breeding on the rocks near Kabushima. Finally, in the last paragraph, the article deals with the effects of air pollution:

When whale meat is boiled, it emits a fierce stench that is harmful to the health and which, depending on the direction of the wind, is transported not only to Same-ura and Shirogane but also Konakano and Hachinohe. Same-ura has

¹⁵ Ōnan Shimpō, ‘Dai-Nihon hōgei kaisha no kikaku’.

¹⁶ Ōnan Shimpō, ‘Dai-Nihon hōgei kaisha no kikaku’.

recently been gaining fame as a scenic spot in the Northeast, but the stench from the whaling station will be so foul that tourists will no longer come. Also, Kabushima is a sacred place where Itsukushima Shrine resides. [We] fear that the impurity will pollute the sanctity of the place.¹⁷

The issue of air pollution has been largely disregarded and ridiculed by the pro-whaling faction. For example, Ishida Tako, the guesthouse owner, claimed that the fishermen had 'the superstition that burned whale oil would kill all the cattle and horses'.¹⁸ Air pollution was an emotional topic as already twenty years earlier, in 1891, the Ōnanha faction had successfully delayed the construction of the new train line to Hachinohe with the argument that the smoke of the steam trains would destroy crops and bring diseases, while the opposing Doyōkai faction had stressed the importance of the train line for the economic development of the region. Diseases like cholera were indeed rampant after the construction of the train line, but this was caused by the accelerated contact with the outside world and not by the smoke.¹⁹ With the construction of the whaling station, the question of air quality and public hygiene was again discussed. Ironically, the anti-whaling faction claimed that the air pollution would destroy the emerging tourist industry which had only recently gained momentum due to the establishment of the railway. Interestingly, none of the newspaper articles are referencing the local Ebisu belief directly but this article ends with a reference to the Shinto belief of impurity. The fishermen seemed to fear that whale blood near Kabushima Shrine would cause the sacred space to become impure. The main issue the locals had with the whaling stations seems to have been the danger of pollution and what this would mean for the local ecosystem and economy.

This brings us to the question of how we categorise whaling pollution in the context of the Japanese political discourse of the time. The most famous Meiji-period industrial pollution case is the Ashio Copper Mine Incident. In the 1880s and 1890s, the reckless extraction of copper released previously contained toxins into the nearby river. These toxins caused massive environmental pollution downstream: silkworms used for sericulture died by eating poisoned mulberry leaves; dead fish drifted on the river; forests withered and died; almost 250,000 acres of paddy land was contaminated; and the health of the local population deteriorated. In 1897, over 4,000 farmers marched on Tokyo demanding an end to the pollution and the Meiji government responded with the *Third Mine*

¹⁷ Ōnan Shimpō, 'Dai-Nihon hōgei kaisha no kikaku'.

¹⁸ Memoirs of Ishida Tako, cited after: Satō, *Kujira kaisha yakiuchi jiken*, 55.

¹⁹ Ishida, *Nihon gyominshi*, 229–31.

Pollution Prevention Order, which forced the operator of the mine to install filter beds and sediment basins and to reforest the nearby forests to prevent the toxins from reaching the river.²⁰ Less well known are the cases of air pollution caused by copper refineries in Ehime Prefecture around 1900. Here, sulfur dioxide was released into the air by the Niihama and Shisakajima refineries, which damaged the crops of nearby fields. After a series of violent protests, the national government organised compensation talks between the operator and the locals and in 1909, the company conceded and agreed to develop new technologies to remove the sulfur dioxide from the emissions, compensate the victims, and alter the production schedule during the agricultural season.²¹

Indeed, one further reason for the declining fish catches was industrial pollution caused by the sewerage of cities and waste of factories.²² The latter was certainly true also for whaling stations, which are described in almost every source as large contributor to coastal pollution. Unlike chemical waste products from factories, the expected pollution in Sameura was caused by something the fishermen had been familiar with for centuries from beached whale incidents: whale blood and grease. The whaling companies claimed that whaling would bring prosperity to the villages as whale blood, grease, and oil leaking into the ocean from the stations would sink to the bottom of the ocean after a few hours where it would work as a fertiliser for the marine flora and fauna. This would help marine life prosper and new fish stocks therefore came to the region.²³

However, according to Kondō Isao, a former whaler, the discarding of unprocessed whale waste into the oceans led to the clumping of whale blood, which would settle on the seafloor like three-meter-deep mud. The flora and fauna in the affected areas would then die due to a lack of oxygen.²⁴ Therefore, whale waste is best understood as part of the industrial pollution issues of the time. While whale pollution had already been a major issue in the Edo period, industrial whaling amplified the problem. Before, the flensing of a whale had taken a whole day, whereas it was now possible to not only hunt many more animals but to also flense them back-to-back, producing much more waste more quickly than proto-industrial whaling. In the same way as whales have become an industrial

²⁰ For literature on the Ashio Copper Mine Incident, see Pitteloud, 'L'affaire d'Ashio (extraction minière, Japon)'; Stolz, *Bad Water*; Walker, *Toxic Archipelago*, Chap. 3; Ui, *Industrial Pollution in Japan*; Notehelfer, 'Japan's First Pollution Incident'.

²¹ Watanabe, 'Talking Sulfur Dioxide'. For more on pollution issues and environmental movements in the post-war period, see Avenell, *Transnational Japan in the Global Environmental Movement*; George, *Minamata*.

²² The Journal of the Fisheries Society of Japan, 'The Decrease of Fish and Its Prevention'.

²³ Akashi, *Honpō no noruē-shiki hōgeishi*, 243–4.

²⁴ Watanabe, *Japan's Whaling*, 64–5; Kondō, *Nihon engan hōgei no kōbō*, 291–4.

commodity, their discarded carcasses rose similarly to an industrial waste product that threatened the well-being of the local ecosystem.

The Role of Imperial Science

Despite the fierce opposition, Hasegawa and other members of the pro-whaling faction, pushed forward with the plans of a whaling station and organised a secret trial flensing. In late April 1909, they bought a fin whale caught by the *Olga* for 350 yen. Protected by six policemen they dismembered the whale at a provisional site at Ebisu Beach and transported the meat and bones to a fertiliser plant at the mouth of the Minato River. While Hasegawa made a profit of 30 yen from this trial run, the dumb-founded fishermen were left with a tremendous amount of whale blood and stinky oil contaminating not only Ebisu Beach but also the Minato River, leaving behind dead fish, seaweed and crabs.²⁵ Hasegawa's intent had probably been to demonstrate that local entrepreneurs could make a profit by buying the waste products from the whalers to produce fertiliser, a method that he had probably copied from Ayukawa, but all he did in the eyes of the fishermen was to confirm their suspicions that the external costs of whaling would have to be paid by the ecosystem and ultimately them.

Eventually, the news of the growing conflict between the whaling and anti-whaling faction also reached the Aomori prefectural government. To verify or disprove the accusations of the fishermen, the government requested a scientific inquiry from Professor Kishinouye Kamakichi (1867–1929) from Tokyo Imperial University, who had in the past conducted similar studies in cases of fisheries disputes. Kishinouye arrived in Same-ura in June 1909 and stayed at the guesthouse of Ishida Tako. He gathered fish and shellfish who had died close to the provisional whaling site and conducted several autopsies to determine if an unknown 'whale poison' had been the cause of death. After the end of the investigation, he initially refused to disclose his results to the public; instead, an engineer working for the government asserted that whale blood had been found to have no effect on fish and other sea life.²⁶ Finally, Kishinouye agreed to give a short presentation at the Minato Fisheries School with an audience of around 300 people in a tense atmosphere. Kishinouye lectured mostly about the benefits that industrialisation would bring to the region and he recommended to invest more capital in buying new fishing equipment. When pressed by a journalist, he confirmed that in his opinion whaling could be harmful to coastal fisheries. However, his own scientific

²⁵ Ishida, *Nihon gyominshi*, 240–2. ²⁶ Ōnan Shimpō, 'Maihama gyōmin no daigekikō'.

inquiries were unable to determine which role – if any – whale blood and oil played on the death of the fish he had autopsied. As there was no established theory yet that could conclusively explain these deaths, the experience of the fishermen should be taken into account more in the future.²⁷ Kishinouye's response left many fishermen unsatisfied and one commentator in the *Ōnan Shimpō* asked whether science was even the right tool to solve the whaling pollution crisis:

The scientific principle [*gakuri*] is still under research. The fact [*jijitsu*], on the other hand, is a thousands-of-years-old definitive unchangeable thing. The scientific principle is still very immature. . . . We have to respect science, but only so few of the scientific principles are known, and they do not have satisfying explanations for countless phenomena. It is a fact that all marine creatures have died just at the place where the blood and oil of the flensed whales have poured into the ocean. It is said that it is difficult to know if the cause of the deaths is linked to weather, currents, shortage of nutrients or indeed some poison of the whales, but it can't be helped that the reason can't be specified as science is still immature today.²⁸

No one disputed the fact that there were dead fish in the water, but the factions debated over the right epistemology to determine if there was a causal connection to industrial whaling. Pro-whaling advocates did not acknowledge the ecological knowledge of the locals, as they believed it to be based on religious superstitions. In their eyes, the only form of 'legitimate knowledge' could be produced by the new scientific fields such as fisheries science or marine biology. Kishinouye's inability to provide concrete evidence that fish had died because of a 'whale poison' was seen as proof that whaling was unrelated to environmental pollution.²⁹ This claim was refuted by the anti-whaling faction. According to the commentator in the *Ōnan Shimpō*, that fish died where whale waste was let into the ocean was an ontological reality and took precedence over the question of whether fisheries science can establish a link between the two. As the livelihoods and survival of thousands of fishermen depended on the question, an inconclusive answer, such as provided by Kishinouye, was simply too high a risk to allow whaling to continue.³⁰ For the anti-

²⁷ Ishida, *Nihon gyominshi*, 246–8.

²⁸ *Ōnan Shimpō* from 4 July 1909, cited after: Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*, 419–20.

²⁹ As marine environmental historians have pointed out, early fisheries science was closely intertwined with the interests of the industrial complex of nation-states and many scientists approached their research from the perspective of maximal resource extraction for the national economy, often underestimating the long-term implications of overfishing and other human disturbances in favour of short-term economic goals. For more on this topic, see Schwach, 'The Sea Around Norway'; Holm, 'Crossing the Border'; McEvoy, *The Fisherman's Problem*; Finley, *All the Fish in the Sea*.

