

Chapter 2

Geographies and Histories of Fish and Fishing



Abstract While many developmental sectors and their communities have sparse historical or geographic records, recent works on environmental history and historical geography have sought to fill in some of the gaps. Work on histories of forests, pollution and some land mammal and reptile species has contributed a great deal in the effort to move the realm of history beyond that of human experience. Fish and fishing, however, are certainly under-researched in both a historical and geographic sense. Even in the field of anthropology, an academic discipline with a concern for the edges and outliers in human development, fishing communities—their societies, traditions and histories—have not received much in the way of exposure or interest. This chapter, therefore, outlines what can only be a partial and incomplete focus on the wider global histories and geographies of fish and fishing. For the most part histories and geographies of fish and fishing have been extremely focused on the northern hemisphere. Histories of European fishing development and stocks abound, especially those focused on the traditions of the Cod and Herring fisheries prior to the twentieth century, and to the area around Newfoundland’s Grand Banks. Histories of colonialist, modernist and capitalist technologies as they were deployed in the pursuit globally of whales and seals are also quite abundant. Histories and geographies of fishing in the Pacific, Africa and Southeast Asia are few and far between: however, those that are encountered within this chapter are considered for their methodological approach to the study of fishing communities and territories outside of the traditions of European or Western fishing practice. Fish and fishing community histories and geographies of Chinese and Japanese fishing are of particular interest and transfers of technology, spiritual mythologies and cultural traditions which intersect with those of Korea are vital to this chapter. Finally, this chapter explores the history of Korean fishing traditions and practices, considering what material exists from the records of the pre-1907 Chosŏn state, as well as the material gathered by Japanese academics and colonists during the period from 1907 to 1945. These are combined with the few seminal studies of Korean fishing communities in more recent times, especially that of Gageodo, South Korea’s most southwestern community which itself has been a fieldwork site for the author of this book during its formation.

Keywords Fishing histories · Korean fishing · Chinese fishing · Japanese fishing · Gageodo

2.1 Introduction

Historically grounded analyses and studies of fishing communities are few in number but the majority of those that exist focus on whaling practices and histories and fishing in the North Atlantic. While it might be expected that colonial or postcolonial histories would seek out and uncover the stories of fishing communities and spaces, this generally has not been the case. This may be because the object of these communities' enterprise and interest and often the communities themselves are remarkably transient and temporary. Fish and maritime resources often disappear or reappear with little rhyme or reason, the communities that seek them then being forced to move or reconfigure their life practices and home lives in order to catch up with their targeted resource. In our age of industrial exploitation, climate change and environmental crisis this has become common and with rising sea temperatures can only become more so. Research focusing on the history of the modernisation of fishing and the science of fishing catch and capacity as well as the statistics of fishing is rare. Research into the collection, collation and analysis of fishing statistics and the availability of resource has developed enormously since the eighteenth and nineteenth centuries and will primarily be encountered by this book in the next chapter. Modernisation, for the most part, means capitalisation and commodification as much as it does colonisation or imperialism, and the same has been true of fishing. Fishing communities have seen the practices and technologies with which they engage their prey radically change, and the sense of what is knowable about fish and fishing has been part of that change. Historically, fishing was an exercise rooted in chance and fortune as much as expertise and skill. It was impossible to know whether the fish would be in the water where they were normally caught, impossible to know whether weather or currents would have an impact on the catch from any particular boat. However, fisheries science and the development of statistical methods and the field known today as fisheries management sought to make the unknowable and the mysterious quantifiable and rational. Fisheries management and fisheries science transformed fish from intangible nomads in an abstracted terrain, into a reliable resource. Work from the United States and Europe on species such as Cod, Haddock, Whiting, Herring and even large Whale species from academics such as Johan Hjört,¹ Walter Garstang² and Archibald Huntsman³ has produced theories of optimum catch, maximum resource and steady-state yield. What is unique about this research and the field of fisheries

¹Hjört (1914).

²Garstang (1900).