³⁰ *Ōnan Shimpō* from 4 July 1909, cited after: Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*, 419–20.

whaling faction, fisheries science was limited in its scope and potential explanatory power and one rather had to rely on first-hand observation and knowledge of former generation, i.e., their ecological knowledge to accurately describe and understand the situation.³¹

The conflict between the pro- and anti-whaling factions was at a tipping point in Hachinohe when Dai-Nihon Hogeï merged with other whaling companies into Tōyō Hogeï in May 1909. The appearance of a new whaling juggernaut shifted the power balance once again in favour of the pro-whaling faction. Without losing much time, Tōyō Hogeï applied a new request for the construction of a whaling station at Ebisu Beach. They also used a new tactic: instead of negotiating directly with the fishermen, they went to their largest political supporter: the Ōnanha faction, the owner of the *Ōnan Shimpō* newspaper. The Ōnanha faction had been sympathetic with the fishermen but was mostly managed by representatives from the merchant class. Tōyō Hogeï invited reporters of the *Ōnan Shimpō* to visit the Daitō Hogeï whaling station at Ryōishi in June 1910 to prove that whaling would bring economic prosperity to Hachinohe. Apparently, the scheme worked perfectly as the *Ōnan Shimpō* wrote favourably about the trip:

A month has passed since the inauguration of the operation, and already ten whales have been caught. From now on, we will enter the whaling high season. Especially our whaling spot is not like the Sea of Kinkazan, where the [whales stay] offshore, and will have a more promising future with high profits. Like many other fishing places with factories, there have also been some initial discussions in Ryōishi. However, now the factories created a demand for hiring many people to the extent that even women and children are now receiving good money. Because the village receives great profit by the demand of goods for the factory, it now welcomes the industry with great affection.³²

The *Ōnan Shimpō* highlighted the high wages of the workers and the economic growth of the town while downplaying the anti-whaling movements in Ryōishi as mere ‘discussions’ and failing to mention that this newspaper had, up until this point, written repeatedly that whaling would bring famine and death to the fishing communities. In June of 1910, the Ministry of Agriculture and Commerce approved the building of a whaling station at Ebisu Beach and granted the company a license to hunt whales between April to September of the following year. This news was celebrated in the *Ōnan Shimpō* who claimed that while in the past

³¹ We see a similar line of argument also a few years earlier in northern Norway, where the anti-whaling faction had also argued that the centuries old ecological knowledge of the fishermen was more reliable of describing changes in the coastal ecosystem than scientific research conducted over the period of only one or two years, see Holm, ‘Bringing Fish to the Shore’.

³² Ōnan Shimpō, ‘Hogeijigyo no yūbō’.

fishermen had protested against the whaling station as there had been no time to conduct deeper research whether whaling would damage the fishing industry, such research had been conducted in the meantime and it had been shown that ‘there are many benefits [to whaling] and little harm. The benefits will outweigh every possible harm’.³³

In the following negotiations between the Same-ura fishing union and Tōyō Hogeï regarding the compensation for possible environmental pollution, the Ōnanha faction took up a new role as neutral mediator. Under the new agreement, the Same-ura fishing union would receive ten yen for every whale killed and flensed at the station.³⁴ With this proposal, Tōyō Hogeï managed to turn the situation around and the two most important political factions, the Doyōkai and the Ōnanha, were now both supporting the whaling station. Meanwhile, Hasegawa and his supporters had managed to secure their exclusive contracts with the whalers and remained the sole buyers of the discarded whale waste to be turned into fertiliser.

However, this deal had been made without the knowledge or consent of the other fishing unions, who did not receive any compensation, even though the pollution was not contained exclusively to the waters around Same-ura.³⁵ Yoshida Keizō, the unofficial leader of the anti-whaling movement, was especially unhappy. The fishermen had elected him as the head of the Minato Fishing Union explicitly to deal with the situation. Furthermore, as a fish fertiliser producer, he was a direct competitor to Hasegawa and had much to lose personally if the deal went through. Sardine catches would likely drop even further and unlike Hasegawa, he could not compensate for the loss with whale fertiliser as Hasegawa had an exclusive deal. Under the leadership of Yoshida, the opposing fishing unions decided to visit the other industrial whaling places on the Noto Peninsula, in Chōshi, and Ayukawa. They wanted to see with their own eyes if whaling really did not harm sardine fishing as Tōyō Hogeï had repeatedly claimed. After the trip, Yoshida sent a report in early 1911 to the Minister of the Interior in Tokyo and the Aomori Prefecture governor stating:

For a detailed investigation, [we] visited every coastal whaling station in the whaling regions. The large-scale damage of the sardine fishing was obvious. The growth of seaweed is obstructed, fish, and shell breeding was disturbed. Fish species increasingly leave coastal waters; it is clear that the normal fishing industry is suffering.³⁶

³³ Ōnan Shimpō, ‘Hogeï konkyochi no secchi’.

³⁴ *Hachinohe* from 13 January 1910, cited after: Hachinohe shakai keizaishi kenkyūkai, *Gaisetsu Hachinohe no rekishi*, 1:204–6.

³⁵ Iwaori, *Hachinohe-ura ‘kujira jiken’ to gyomin*, 35–7.

³⁶ Cited after: Hachinohe shishi hensan iinkai, *Shinpen Hachinohe shishi: Kingendai Shiryōhen* 2, 2:238–9.

Most shocking for Yoshida, however, was that this obvious destruction had not been recognised by scientists as being caused by whaling. He urged the minister and governor to revoke their approval otherwise the lives of the fishermen would suffer: 'To make the matter simple, for the profit-making of a single company, the well-being of a whole region is gambled.'³⁷ Yoshida's report further increased the pressure on the local elite, and eventually, the mayor of Same-ura, Kubo Tadakatsu, who had been a supporter of whaling, had to resign. However, the report did little to change the minds of the bureaucrats in the ministries.

The Attack and the Aftermath

Despite local protests, the construction of the whaling station went along and in April 1911, three whaling ships arrived in Same-ura to officially open the first season. As we have seen in the opening paragraph of [Chapter 5](#), Ōashi Bō, a writer for the Ōnan Shimpō attended the opening of the station in June, praising whaling as the future of Hachinohe. One hundred and fifty people worked at the newly built whaling station at Ebisu Beach and an additional 350 people worked at the fertiliser plants owned by Hasegawa and his friends. This made Tōyō Hogeī the biggest provider of jobs in Hachinohe.³⁸ Together with the western Japanese whalers arrived also the Norwegian gunners, who lived in the guesthouse of Ishida Tako. After work, they celebrated with the other whalers at lavish parties to the envy of the rest of the population. Some younger factory workers also flirted with local women, which was not taken well. According to rumours, one of the Norwegian gunners even had a child with a local Geisha.³⁹

Over the course of the summer, the whalers hunted 186 whales, which was a spectacular success for them. Most whales were brought via a slipway to the station and flensed on dry land. This meant the out-flowing blood was contained and pumped into a holding pond so as not to pollute the surrounding area. As the whaling station was not yet finished, however, more whales were caught than the pond could contain and most of the blood and oil leaked into the ocean unfiltered. Hasegawa and his associates were also not able to cope with the large quantities of waste and the whalers could only sell a small percentage of the whale waste, with the rest being thrown back into the ocean. Soon, sea life began to whiter near the station and fishing became impossible, as nets and fishing lines were

³⁷ Hachinohe shishi hensan iinkai, *Shinpen Hachinohe shishi: Kingendai Shiryōhen 2*, 2:239.

³⁸ Hachinohe shakai keizaishi kenkyūkai, *Gaisetsu Hachinohe no rekishi*, 1:206–7; Ishida, *Nihon gyominshi*, 265.

³⁹ Satō, *Kujira kaisha yakiuchi jiken*, 32, 294.

clogged with blood every time they were let into the water. The sardine swarm that normally reached Hachinohe in September did not come that year. It goes without saying that the fishermen blamed the whaling operation for their poor catch results and to make matters worse, the price of rice rose by over 20 per cent compared to the previous year.⁴⁰

To make ends meet, the fishermen began to illegally harvest Sakhalin surf clam that had died from the exposure to whale blood and been washed ashore. The coastal area around the whaling station had effectively been transformed into an industrial sacrifice zone for the whaling business. The whaling company paid such concerns little attention and instead applied for an extension of their whaling activities until the end of the year. When the official approval was delayed, however, Tōyō Hogeï decided that two of the whaling ships should continue to the Korean whaling grounds, while one stayed behind and continued whaling without a license.⁴¹

That the government ignored the illegal whaling after the expiring of Tōyō Hogeï's license was what the final straw that broke the camel's back. In an emergency meeting on 31 October 1911, the leaders of the anti-whaling faction met at a nearby guesthouse to discuss the situation.⁴² Fishermen came and went throughout the night, and it was finally decided to start the raid on the whaling station in the early hours of the next morning. Over 1000 fishermen, many of them armed with knives, clubs, and swords, assembled in three groups and attacked from various sides the whaling station, which was fiercely defended by the employees and eight police officers. The attack on the station ended in a fiery inferno when the whale oil caught fire during the siege, causing two of the attackers to be killed and two very seriously injured (one later died). On the side of the company and the police, 14 people were injured, three of them severely. All facilities, as well as stored oil and meat were lost, the total of the estimated damage was estimated to be around 180,000 yen.

After the station had been laid to waste, the rioters continued their rampage through the street of Same-ura. They demolished the local police station, the house of Kanda Shigeo (the former Minato Fishing Union head), and the guesthouse of Ishida. At Hasegawa's house, the

⁴⁰ Ono, *Aomoriken seijishi*, 2:440; Satō, *Kujira kaisha yakiuchi jiken*, 32.

⁴¹ Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*, 141–2; Ishida, *Nihon gyominshi*, 264–9.

⁴² There are conflicting reports of Yoshida Keizō's role during the preparation of the attack. Some saw him as the leader of the opposing fishermen, while other believed that he betrayed the anti-whaling faction and warned the police beforehand. Yoshida, himself, claimed after the attack that he was present during the meeting for some time, but not involved in the discussions and that he returned home before anything was decided. For a full discussion, see Iwaori, *Hachinohe-ura 'kujira jiken' to gyomin*, 159–81; Ishida, *Nihon gyominshi*, 270–4.

rioters not only systematically broke all the furniture, but they also set the hated fishing gear and boats on fire and destroyed all documents and certificates related to loans Hasegawa had given to fishermen. Around eleven in the morning the rioters broke up and police officers and fire fighter from Hachinohe and the surrounding villages rushed to the scene to restore order and put out the various fires. A military division that was holding a practice drill in the neighbouring Iwate Prefecture were ordered to go and appease the situation, but they arrived only after the rioters had already dissolved. Nevertheless, forty people were arrested the next day and among them were the suspected ringleaders of the riot, including Yoshida Keizō.⁴³

Over the following weeks, the police held an interrogation of the arrested rioters. In their report the police theorised that a group of instigators (presumably the group around Yoshida, but the names were omitted from the records) had been responsible for manipulating the locals into a mob. The police claimed that these instigators had made use of the superstitious belief of the rioters that whale oil and blood had an effect on fishing. All forty suspects denied having taken part in the riot, however. Furthermore, in the protocol of the interrogation, we can see that several of the accused even denied having been against whaling. Only one accused, a twenty-nine-year-old man working in the fish fertiliser business, stated bluntly: 'Whales are gods. It's bad to catch them.'⁴⁴

A month later, on 6 December 1911, a preliminary hearing was held, after which the magistrate released the following written statement:

Originally, in the district of the defendants, whales were called o-Ebisu-sama (Revered Mr Ebisu) and regarded as sacred. It was held that sardine fishing depended a great deal on the benevolence of passing whaling and there was a custom in the area whereby, as soon as a whale spout was seen far out to sea, those watching would clap and bow three times in prayer beseeching the god for good fortune in fishing. Consequently, there are many traditional tales and proverbs about how shoals of sardines coming close to shore are blessings from the god Ebisu to the fishermen living along the coasts. And, because there are still some among the fishermen even today who believe this, any talk of catching whales, let alone cutting them up and letting their blood and oil spill into the sea, is regarded as anathema to them.⁴⁵

The magistrate highlighted that there had been no proof that whaling was an issue for public health or that it would negatively affect the local flora and fauna. Following the conclusions drawn in the police report, he

⁴³ Ono, *Aomoriken seijishi*, 2:437–8.

⁴⁴ English translation cited after: Watanabe, *Japan's Whaling*, 62.

⁴⁵ Ōnan Shimpō, 'Same bōdō yoshin shūketsu'. English translation is cited from Watanabe, *Japan's Whaling*, 63.

accused the people connected to the fishing unions of having used the superstitions of the fishermen to instigate an attack on the whaling station for their own sinister reasons.⁴⁶ As fishing historian Ishida Yoshikazu has pointed out, with this report the elite deflected from the pollution issue and illegal whaling by blaming the riot on the unfounded ‘Ebisu superstition’ of the locals.⁴⁷ In this way, the ecological knowledge of the fishermen was turned against them as it was reduced to its religious component. Any mention of whaling causing pollution was thus made invalid as it was based on superstition and not scientific research, the only form of legitimate knowledge in a ‘modern’ society.

A few months later, in February 1912, the full trial was held in the Aomori District Court. Leading the defence was the famous lawyer and member of the House of Representatives Hanai Takuzō (1868–1931) from Hiroshima. Hanai had made himself a name by defending commoners against large corporations and he had just recently defended a group of farmers in the Ashio Copper Mine Incident. In front of the court, Hanai refuted the claim of the prosecutor that the whaling station had caused no harm to the fishermen and pointed out that the violence had only broken out because Tōyō Hogeï had broken the law by continuing whaling even after their license expired. Without the wrongdoing of the whaling company, the incident would never have happened. As the government had done nothing to stop the company despite their illegal whaling, the fishermen had no other choice than to use violence.⁴⁸

The accused fishermen received also help from an unexpected direction: Oka Jūrō, the president of Tōyō Hogeï, appeared before the court and admitted that part of the guilt laid with his company: ‘It was our fault. I would like to offer the defendants 10,000 yen per person in compensation. We will not demand compensation for damages.’⁴⁹ Oka did not deny the accusation that industrial whaling caused coastal pollution and he explained that the company had in the past in such instances negotiated with the local fishing union and donated money to the community for buildings schools or roads. However, in hindsight, the negotiation with the fishing unions around Hachinohe had turned out to be unsatisfactory.⁵⁰

With this admission of guilt, it was finally acknowledged that the rioters had not only acted out of superstition but that their ecological concerns had been legitimate. In the end, twenty-three of the defendants received prison sentences between one and eight years, while six rioters were fined

⁴⁶ Ōnan Shimpō, ‘Same bōdō yoshin shūketsu’. ⁴⁷ Ishida, *Nihon gyominshi*, 309.

⁴⁸ Ishida, *Nihon gyominshi*, 315–22. ⁴⁹ Ishida, *Nihon gyominshi*, 326.

⁵⁰ Iwaori, *Hachinohe-ura ‘kujira jiken’ to gyomin*, 141–7.

forty yen each. Yoshida Keizō was found not guilty. Only a few months later, all rioters were granted a general pardon upon the death of Emperor Meiji.

Much has been debated as to why Oka Jūrō was willing to take part of the blame for the outburst of violence. While Ishida saw this as a sign of the virtuous character of Oka, Watanabe Hiroyuki argued that it was more likely that the Same-ura whaling ground had proven so valuable that Oka wanted to make peace with the locals as quickly as possible.⁵¹ Indeed, after the raid, Oka Jūrō travelled to Hachinohe himself and met with all the key players in the anti-whaling movement to broker a compromise. After making little progress for some time, a deal was finally reached when he announced that Tōyō Hogeī would in the future strictly observe the whaling period and take measures to prevent blood from being spilt into the ocean. As a further concession, Tōyō Hogeī donated money to fund the cost of the trial. Oka also promised to hire family members of the arrested fishermen to work at the station. In general, Tōyō Hogeī would train more locals and hire them to work in the industry. Furthermore, the company agreed to help facilitate new industries related to whaling in the region. For this, Oka terminated the exclusive whale fertiliser contract with Hasegawa and sold whale waste to everyone who was interested.⁵² Okas attempts at *nemawashi* paid off: When he finally had the approval of the locals, he immediately submitted a request to rebuild the station. He hired one hundred local fishermen to rebuild it and in June 1912, whaling commenced once again. Oka's intervention not only appeased the situation in Hachinohe but also secured the future of the Same-ura whaling station, which was important for the further expansion of industrial whaling towards Hokkaido.

Conclusion

The Same-ura Incident was by no means the only 'site fight' of a civil movement against a controversial industrial facility in the Meiji period. Also, considering the degree of violence and the number of people involved, the death toll of three was relatively low. Rural protests against elite rule had been widespread in early modern Japan: one study counted over 6,800 peasant uprisings (*ikki*) over the course of the Tokugawa period.⁵³ In the first years of the Meiji period, when the Meiji state performed land and fishing reforms, non-violent and violent protests

⁵¹ Watanabe, *Japan's Whaling*, 71; Ishida, *Nihon gyominshi*, 326–8.

⁵² Ishida, *Nihon gyominshi*, 326–8.

⁵³ Bowen, *Rebellion and Democracy in Meiji Japan*, 72.

increased dramatically against the government, but with the growing acceptance of the new government and the continuing industrialisation of the periphery more and more protests were no longer directed against the state itself but against local elites, such as landlords, factory owners, and capitalistic fishing entrepreneurs. Contemporary newspapers described the Same-ura protests as a violent movement (*bōdō*), a term used to describe violence against homes and properties of officials and wealthy merchants, but short of an all-encompassing rebellion.⁵⁴

While the Same-ura Incident was the most violent clash between whalers and fishermen, as we have seen, anti-whaling protests were not limited to northeastern Japan and appeared at nearly every newly built whaling station, even in regions with a long whaling tradition. This suggests that the conflict was more complex than a cultural struggle between western whaling regions and northern non-whaling regions. Instead, I argue that the main source of conflict was not whaling per se, but the industrial methods that caused large-scale coastal pollution. In the *Journal of the Fisheries Society of Japan*, fishing experts debated the existence of a nation-wide anti-whaling movement, but from what we can tell from local sources, the individual movements were not connected to each other. Political scientist Daniel Aldrich argued that controversial facilities often produced public goods from which large parts of the society profited, while the specific sites, where these facilities were built, had to deal with the ‘public bad’, which were in this case the external costs of a degraded ecosystem.⁵⁵ Nevertheless, the particular circumstances of the Hachinohe region, the long dependence on sardine coastal fishing, which was helped by foraging whales, the experience of coastal pollution of whaling in the past, and the local culture and folktales surrounding whales were all additional factors that made the whaling question even more explosive than in other regions.

The problems the Hachinohe fishermen faced were not all caused by industrial whaling, however. Coastal fishing seems to have been in decline for years. The seriousness of the situation became apparent in the early Meiji period when the traditional *iriai* system was abolished and the pressure on the stocks increased drastically. The result was a decline in sardine fish catches, which hit Hachinohe fishermen the most. Increased demand for fisheries products, including fish fertiliser and oil, for the increasing human population as well as better fishing equipment, contributed to the constant pressure on the coastal fish stocks. The poor fish catches of 1911 were, therefore, not caused by whaling but were simply a sign of the low resilience of an ecosystem reaching its threshold.⁵⁶ It is

⁵⁴ Ōnan Shimpō, ‘Bōdō jiken to chōsa’.

⁵⁵ Aldrich, *Site Fights*.

⁵⁶ Walker and Salt, *Resilience Thinking*.

very likely that climatic factors also played a role as the world's climate was still adapting from the Little Ice Age to a warmer weather regime. This only reinforced the point, however, that an already weakened ecosystem was less resilient against additional disturbance. In other words, the fishermen were already fighting against the deterioration of the coastal ecosystem that they had caused when whaling arrived and made everything worse. From this, we can see that the anthropogenic taking over of the cetosphere was closely connected to changes in the fishing regime.

Finally, let us consider why the anti-whaling movements played out so differently in Ayukawa and Hachinohe even though both communities are situated on the Sanriku Coast and have a long history of rejecting organised whaling. In the case of Ayukawa, this goes back as far as 1677, when the town was part of the anti-whaling coalition against the Kii whalers. The Hachinohe region did not have such an organised anti-whaling opposition in the Edo period, but countless whale strandings had contributed to the creation of a distinct culture of 'living with whales' transmitted through folktales and material objects such as the Same-ura whale stone. A further commonality was the economic reliance on sardine and bonito fishing for producing proto-industrial fish fertiliser exported to the core regions. Whales played a vital part in bringing fish closer to the shore and indicating the presence of fish stocks.

Unlike the Oshika Peninsula, the fishing villages near Hachinohe were not separated by inaccessible rias but were all easily reachable either by land or water. This not only made environmental pollution less site-specific, as wind and water currents could disseminate pollutants much more efficiently, but also allowed for a mobile fishing society. Many Hachinohe fishermen worked during the herring season in the waters off Hokkaido, encouraging interactions between fishermen originating from different villages. Indeed, the fishing villages directly adjunct to Hachinohe (Same-ura, Minato, Konoha, and Shirogane) are so closely connected that they form their own social and ecological system. Direct contact between the fishing unions, merchants, and also fishermen was common. As many of the locals worked as travelling fishermen and were away most of the year, more people were living in the region than the near-shore fish stocks could otherwise sustain. The social strata were also more complex than on the Oshika Peninsula, where a small number of families had managed to monopolise most of the capital. In Hachinohe, medium-sized fish fertiliser merchants, like Yoshida Keizō, also had a chance to thrive. Well-off fishermen had access to the new net techniques invented by Hasegawa or even owned a motorised boat to harvest offshore fish stocks.