³Huntsman (1918).

management and science has been the historical scale of failure and degradation incurred by the resource with which it was concerned. Populations of fish the world over have been decimated and destroyed by scientific fishing including global Whale populations, Cod fisheries on the Grand Banks and the Canadian Pacific Salmon fishery. These destructions have been rooted in the assumptions and presumptions developed by fisheries science in recent history that the volume of fish in an ocean was something that could be potentially understood, the holding and reproduction capacity of a fish population known to great detail and fish detached from their wider ecosystems. Contemporary fishermen must now fish ‘down the food chain’, down the trophic level, compete for much smaller fish (to the extent that historical accounts of the size of fish seem somehow fantastical), be subjected to extreme restrictions on fishing days and by-catch as well as adopting semi-legal and colonial methodologies of extraction to obtain the resources of nation’s unable or unwilling to maintain or manage their own fish stocks (European Union exploitation of West African fisheries for example).

2.2 Early Moments of Fishing

Fishing began close to the shore, in shallow water, often not even in the sea but in ponds, lakes and streams and the more benign watery spaces across the globe. It is certain that fishing started early, for humans quickly moved to the edges of the continents as well as residing in the great grasslands and plains of their first epoch. Technologies involved in fishing did not even involve getting into the water or travelling across it for many centuries, early fisheries being content to spear or net their quarry from close at hand. Prior to the evolution of Homo Sapiens, Homo Neanderthalis are said to have been skilled at fishing for river fish such as salmon and trout by hand, even constructing rudimentary blockades of stone across rivers⁴ and they may have caught seagoing salmon when fishing close to the sea in estuarine rivers.⁵ When Homo Sapiens did appear some fifty thousand years ago they began to develop weaponry and tools such as lances and spears to catch both fish and wild animals. The Arignac of contemporary Southern France added barbs to their equipment which signified perhaps a predilection or preference towards fish.⁶ In the mid-period of the Neolithic, it seems that harpoons with a detachable point had been invented, but there is no evidence of hooks—these would not appear until the Maglemose culture in the Jutland Peninsula between 10,000 and 6000 years ago.⁷ Sahrhage and Lundbeck suggest that along with the huge mounds of mollusc shells from this culture (reaching a height of three meters and a width of

⁴Sahrhage and Lundbeck (1992, p. 5).

⁵Ibid.

⁶Ibid, p. 6.

⁷Ibid, p. 8.

some fifty meters), and contemporaneous cultures in Scotland were bones from species such as Herring, Flounder, Cod and Haddock which suggests that fishing people from these places had already taken to the sea in some form of boat and pushed off from the shore.⁸ When this technology and invention was first made cannot be known exactly, though pine dugout canoes which would have been seaworthy have been found in the Netherlands and in Scotland and dated to around 8300 years old.⁹

Middens and mounds of the discarded shells of sea creatures play a huge role in dating and considering the material left behind by early cultures living by the sea. In Australia, shell middens left behind by the Eora tribe who lived in what is now the Sydney area were even integral to the first material development of the settler-colonial project later to become the modern nation present there today. Settlers following the arrival of the First Fleet in 1788 found when wanting to build more substantial buildings or infrastructure, that there were no easily accessible repositories of conventional limestone to use as mortar in construction projects. Middens built up over millennia were used instead, ensuring the material generated by countless generations of aboriginal shellfish catchers and fishers was repurposed by an invading culture that would virtually displace them with the material culture of European Australia.¹⁰ Moving backwards to earlier colonisations, human settlement across what is now the Bering Strait into the Americas resulted in Native American and Inuit cultures across the northern reaches of the continent which quite quickly gave birth to the Kayak (or Qajak in East Greenlandic).¹¹ Kayak usage in Greenland, Western Canada, Ellesmere Island and elsewhere was hugely important for the development of strategies and techniques to catch larger prey at sea such as whales and seals.¹² To this day, Kayak is symbolic in Greenland of a particular cultural–spiritual interaction with the sea, in which the capturing of whales is in some senses for Inuit communities the returning of ancestors to the land. Colonisation by Denmark and Scandinavian culture has had a devastating social impact on Greenland, as well as the developing challenges of climate change, the almost abandonment of the kayak and hunting lifestyles being a sign of this.¹³ However, with the rise of Greenlandic nationalism and revived and coherent Inuit notions of sovereignty in the 1980s, the kayak was rediscovered by younger Greenlanders and a number of Qajak clubs were founded to enable a new generation in learning the skills of their construction and navigation; these clubs were called (in East Greenlandic), ‘*Qajak Atoqqilerparput*’ or ‘Kajak, we are beginning to use it again.’¹⁴ Inuit and other communities of the north developed a fishing