The arrival of the whaling companies created a decisive rift not only between elite and subaltern fishermen but also among the fertiliser producers. By looking at the development in Ayukawa and other places, Hasegawa Tōjirō realised the potential industrial whaling had for supplying his fertiliser business and his exclusive deal with the whaling company would probably have worked in a place like Ayukawa. In Hachinohe, however, more stakeholders were involved in the fertiliser business and when Yoshida and other middle-sized fertiliser producers realised that Hasegawa had outmanoeuvred them, they found allies among the subaltern fishermen to give additional weight to their political goals. Over the course of the whaling dispute, the fishing unions changed their stance towards whaling several times, showing that a power struggle among the elite existed.

On the eve of the raid, only the Same-ura fishing union, remained pro-whaling; all other unions had switched to the anti-whaling faction. Excluding the middle-sized fish fertiliser producers from the benefits of industrial whaling had proven to be a mistake. Although Tōyō Hogeī was the largest employer in the region, the economic boost industrial whaling brought to the region was not large enough to demarginalise the existing, already overcrowded local population. Instead of seeing industrial whaling as an opportunity, they felt a moral obligation to protect their traditional way of life. Whales also played a bigger role in the ecological knowledge in Hachinohe as the locals not only referenced the old whale folktales but also had a close religious and ecological attachment to Kabushima Shrine and the nearby Ebisu Beach. Whaling at these places not only angered the gods, but it also destroyed the local flora and fauna. In the end, it was Tōyō Hogeī's willingness after the incident to integrate the locals into the industrialisation process that solved the conflict. They not only trained and hired locals to work at the station, but they also financed new peripheral industries such as whale fertiliser plants to give a new economic perspective to the locals. Thus, the Sanriku Coast became part of the Japanese whaling empire and the anti-whaling movements were soon forgotten.

8 Washing Away the Past

On 11 March 2011, Ayukawa was erased by an 8.4-metre-high tsunami. Of the roughly 700 houses, over two-third were washed away in the span of a few minutes. Despite the near-complete destruction, the number of victims was surprisingly low for a community of 1,400, with seventeen dead and six missing. The two last whaling stations, situated near the port, were crushed first by the waves, erasing some of the last reminders of Ayukawa's past as the main whaling port in northeastern Japan. During a debate in the House of Representatives, Shitamichi Yoshikazu, the chairman of the Japan Small-Type Whaling Association, pushed for a swift reconstruction of the Ayukawa whaling stations:

Ayukawa was a representative example of Japan's coastal small-type whaling: a town that preserved the history and tradition of 9,000 years of whales used by the Japanese race. Should the light of whaling go out in Ayukawa, not only will the regional community collapse, but it would also mean that Japan's whaling history has come to an end.¹

Like Shitamachi, many local stakeholders believed that the fate of the town was inextricably linked to the continued existence of whaling: 'The only way for Ayukawa to live is to make use of the whales for the development of the town. The tsunami has not changed that.'² Indeed, only one year after the tsunami, one of the whaling stations was the first building to be repaired in Ayukawa and coastal whaling commenced once again in 2012. As folklorist Kato Kōji argued, the people of Ayukawa drew much strength for the reconstruction of their town from an idealised image of their hometown during its Golden Age in the 1950s.³ This [last chapter](#) will trace the development of industrial whaling in northeastern Japan after 1912 and show at the example of Ayukawa how the region reinvented its own past to become part of Japan's national whaling culture. But as whaling became the principal symbolical capital

¹ MAFF, 'Dai 4 kai geirui hokaku chōsa ni kansuru kentō iinkai giji gaiyō'.

² Takanarita, 'Hogeji kara sekai wo miru', 101–2.

³ Kato, *Tsunami to kujira to pengin to*, 10.

of Ayukawa, its former local ecological knowledge, how to live side-by-side with whales without hunting them, was forgotten.

Exterminating the Gentlemen of the Sea

It is not without irony that the Same-ura Incident solidified industrial whaling in northeastern Japan. With the decline of near-coastal fishing at the beginning of the twentieth century, the cetosphere no longer held the same environmental importance for fishermen as they were no longer dependent on sei whales and other baleen whales to bring sardines close to the shore. Whales had become a solely industrial commodity and while this commodity played a key part in the community's economy, the animals themselves lost their cultural importance in the everyday lives of the locals.

Furthermore, the geographical location of the Same-ura station functioned as a bridgehead for Tōyō Hogeï and other whaling companies to expand their activities to Hokkaido. While Tōyō Hogeï opened a successful station at Muroan in southern Hokkaido in 1912, the whaling companies Dai-Nihon Suisan and Kii Suisan both encountered local resistance in Akkeshi and Nemuro and had to move to Konbumori in 1914. The two whaling stations in Konbumori helped the little town to prosper and in only a few years the number of houses doubled.⁴

In 1915, Tōyō Hogeï set its eye on the main prize: The Sea of Okhotsk, where hundreds of whales gathered each summer to feed on the plankton bloom. They opened a station in Abashiri and presented the local fishing union with an offer similar to the one in Same-ura a few years earlier: a tax of five yen for every caught whale. Having learned from their experiences at the Sanriku Coast, they also built their station four kilometres outside of the settlement so as to not disturb the local fishing activities. As whale meat was not popular among the locals and Tōyō Hogeï wanted to reduce waste as much as possible, they sold the waste to local entrepreneurs to produce oil and fertiliser. Even after the opening of a whale meat salting factory in 1916, whale fertiliser remained important economically. After only five years, however, the whalers had exhausted the local whale stocks to the degree that the station had to be closed again.⁵

With the advancement of refrigerator technology, it became possible to store whale meat during the summer months, further bringing down whale meat and oil prices.⁶ At the Sanriku Coast, whale fertiliser

⁴ Kushiro-shi chiiki shiryō shitsuhen, *Kushiro hogeishi*, 101–7.

⁵ Kushiro-shi chiiki shiryō shitsuhen, *Kushiro hogeishi*, 112–15; Abashiri shishi hensan iinkai, *Abashiri shishi*, 912–13.

⁶ Uni, 'Kinsei kindai no geiniku ryōri no shiyō bui to kindai Nihon ni okeru geinikushoku no fukyū katei', 20–1.

remained economically relevant for another few years. By 1923, twenty-five independent whale fertiliser businesses were operating on the Oshika Peninsula and in Ishinomaki. However, by then they only contributed to around 5 per cent of the overall profit from whaling.⁷ Whales were captured offshore in the Sea of Kinkazan and the local population saw whales primarily in the form of flensed carcasses and piles of whale meat drying in the sun outside of the town. The anthropogenic transformation of the coastal environment fundamentally changed the human–whale relationship, leading to a new regime in which the ocean around Japan became a firm part of the anthroposphere and was no longer shaped by cetaceans as the main keystone species.

This new regime was put to the test for the first time in the early 1930s, when the fishing and whaling industries had not only to contend with exhausted marine resources but also with the Great Depression. The prices for whale oil and meat dropped so much that many whaling boats stayed in the port as the running costs of the crew were higher than what they could earn with a good whale catch. Alone in 1931, over 10,000 cans of unsold whale oil were stored at one company.⁸ During this time, over 200 people lost their jobs in the whaling industry in Ayukawa. Even harder hit was Hachinohe, where in 1933, the whaling station in Same-ura, which had at this point been integrated well into the community and provided jobs for over 500 people, had to close due to financial difficulties. This time, locals fought fruitlessly to keep the station running.⁹ The Great Depression also coincided with a drastic reduction of whale stocks in the Japanese waters. In May 1930, the marine biologists Hayashi and Inouye of the Imperial University Tōhoku presented a dark future for whales and the whaling industry in the *Japan Times & Mail*:

At present the sei-whale, the third in industrial value, is on the way to be exterminated. . . . All kinds of whales living in the water around Japan are decreasing not only in number but also in size. We can say nothing but that they are dying away. Thus, one of the largest whaling grounds in the world is now being ruined.¹⁰

⁷ The Oshika gunshi notes that the twenty-five whale fertiliser businesses produced about 2,500 tawara (straw bags) of whale fertiliser. A tawara could be sold for five yen, making a total of 12,500 yen. On average, some 300 whales were caught in Ayukawa during the summer season. A whale could be sold for 800 yen, making a total revenue of 240,000 yen for the whaling companies, see Oshika-gun, *Oshika gunshi*, 239.

⁸ Kahoku Shimpō, 'Sū ha ooi ga rieki ga sukunai'; Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 172.

⁹ Watanabe, *Japan's Whaling*, 70–2. Industrial whaling was conducted in Same-ura again for a short time between 1947 and 1949, see Maeda and Teraoka, *Hogei*, 111.

¹⁰ *Japan Times & Mail*, 'Protect the Whale'.

Reports of whales decreasing in size are alarming as they indicate that whales are caught before they have matured and had thus not the opportunity to reproduce, which would over time potentially destroy the stock. The authors of the article feared that at the current rate of hunting, whales may go extinct, which would be a loss for humanity:

The whale is a huge, powerful creature. But it is not a lion or a leopard: on the contrary it is quite harmless. According to the experience of the whalers, it does not actively attack mankind, rather it has a tendency to become intimate with us. Whales are magnificent and awe-inspiring in figure and have something gentle and great in manner. They may be called gentlemen of the sea. It is sometimes said that whales waste the fishing grounds. Most fishers now know, however, that this is merely unfounded conjecture. We can hardly find one reason why they must be exterminated.¹¹

Hayashi and Inoue's depiction of whales as 'gentlemen of the sea' stands also in a stark contrast to the whaling industry, for whom whales are little more than industrial raw material. Interestingly, the authors do not argue that whales are useful for fishing communities, but rather note that they are not hurting fisheries. In this way, whales have lost their status as 'gods of the sea' that bring fish towards the shore for the human benefit. However, by giving them new characteristics, such as an awe-inspiring figure or gentle manners, Hayashi and Inoue depict whales as harmless animals that do not deserve to be exterminated, but rather be protected because of their inherent value as living beings. In the article, the authors do not morally question the right of the whaling industry to hunt whales, but rather point out that without international regulation, whales 'will disappear everywhere most probably long before the middle of this century', which ultimately will hurt the whalers themselves most.¹²

First attempts to make such international regulation were undertaken with the Whaling Convention of 1931 and 1937, but in both instances, the Japanese government was unwilling to sign these agreements. Instead, the larger Japanese whaling companies joined their international competitors to hunt whales in the southern hemisphere, ignoring the hunting seasons and catch limits agreed upon by the other whaling nations. In 1934, Nippon Hogeï (formerly Tōyō Hogeï) bought their first factory ship from Norway and sent it together with five catcher boats to the Antarctic region. A year later, a second whaling fleet followed and by 1938 six factory ships belonging to three Japanese companies were operating in the region. Until 1941, when whaling was halted due to the Second World War, Japanese whalers killed over 32,840 whales in

¹¹ Japan Times & Mail, 'Protect the Whale'.

¹² Japan Times & Mail, 'Protect the Whale'.

Antarctic waters, compared to 14,296 whales in waters around the Japanese Empire (including Korea, Taiwan, and Karafuto) in the same year.¹³

The Rise of Coastal Whaling

Let us return once more to Ayukawa. While the whaling companies fundamentally changed the social and economic life of the village, one continued point of contention was the exclusion of locals for higher positions in the companies. Most fertiliser businesses were in the hands of local entrepreneurs, and many locals were hired as low-income workers on the whaling stations and whaling ships. However, positions such as captain, gunner, but also management of the stations were almost exclusively in the hands of men from western Japan. Moreover, the fertiliser plants were completely dependent on the large whaling companies for their main raw material of whale waste, meaning the companies could dictate whatever prices they liked.

In 1925, a group of fertiliser merchants came together to form the first independent whaling company 'Ayukawa Hogeï' that was exclusively in the hand of locals. However, despite catching over 100 whales in the first season, the company struggled to become economically viable. A newspaper article of the time indicates that the other whaling companies, especially those from Kansai, had strongly opposed the founding of Ayukawa Hogeï and did everything they could to prevent the company from becoming a threat to their market dominance. For example, Ayukawa Hogeï only received a permit to hunt sperm whales and was not allowed to hunt any other species, while they were also not permitted to sell whale meat, forcing them to turn the whole whale carcass into whale fertiliser.¹⁴ Meanwhile, the other whaling companies were allowed to hunt most whale species and they gradually expanded their influence. After 1923, some companies received special permits that allowed them to hunt whales even farther away than 100 miles from the coast.¹⁵

After only a few years of operating, Ayukawa Hogeï was sold in 1937 to a western Japanese whaling company.¹⁶ Nevertheless, Ayukawa Hogeï left a precedent as the first independent whaling company in Ayukawa: starting in 1933, former employees of larger whaling companies and local entrepreneurs began to hunt smaller whale species that the industry had so far deemed economically worthless, such as minke whales or Baird's

¹³ Terry, *Japanese Whaling Industry Prior to 1946*, 8–10.

¹⁴ Kahoku Shimpō, 'Hogeï seigen ha hanhada fukōkhei'.

¹⁵ Kondō, *Nihon engan hogeï no kōbō*, 300–1.

¹⁶ Oshika chōshi hensan iinkai, *Oshika chōshi: Chūkan*, 230–1.

beaked whales. Other than for the larger whale species no regulation existed for these whales and so anyone who could obtain a small, motorised fishing vessel and purchase a whaling gun could become an independent whaling entrepreneur.

Instead of turning these whales into fertiliser, however, they were sold locally for their meat. Initially, the demand for whale meat was negligible and the prices extremely low, but with the outbreak of the Second World War and the rationing of food, whale meat became an important source of proteins and an indigenous whaling cuisine developed at the Sanriku Coast based on minke whale meat. In 1944, large-scale whaling ceased as the whaling vessels were needed for the war effort and so many gunners and sailors who had so far worked for the large whaling companies joined the minke whale hunt.¹⁷ While the large companies brought wealth to the town, the small-scale minke whalers, which were often family-owned businesses, were much more incorporated into the social fabric of the town and were regarded by the locals as ‘our whaling’.¹⁸

After the war, the Japanese whaling industry, like many other industries, laid in ruins. Initially, the American occupying force restricted Japanese fisheries to the immediate coastal waters, but the fishing zone was extended further and further into the Pacific in the following years in order to feed the population. This included whaling, which was extended to the Ogasawara and Kazan Islands in November 1945 and in August 1946 also to the Antarctic waters.¹⁹ The prospect of renewed whaling in the Antarctic region was received with enthusiasm in Japan. A representative of the whaling industry calculated that each season enough whale meat for feeding thirty million Japanese people could be obtained.²⁰ In fact, 46 per cent of all animal protein consumed in 1947 came from whale meat, although this was mainly because much of the meat industry had been destroyed by the war.²¹ In the 1947 fishing season, 1,320 whales were killed in Antarctica, while coastal whalers killed as many as 1,992 whales, most of which were smaller species.²² In the eyes of many Japanese, whale meat saved them from famine and misery directly after the war. For the first time we can speak of a truly Japanese national whaling culture, for which whaling towns like Ayukawa stood as its symbolic representation.

¹⁷ Tōhoku nōseikyoku Ishinomaki tōkei jōhō shucchōjo, *Michinoku kujira monogatari*, 39–40.

¹⁸ Kato, *Tsunami to kujira to penguin to*, 96. ¹⁹ Finley, *All the Fish in the Sea*, 73–5.

²⁰ Nippon Times, ‘Steady Flow of Whale Meat is Envisioned as Fishing Fleet Being Groomed for Action’.

²¹ Watanabe, *Japan’s Whaling*, 125.

²² Nippon Times, ‘Whaling Industry is Vital for Welfare of Japanese’.

A Festival for the Wild Beasts of the Sea

Despite its short existence, Ayukawa Hogeï was not only an important first step of the region to emancipate itself economically from the whaling industry, but also to grow culturally independent from the western whaling culture. Even though whales had been transformed from helpers and messengers of the gods to an industrial raw material and old forms of local knowledge began to disappear from the collective memory, whales remained important cultural symbols. Over time, the religious and cultural importance of whales was re-evaluated and adapted to the new socio-economic and ecological realities. Today, for example, there are several whale memorial stones on the premise of Ayukawa's main Buddhist temple Kannon-ji. As I argued in [Chapter 2](#), whale memorial stones were a custom of the western whaling places and differed from the natural-looking whale stones erected on the Sanriku Coast prior to the introduction of industrial whaling.

Despite the 300-year history of the temple, all whaling-related monuments at Kannon-ji are dated sometime after 1906. The oldest two cenotaphs were erected by Tōyō Hogeï in 1922 and 1928 respectively to appease the souls of whalers whose boats had been lost in the Sea of Kinkazan. The third monument is a three-metre-high whale monument tower from 1933, which reads:

Memorial tower for the spirits of one thousand whales. (Ayukawa Hogeï Company)

Unlike the two older monuments, this stone was not donated by one of the large whaling companies but by Ayukawa Hogeï. According to a contemporary newspaper article from November of 1933, the stone served as a protection against the 'whale curse': "The whalers believe that the motherly love is very strong in whales and when a whale calf is shot the mother will become insane and starts hunting after the whaling boat and even curses the families of the whalers to die with diseases. To counter these curses, this whale memorial tower has been erected."²³

As we have seen, in the Edo period, whale curse stories were connected to western Japanese whaling places and were uncommon on the Sanriku Coast. Mayumi Itoh argued that these rituals and memorial towers showed that the whalers not only wanted to relieve their guilt of killing whales but also treated whales, in religious terms, in the same way they did humans who died at sea.²⁴ Finding such a story here suggests that the perception of whales changed in Ayukawa after the introduction of industrial whaling. Furthermore, the timing of the erection of this stone was no

²³ Cited after: Kahoku Shimpō, 'Kujira no kuyōtō'.

²⁴ Itoh, *The Japanese Culture of Mourning Whales*, 47–50.

coincidence as only a few months earlier, a massive tsunami had destroyed large parts of Ayukawa, including many fertiliser plants.²⁵ With this monument, Ayukawa Hogeï not only sought divine protection but also demonstrated to the community and the other whaling companies that they had been successful in capturing over 1,000 whales, despite the constant pressure from the other companies, the difficult financial environment of the Great Depression, and the 1933 Sanriku tsunami.

The whale memorial stone was meant as a symbol of the emancipation of the locals from the larger whaling companies. Not only had Ayukawa Hogeï successfully demonstrated that they could perform whaling techniques, but they had also appropriated western whaling culture. Ayukawa was now equal to the western Japanese whaling companies. In this way, by the end of the war, in Ayukawa and at other whaling ports of the Sanriku Coast, a new coastal whaling culture had developed due to the establishment of independent whaling entrepreneurs. These coastal whalers not only facilitated new cultural traditions, which they adopted from western Japan, but also helped to establish a regional whaling cuisine based on minke whale meat, that differed from other regions.

The notion of a ‘whale curse’ remained a central pillar of the Ayukawa whaling culture. While not many primary sources have survived, we receive some glimpses of this culture from the novel *Kujira no Machi* (The Whaling Town) from 1943, which was re-released in 1955 under the more dramatic title *Umi no Yajū* (The Wild Beasts of the Sea).²⁶ Taikichi, the protagonist of the novel and possibly the alter ego of the author, who was a sailor himself, moves from Hokkaido to Ayukawa to work on a whaling ship.²⁷ In one scene in the novel, the crew of his ship captures four sperm whales and tow them with a chain to their catcher boat. However, one of the chained sperm whales is still alive and stares with hatred in his eyes towards the whalers. As one of the sailors assures Taikichi, the hate of the whale is not reserved for him: This whale is not holding a grudge against you. It is the captain. Before he was a captain, he has worked as a gunner and has until now killed over 1500 whales. It is the grudge of 1500 whales that the captain has gathered inside him.²⁸

Later in the novel, the crew pays their respect to their shipwrecked comrades at the whale memorial stones at Kannon-ji. One of the whalers explains that some decades ago a ship from the whaling company Tōyō

²⁵ Kahoku Shimpō, ‘Sanriku no gyohi gyōsha shinsai de daidageki’.

²⁶ ‘Umi no Yajū’ was also the Japanese title of a 1926 screen adaptation of Moby Dick. Later adaptation received different titles in Japanese.

²⁷ Kato, *Tsunami to kujira to penguin to*, 56.

²⁸ Kajino, *Umi no yajū (kujira no machi)*, 108–9.

Hogeï did go missing in the Sea of Kinkazan and the crew of thirteen was never found again. Many people in Ayukawa believed that a sperm whale was responsible for this.²⁹

Unlike Hayashi and Inoue, the novel does not portray whales as ‘gentlemen of the sea’ but rather as ‘wild beasts of the sea’, showing yet another shift in the perception of whales. According to the novel, the whalers believed whales would resent the humans for hunting them and would even attack the ships. This resentment could even transcend death and the angry souls of the whales could bring misfortune to the whalers or the community as a whole. To counter such curses and to relieve the guilt from killing other living beings, the erection of whale memorial stones and the holding of whale memorial services was necessary.

Such memorial services were ritualised in a yearly festival starting in 1953 when the first community-wide religious ceremony was held to celebrate the catching of over 40,000 whales since 1906 (Figure 8.1). Prior to the festival, whalers, of whom most originally came from western Japan, had held religious rituals among themselves. The new festival was integrated into the traditional Tanabata and O-Bon festival and included Buddhist rituals to comfort the spirits of whales and shipwrecked sailors alike with a floating lantern memorial service. For this, a priest from Kannon-ji brought down a whale tablet to the sea in a ritual called *umi segaki* so that the whale souls can be sent off to the sea beyond.³⁰ The appeasement of the whale souls was modelled after similar Buddhistic rituals from whaling regions in western Japan. It was believed that whales, like humans, could after their death become a Buddha and enter Nirvana or be reincarnated into a new life. However, when they are killed violently, they might end up as wandering hungry ghosts among the three Worlds of Karmic Reincarnation tormenting the living. The primary religious goal of the festival was therefore to appease the ‘wild beasts of the sea’ so that they would not bring harm to the community.

However, the festival fulfilled also other cultural needs of the Ayukawa community. Alongside the religious rituals, the festival was from the beginning designed to attract tourists from Sendai and Ishinomaki. A boat race and a demonstration shooting of a live whale took place in the harbour, baseball games and water sports. Moreover, the woman association reinvented and performed a New Year’s folk dance from nearby Tashirojima, as the ‘Seven Gods Dance’ to impress visitors.³¹ Anthropologist Masami Iwasaki-Goodman has argued that this first ‘whale festival’ (*kujira matsuri*)

²⁹ Kajino, *Umi no yajū (kujira no machi)*, 120–1.

³⁰ Nishiwaki, ‘Kujira Matsuri’; Kahoku Shimpō, ‘Hogeï jikkyō mo kōkai’; Kahoku Shimpō, ‘Ninki Yobu Hogeï Jigyō’.

³¹ Kato, *Tsunami to kujira to penguin to*, 206–7.

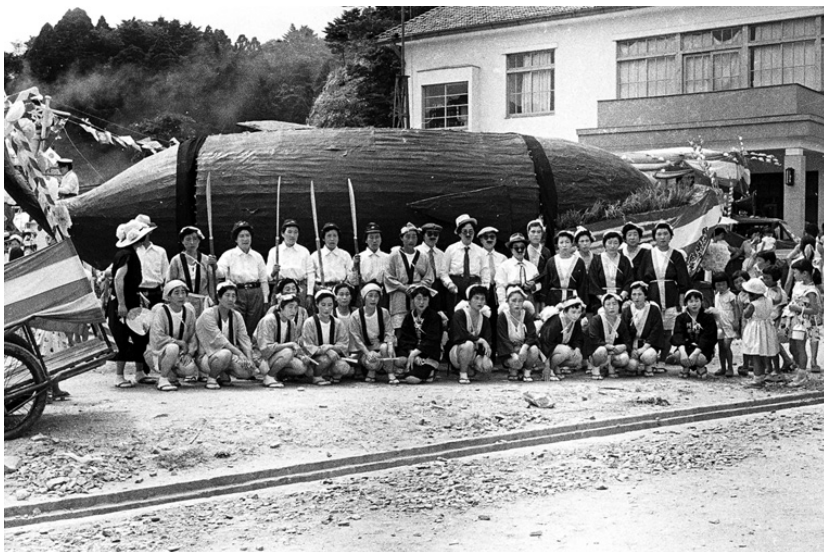


Figure 8.1 Whaling festival in Ayukawa in the 1950s. Photograph by Kanoi Seisuke.

marked the beginning of a new era when whales and whaling finally became a collective symbol for all inhabitants of Ayukawa.³² As a whaling port, the population of Ayukawa was affluent with many people staying in the town only for a few years before moving on. As a consequence, families were often torn apart and local associations fulfilled quasi-familial roles for many inhabitants of Ayukawa.³³ It is thus important to recognise that the festival was organised not by the whaling companies, but by the local groups, such as the firefighters, the women's group and the youth group. In later years, the organisation of the festival was taken over by the Ayukawa stores and shop organisation.

Similar to the whale memorial tower of Ayukawa Hogeï in 1933, these associations appropriated the religious symbols and rituals from the western Japanese whaling culture and made them their own. For example, in later years, the live shooting of a whale was replaced with a plastic mock whale that was caught in the harbour with the net-whaling technique as part of a performance.³⁴ As we have seen, the net whaling technique has

³² Iwasaki-Goodman, 'An Analysis of Social and Cultural Change in Ayukawa-Hama (Ayukawa Shore Community)', 80.

³³ Kato, *Tsunami to kujira to penguin to*, 42–4.

³⁴ Oshika chōshi hensan iinkai, *Oshika chōshi: Jōkan*, 185–6.

never successfully been established in the region and it is therefore not an essential part of the regions whaling history. While most locals were aware of this fact, by including the net-whale performance in the whale festival, the associations invented a new tradition that for outsiders seemed to be older than it actually was.³⁵

The whale festival was cemented as part of Ayukawa's culture on a national level with the release of the feature film *Kujira o tatakau otoko* (The Men who Fought Whales) in 1957, which might be loosely based on the previously mentioned novel. The protagonist of the movie, a Japanese gunner called Yamagi, arrives in Ayukawa suspecting that a rival gunner was involved in the death of his brother. The two gunners and their respective crews soon come in direct conflict with each other, also because both men are interested in the barmaid Yuki. The climax of the movie is set during the whale festival and after a bar fight, Yuki reveals to Yamagi that everything had been a misunderstanding, as the rival gunner had actually been a good friend of the brother but felt guilty for not being able to prevent his death during a whale hunt.

The film was shot on location, featuring footage of real whale hunts and the flensing of whales at a whaling station, giving us a glimpse of life in Ayukawa during the 'Golden Age' of whaling. The whale festival itself was performed a second time in this year in Ayukawa, so that the movie crew could film it.³⁶ We can see that during this time period the flensing was mostly done by the local women, something also mentioned in the novel.³⁷ While the life and hunt on the ships were portrayed in the movie as a purely masculine affair, the processing of the whales was no longer in the hands of men. Indeed, as early as 1911, 40 per cent of workers at the local fertiliser plants were women, who were preferred by the owners, as they could be paid lower wages than men.³⁸ Women are also prominent during the whale festivals, for example when a large whale puppet is dragged during the street and some flenser open its belly to reveal three dancing women inside. Gender roles had thus shifted, and women had become an integral part of the new Ayukawa whaling culture, not only as workers at the whaling stations but also as performers at and organisers of the whale festival.

Unlike the novel, whales appear here not as wild beasts but as a natural force that only the most masculine men can harvest to further his social status among his peers and among women. Despite its title, the movie is not really concerned with the fight between men and whales, but rather

³⁵ Kato, *Tsunami to kujira to pengin to*, 69.

³⁶ Kahoku Shimpō, 'Kujira No Hama Ni Roke-Tai'.

³⁷ Kajino, *Umi no yajū (kujira no machi)*, 30–1. ³⁸ Anonymous, 'Hiryō ninpuchō'.

whales are tokens of male potency as the rival whaling crews define their struggles over which group can kill more whales. In one scene only one group was able to shoot a whale in the Sea of Kinkazan, while the other group had to return to the harbour empty handed, looking entirely defeated. This is further highlighted during the whale festival, when Yagami has to show his superiority by defeating an opponent gunner by shooting the mock whale in the harbour with a harpoon cannon. Also, a reporter in the movie tells the captain of one of the whaling ships that ‘all people of Japan believe that you do a very good job and are very grateful for your work’, highlighting how a ‘masculine art’ like whaling was constructed as a service for the nation. Overall, the movie was an important propaganda piece for the whaling industry and presented Ayukawa as an important whaling port with a long history.

A Whaling Town without Whales

Ayukawa reached its peak in the middle of the 1950s, when the population had grown to 3,795 inhabitants. The city centre boasted not only stores for daily life, but also a movie theatre, bars, cafes, billiard halls, cabarets, pachinko parlours, and other entertainment establishments.³⁹ Older inhabitants often remember this time with nostalgia as the ‘Golden Age’ of Ayukawa, when the smell of whale oil in the air was associated with wealth. However, all this wealth came at the price of a destroyed cetosphere.

Shortly after the war, the Fisheries Agency had divided the whaling industry into three categories: pelagic whaling, which mainly focused on the Antarctic Ocean, large-type coastal whaling (LTCW), and small-type coastal whaling (STCW), the latter specialised in hunting smaller whales for local consumption with whaling vessels weighing less than 30 tons. Initially, the Fisheries Agency gave permits freely, and by 1948 over 73 vessels had registered as STCW, leading to fierce competitions among the whalers. Similarly, the five LTCW companies hunted large whales near Hokkaido and the Sanriku Coast without restrictions, but soon the whalers noticed a decrease in the size of the caught whales, just as Hayashi and Inouye had already warned in the 1930s. The Fisheries Agency began setting quotas for sperm whales, but according to Kondō Isao, a whaler and local historian from Ayukawa, the LTCW companies met in secret to set their own quotas. The companies began to actively deceive the Fisheries Agency supervisors who were sent to the whaling port to overwatch the quotas.⁴⁰

³⁹ Kato, *Tsunami to kujira to penguin to*, 61.

⁴⁰ Kondō, *Nihon engan hoge no kōbō*, 339–42.

The same tactics were also used when two observers from the International Whaling Commission (IWC), of which Japan was a member since 1951, arrived in Kushiro and Ishinomaki to monitor Japanese coastal whaling in 1972.⁴¹ The whalers organised that the observer who was supposed to control the whaling stations in Onagawa, Ayukawa, and Yamada was accommodated in Ishinomaki, which was too far away to make effective control visits. Only after repeated complaints was the observer transferred to a nearby hostel in Ayukawa. The whalers not only falsified official records by recording the size and sex of the caught whales incorrectly but also proceeded to flense whales at night so that the observer could not record the true number of whales caught.⁴² These attempts at deception and mismanagement, born out of the need to remain financially viable, not only damaged Japan's international reputation but also accelerated the disintegration of the whale stocks. As a result, by 1971, fin whales were effectively extinct in the Sea of Kinkazan, followed by sei whales in 1975. Kondō concludes: 'The actual number of animals captured after 1950 is known only to the gods, the published number of whale catches are completely meaningless.'⁴³

Meanwhile, other nations terminated their whaling programs, and the international community demanded an end to all whaling activities. While the two IWC observers were operating in Japan, a ten-year moratorium on commercial whaling was suggested at the United Nations Conference on the Human Environment in Stockholm in June 1972. These were devastating news for Ayukawa. Only a year prior, in 1971, the new panoramic 'Cobalt Road' was opened that shortened travel time by car from Ayukawa to Ishinomaki. It was hoped that this new road would be a large boost for local tourism. In anticipation of large tourist crowds, the founder of Toba Hogeï, a local whaling company, took a large loan to build a massive hotel near Ayukawa.⁴⁴ Indeed, in the first year, over 750,000 guests came to the Oshika Peninsula. The main attraction for most tourists was minke whale meat, which was served at local restaurants or was sold at souvenir shops.⁴⁵

However, the prospect for implementing a whaling moratorium threatened the booming tourist industry. A local craftsman, who made jewellery out of sperm whale teeth, commented at the time: 'That the protection of whales has become so much talked about recently, worries me. To put it bluntly, if they decide not to take whales anymore, I'll be out of business.'⁴⁶ These worries were shared by many locals as 600 jobs were

⁴¹ Kahoku Shimpō, 'Bei Kara Kanshiin Futari'.

⁴² Kondō, *Nihon engan hogeï no kōbō*, 402–5.

⁴³ Kondō, *Nihon engan hogeï no kōbō*, 405. ⁴⁴ Toba, 'Toba Hogeï', 43–6.

⁴⁵ NHK, 'Shinkankō Ru-to'. ⁴⁶ NHK, 'Shinkankō Ru-to', 74–5.

directly or indirectly connected to whaling in Ayukawa. Tourism alone, especially without fresh whale meat and other whale products to sell, would not be enough to compensate for the loss of the whaling industry. Furthermore, without the tax money from the whaling industry, further investments into infrastructure were also threatened.⁴⁷

In an attempt to prevent the moratorium, the mayor of Ayukawa travelled to Tokyo to fight for the survival of commercial whaling. While he and others made whaling a national political issue, they could not prevent that the IWC voted for a ban on commercial whaling on great whales in 1982. Originally, Japan vetoed this decision and was thus not bound by the moratorium, but when the US government threatened to reduce the Japanese fishing quota in the American exclusive economic zone, the Japanese government rescinded their veto. The moratorium went into effect at the end of 1987, officially ending commercial whaling in Japan. However, this was not the end of all whaling activities: The LTCW companies merged their assets to form Kyōdō Senpaku, a new company that sent its ships to the Antarctic starting in 1988 to conduct whaling for scientific purposes, which was allowed under the moratorium.

The large companies that conducted LTCW had all interests in other fisheries, making their withdrawal from the unprofitable whaling industry less severe, especially as they were generously compensated by the Japanese government. STCW companies, on the other hand, were hit much harder: not only were they not compensated they were also forbidden to hunt the now-protected minke whales. Even so, STCW operators in the four communities Abashiri (Hokkaido), Ayukawa (Miyagi), Wadaira (Chiba), and Taiji (Wakayama) did not give up their licenses and instead continued whaling smaller species such as Baird's beaked whales, that were not protected by the moratorium.

In 1988, an international workshop of anthropologists aimed at answering whether STCW should be categorised at the IWC as 'aboriginal whaling', which would have allowed to hunt a limited number of minke whales again. The researcher conducted fieldwork in the four communities and concluded that they possessed a 'whaling culture' that they defined as 'the shared knowledge of whaling transmitted across generations'.⁴⁸ They continued:

This shared knowledge consists of a number of different socio-cultural inputs: a common heritage and world view, an understanding of ecological (including spiritual) and technological relations between human beings and whales, special

⁴⁷ Kahoku Shimpō, 'Masaka kinshi ni ha . . . '.

⁴⁸ Akimichi et al., *Small-Type Coastal Whaling in Japan*, 75.

distribution processes, and a food culture. The common heritage found in Japan's whaling culture is based on a long historical tradition.⁴⁹

While a majority of IWC member states rejected the notion of categorising STCW as aboriginal whaling, the workshop and its participants became instrumental in portraying the 'whaling towns' as bearer of a shared Japan whaling culture that was based on a long historical tradition.⁵⁰ The cultural and religious whaling traditions of Taiji and communities in northern Kyushu, which had long since given up whaling themselves, were thus represented as a genuine part of Ayukawa's history.⁵¹ No mentions are made in the workshop report or in later publications by the same authors that fishermen in northeastern Japan and Hokkaido had for centuries developed their own non-whaling culture and protested against the introduction of western Japanese whaling culture. The struggle to keep coastal whaling alive after the moratorium, facilitated the need to reinvent a historical whaling culture that was shared among the communities. In this narrative, the history between humans and whales began in Ayukawa in 1906 with the introduction of industrial whaling, and any previous relationships that might have existed faded from the collective cultural memory.⁵²

The 2011 Tsunami

The loss of their main economic resource, minke whale, was a huge shock for coastal whalers in Ayukawa. While the other three remaining whaling towns had focused on other species, Ayukawa's local cuisine had since the 1940s been focused mostly on minke whale meat. Nevertheless, under the provision of the IWC moratorium it was still possible to hunt some smaller, not protected cetacean species; therefore, the STCW began targeting a small number of Baird's beaked whales, even though its meat was not particularly popular in the region. To support the struggling coastal whaling industry, in 1994 the Japanese Government began organising scientific whaling expeditions in the North Pacific, modelled after the controversial Antarctic scientific whaling programme. After 2003,

⁴⁹ Akimichi et al., *Small-Type Coastal Whaling in Japan*, 75.

⁵⁰ Following the workshop a number of its participants released their own research on Japan whaling culture, all portraying it as a monolithic entity, see Akimichi, *Kujira wa dare no mono ka*; Takahashi, *Kujira no Nihon bunkashi*; Iwasaki-Goodman, 'An Analysis of Social and Cultural Change in Ayukawa-Hama (Ayukawa Shore Community)'; Kalland and Moeran, *Japanese Whaling*.

⁵¹ The situation is similar for Abashiri, where whaling was introduced shortly after Ayukawa and in Wada-ura where whaling was conducted only since after World War II.

⁵² For more on the concept of 'collective memory', see Assmann and Czaplicka, 'Collective Memory and Cultural Identity'.

one of these programmes allowed the two remaining whaling companies to hunt the otherwise protected minke whales. Without this additional money made from selling the minke whale meat at local markets, the whaling business would not have been profitable.⁵³ Indeed, 10–20 per cent of all whale meat in Japan is consumed in Miyagi Prefecture.⁵⁴

This was the situation, when the 2011 tsunami hit Ayukawa, pulverising the town in a few minutes. In the direct aftermath, it was unclear if the complete destruction of the coastal infrastructure would also mean the end of whaling for Ayukawa. However, in order to rekindle a shared identity and prevent the disintegration of the community, as more and more people moved away from the region, local stakeholders began to argue that the future of Ayukawa itself was inextricably linked to the whaling industry. The national government itself promised quick help and allocated 2.28 billion yen from the Tōhoku Reconstruction Funds for whaling purposes. However, soon it came to light that the money was not intended for Ayukawa but rather to pay for protective measures against anti-whaling groups in the Antarctic Ocean. Having lost precious time over this political scandal, the few years earlier founded Ayukawa Hogeï decided to rebuild the whaling station with its own money and in 2012, the scientific whaling operation was once again conducted in Ayukawa. Whalers have struggled to find enough minke whales in the sea off Ayukawa to fulfil the government-set quota. After the tsunami of 2011, coastal whalers in Ayukawa on the Oshika Peninsula began to notice a sudden drop in minke whales in the Sea of Kinkazan.⁵⁵ One of the involved researchers speculated that the tsunami might have changed the oceanographic conditions so much that the minke whales had temporally changed their migration route and no longer came to the region.⁵⁶ To make matters worse, most of the captured minke whales turned out to be sexually immature, indicating that the hunt was not sustainable. Because of the poor performance, the government began in 2017 to move some of the scientific whaling programmes away from Ayukawa to Hachinohe and Abashiri, where they hoped they would receive better catches.⁵⁷

Despite these difficulties, local stakeholders worked hard for keeping the Ayukawa coastal whaling culture alive. Starting in 2012, a group of senior citizens, who met after the tsunami in a temporary housing facility,

⁵³ Japan Times, 'Miyagi Whaling Town Has Seen Better Days'; Yomiuri Shinbun, 'Kujira to ikiru (4)'.

⁵⁴ The House of Representatives, 'Dai 181-kai nōrinsuisan iinkai'.

⁵⁵ Yasunaga et al., 'Cruise Report of the Second Phase of the Japanese Whale Research Program under Special Permit in the Western North Pacific (JARPEN II) in 2013 – (Part II) – Coastal Component off Sanriku Survey'.

⁵⁶ Interview with Toshihide Kitakado, 19 August 2015.

⁵⁷ Holm, 'The Whales and the Tsunami'; Holm, 'After Withdrawal from the IWC'.

began to sell whale meat online and experimented with new whale recipes. Similarly, locals also revived the whale festival, which was held once again yearly after 2013. When I visited the festival in August 2017, most of the whaling company workers were away whaling in Hachinohe. In the evening, the spectators could go down to the harbour to watch the cutting of whale meat; besides this, the whaling companies played a much smaller role in the new festival than they did before the tsunami. There were also no rituals for appeasing the angry souls of hunted whales. Instead, priests from Kinkazan performed an old dragon dance. Motifs of whales were represented on several posters, but the animals themselves were only 'attending' in the form of whale meat. Apart from a small amount of frozen minke meat that was sold, volunteers were giving away free samples of fresh Baird's beaked whale meat, sponsored by the whaling companies. As Baird's beaked whale meat does not taste good raw, it was cooked and various creative new dishes were tried out; for example, whale pizza, whale cornflake sticks, and grilled whale meat served with miso.

The festival is one of the main events of the year for the people of Ayukawa. However, according to folklorist Katō Kōji, who was directly involved in the revival of the festival, its objective has changed: 'Before the tsunami, it was a whale festival for a whaling town, but now it exists to hold the community together and bring back people who had moved away.'⁵⁸ Katō further explained that the whale festival plays an important role in the local identity of Ayukawa, even though most people nowadays have little to do with whaling. Even whale meat, the most obvious symbol of the local whaling culture, is only eaten on special occasions like this.

Since 2014, a group of interested citizens, both former and current, have met several times to discuss the reconstruction of Ayukawa. They have developed a plan for a completely new harbour area, with a business district, a tourist centre where various whale products are to be sold and a new whale museum. The museum is intended not only to display exhibits from the destroyed Oshika Whale Land but also to 'teach, protect and transmit the culture and history of Ayukawa that had thrived under the whaling industry in the past'. As in the 1970s during the 'nostalgia boom', it is hoped that Ayukawa will once again profit from its 'whaling culture' image. The new harbour area with the whale museum opened in 2021, exactly ten years after the tsunami.

⁵⁸ Interview with Katō Kōji, 19 December 2017.

Conclusion

Over the course of hundred years, the Northeast, with Ayukawa at its centre, developed its own regional identity as a whaling region that was part of a national framework. While in the first decades, western whaling companies effectively monopolised not only the whaling economy but also the cultural life of the Northeast, since the 1930s local initiatives have begun to reinterpret western Japanese whaling culture as part of the Northeast's own culture. The founding of their own whaling companies, the building of whaling monuments and eventually the establishment of a whale festival, which was prominently featured in contemporary media, effectually led to the Northeast becoming Japan's primary whaling region, while whaling in western Japan became almost irrelevant save for its historical significance.

With these changes also came a reinterpretation of the role of whales for the coastal communities. No longer were they regarded as benevolent 'gods of the sea' that brought benefits to humans. Other non-violent interpretations, such as the 'gentlemen of the sea', were similarly quickly abandoned and instead the discourse moved towards the 'wild beasts of the sea' that were dangerous to humans and only the most skilled and heroic whalers were able to take on directly. With the end of the cetosphere, the agency of whales also diminished. We can see this for example directly after the war, when, according to the popular discourse, whale meat saved the Japanese nation from starvation. However, it had not been the sacrifice of the whales that had made possible this miracle but rather the ingenuity of the industrial whaling fleet in the Antarctic Ocean. Indeed, at this point, outside of rituals performed at whaling festivals aimed at tourists, whales had transformed from gods that actively shaped the lives of humans to little more than an obstacle for efficiently extracting marine biomass for industrial products.

While Ayukawa flourished during its 'Golden Age' as a whaling town, the loss of the Northeast's less intrusive and violent non-whaling culture had dire effects on the abundance of whales and the well-being of the overall coastal ecosystem. The capitalistic logic behind industrial whaling led to severe overharvesting, which was compensated by the taking of immature animals and the direct forgery of statistics and deception of the Fishery Agency and the IWC. The truth is that it was not the international community and their cries for an end of slaughtering of cetaceans that brought an end to industrial whaling but the whalers themselves who had destroyed their own ecological foundation. The IWC moratorium was

a convenient way to abandon a devastated industry without losing face as blame could be placed elsewhere.

But whaling did not stop completely. In the past thirty years, Ayukawa and some other communities persistently continued small-scale coastal whaling in the hope to revive the whaling industry one day, as they believed that the economic and social future of their communities was dependent on whaling. The 2011 tsunami reinforced this feeling, and the reconstruction of the town was linked directly with the coastal whaling industry. The regulatory framework given by the IWC moratorium gave the remaining whalers the opportunity to experiment with new forms of coastal whaling that were less intrusive to the ecosystem and might be in its small scale even be sustainable. However, the damage done to the cetosphere seems to be so all encompassing that even the hunting of fewer than hundred whales a year seems to be too much for the ecosystem to handle. As it stands at the moment, the whale pilgrimage to the Sea of Kinkazan has come to an end.

Epilogue

In late 2018, just days after the Japanese government announced its decision to withdraw from the IWC, I visited Ayukawa one more time. While politicians in Tokyo and in some of the whaling towns such as Hachinohe or Kushiro, enthusiastically proclaimed a new age of Japanese whaling, people in Ayukawa were less optimistic. Certainly, like the other whaling towns, Ayukawa had fought hard for the past thirty years to reverse the IWC moratorium on commercial whaling. At the time, the reconstruction of Ayukawa after the 2011 tsunami was steadily progressing, the groundwork for the new harbour area with the whaling museum had just been laid. It seemed like the timing for a resumption of commercial whaling could not have been better.

However, the locals I spoke with expressed concern that Ayukawa would not be able to compete with other regions that wanted to participate in whaling. As Ayukawa had lost most of its infrastructure and working population due to the tsunami, the town was no longer a prime candidate for a whaling place. Situated at the tip of the Oshika Peninsula and with no access to a train system, reaching the hamlet remained inconvenient. In the past, its remote location was more than compensated with the fact that the Sea of Kinkazan had been brimming with cetaceans. After a hundred years of hunting, only ruins of the former ‘castle of sperm whales’ remained, however. The whales, it seemed, had moved elsewhere. To make matters worse, the recently rebuilt whaling station had been constructed with the restrictions of the moratorium in mind, who had only allowed the hunt of some smaller-sized whales. Animals larger than eight metres could not even be processed effectively at the station. For the locals, it, therefore, seemed likely that commercial whaling will move to ports with better infrastructure and location.

It is too early to tell whether coastal whaling will be able to become commercially viable again. However, looking at the present-day debates, it becomes clear that there is little doubt for people in Hachinohe or Ayukawa that they are representatives of Japan’s ‘national whaling culture’. Older forms of human–whale interactions that existed in the region prior to the

introduction of industrial whaling have disappeared completely from the collective memory. We can further exemplify this shift in the role of the whale god Ebisu. During one of my interviews with a former whaler from Ayukawa, I noticed a small Ebisu household altar (*kamidana*) in his living room. When I commented on this, he looked very surprised, as he could not recall the meaning of the altar and so he asked his wife about it. As it turned out, the couple were not aware that their household altar was dedicated to Ebisu and did also not know the cultural background apart from vaguely remembering him as a 'god of fishing'. Similarly, at the present-day whale festival in Ayukawa, Ebisu does not play any major role.

The lost knowledge of how to live peacefully side-by-side is of course only one of many side-effects of the anthropogenic takeover of the cetosphere. Industrial whaling in the twentieth century decreased the worldwide whale stocks so drastically that the cetosphere ceased to exist. Only in the past fifty years have NGOs and other concerned voices called for a restoration of the cetosphere by ending commercial whaling and setting up 'whale sanctuaries'.¹ Bringing back the cetosphere may also come with some risks, however, as the oceans have become part of the anthroposphere and there will potentially be a conflict of interest between cetaceans and commercial fisheries.²

In this regard, some pro-whaling nations articulate the view that humans and whales are in contest over the same marine resources and that the culling of marine mammals is necessary to ensure a sustainable harvest of fishery products.³ Japanese scientists from the Institute of Cetacean Research calculated that whales consume roughly 280 to 500 million metric tons of marine animals annually, while commercial fishing constitutes 'only' 90 million metric tons.⁴ Norwegian scientists found that the increase in minke whales after the end of commercial whaling led to a decrease in certain fish species in the Barents Sea, where cetaceans consume over 100,000 metric tons of cod each year.⁵

¹ For more on the disputes surrounding the Southern Ocean Whale Sanctuary, see Mossap, 'When Is a Whale Sanctuary Not a Whale Sanctuary'; Berger-Eforo, 'Sanctuary for the Whales'.

² For the effect of commercial fishing on marine mammals stocks, see Read, 'The Looming Crisis'.

³ Martensen, 'Whales in Norway'; Gerber et al., 'Should Whales Be Culled to Increase Fishery Yield?'; Morishita, 'What Is the Ecosystem Approach for Fisheries Management?'; Lavigne, 'Marine Mammals and Fisheries'.

⁴ Numbers cited after: Komatsu and Misaki, *The Truth Behind the Whaling Dispute*, 11.

⁵ Planque et al., 'Who Eats Whom in the Barents Sea'; Lindström et al., 'Modelling Multi-Species Interactions in the Barents Sea Ecosystem with Special Emphasis on Minke Whales and Their Interactions with Cod, Herring and Capelin'; Schweder, Hagen, and Hatlebakk, 'Direct and Indirect Effects of Minke Whale Abundance on Cod and Herring Fisheries'.

In the view of these scientists, restoring the whale stocks to their previous levels could only be done at the cost of the fishing industry and, therefore, humans have no other choice than to set up a small-scale sustainable whaling program to prevent the collapse of the current fishing regime.

Other scientists, mainly from anti-whaling nations, have rejected this interpretation by arguing that marine mammals mostly eat squid and fish that are not harvested by humans while providing necessary services to the marine ecosystems that humans cannot easily imitate.⁶ A return to the cetosphere would produce a more diversified and abundant marine ecosystem and would be, in the long run, more beneficial for humans as well.⁷

What can environmental histories like the one presented in this book contribute to these debates? The historical perspective taken here reveals that some coastal communities in northeast Japan (and possibly in other regions of early modern Japan) have lived closely with whales without being in direct competition with them. Indeed, the local ecological knowledge of how to benefit from the cetosphere was widespread among the villages and can be traced in historical documents, folk stories, and material objects since the early Edo period. This study has revealed that early modern Japan possessed not one singular whaling history but several competing whale-human cultures.

While many coastal communities regarded whales as divine beings, the reason they refused to conduct whaling was not that they saw intrinsic value in the animals,⁸ but because the cetosphere had tangible socio-economic and cultural benefits for the coastal communities. Killing whales threatened the long-term survival of the community as they would no longer bring sardines and bonito closer to the shore and the outflowing whale blood and oil polluted the coastal ecosystem. Instead of seeing whales only as a resource

⁶ Ruzicka et al., 'Dividing up the Pie'; Corkeron, 'Marine Mammals' Influence on Ecosystem Processes Affecting Fisheries in the Barents Sea Is Trivial'; Trites, Christensen, and Pauly, 'Competition between Fisheries and Marine Mammals for Prey and Primary Production in the Pacific Ocean'.

⁷ Estes et al., 'Megafaunal Impacts on Structure and Function of Ocean Ecosystems'; Clapham, 'Managing Leviathan'; Roman et al., 'Whales as Marine Ecosystem Engineers'.

⁸ In the framework of philosopher Arne Naess, the historical anti-whaling movements in northern Japan would be classified as 'shallow ecology', while the present-day anti-whaling movements spearheaded by Western NGO's, such as Greenpeace, show many characteristics of 'deep ecology'. According to Naess, proponents of the deep ecology movement protect non-human animals not because of the benefit they provide for humans, but because of their inherent value as living beings on this planet. For more on 'deep ecology', see Kopnina, 'The Lorax Complex'; Drengson, 'The Deep Ecology Movement'; Naess, 'The Shallow and the Deep, Long-Range Ecology Movement'.

that can be harvested for meat and oil or as an unwanted competitor that disturbs the human-managed fishing regimes, the human-cetacean relationship was much more nuanced and layered. ‘The gods of the sea’ could bring wealth and prosperity in one region and ‘curse’ a whole community in another. This book has mostly looked at how early modern coastal communities imagined the effect the cetosphere had on them. To this day, the question of whether sei whales bring sardines and capelin closer to the shore has not been definitively answered. Furthermore, many of the feedback loops a whale-dominated coastal ecosystem provided have probably been lost for good. At this point, it is questionable if humanity has the ability to restore the whale stocks to pre-industrial whaling levels and thus reinstate the cetosphere. As this book has shown, however, it seems likely that it would lead to a more diverse marine ecosystem from which humanity and many nonhumans would profit in many different ways.

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