⁸Ibid, p. 9.

⁹Ibid, p. 10.

¹⁰Myers (2000).

¹¹Sarhage and Lundbeck (1992, p. 18).

¹²Ibid.

¹³Petersen (1995).

¹⁴Heath (1985).

culture based on technologies of the detachable harpoon, recoverable spears, slings and hooks.

Fish hooks remained fairly simple in the north initially, but double and multiple hooks were developed in the tropical and southern parts of the world.¹⁵ While single curved hooks for fishing may have been developed in the subarctic and then spread south to mainland Europe, what is now Russia and even the islands of Japan, northern China and Polynesian islands, it is suggested that compound and multiple hooks developed separately in cultures to the south.¹⁶ Mesopotamian, Sumerian and ancient Egyptian and Indian fishers developed more complicated hook technology and this travelled throughout the world, integrating with northern traditions around Lake Baikal and also impacting on southern Chinese cultures via a connection with Malayan culture.¹⁷ When it comes to China, heavily influential on the development of Korean culture and social practice, its extensive coastlines and complicated river systems, rich with fish and marine life prior to the modern period, inspired some of the earliest pieces of boat building technology.¹⁸ The boxy form and flat bottom of the junk, derived perhaps from earlier forms of technology such as the raft, is extremely familiar to the popular imagination of premodern Chinese coastal, river and sea culture. Sahrhage and Lundbeck describe it as ‘probably the oldest real plank boat, dating back several thousand years’.¹⁹ Junks set to sea along the coast of China it seems after 1000 BCE, through development in their design with the addition of the now traditional upward bows. The Shang culture slightly earlier than that (fifteenth century BCE), produced artwork which equated fish and fishing catch with prosperity and auspiciousness—to the extent that images of fish even began to be used as stores of value and copper and bronze coins in the shape of fish replaced shells as currency, before coinage assumed the now conventional round shape.²⁰

When it comes to Japan, Korea’s other close cultural and political neighbour, its for the most part unforgiving topography and geography as well as complicated coastline and lack of extensive coastal shelf (Japan’s place on the plate tectonic boundary as part of the Pacific Ring of Fire, means that the shelf rapidly drops off to deep trenches on the islands’ Pacific side). Its human culture, therefore, did not have the option in ancient times to develop technology and capability as had been the case in China in river systems and in shallow seas. Sahrhage and Lundbeck suggest that initial development of things like hooks and fishing gear in Japan was influenced more by influences from the Eurasian North (via Russia, Sakhalin and the tribes of the Bering strait), that cultures coming from the south.²¹ It appears Stone Age inhabitants of the islands were concerned with both the growing of rice and

¹⁵Sahrhage and Johannes (1992, p. 9).

¹⁶Ibid, p. 15.

¹⁷Ibid, p. 9.

¹⁸Ibid, p. 29.

¹⁹Ibid, p. 30.

²⁰Ibid, p. 32.

²¹Ibid, p. 32.

fishing, as Sahrhage and Lundbeck recount.²² Early Ainu settlers of the islands shared similar preferences for shellfish and molluscs, such as Abalone as did Aboriginal Australians, leaving large mounds and middens of shell fragments. These early Ainu also had a technological tradition of using bamboo grass sewn together to make boats and rafts, which could be used near to coasts and caught salmon, herring and sardines. チェア (cep or ciep), the Ainu word for fish, according to Sahrhage and Lundbeck, could also be used synonymously with the word for food.²³ Fishing in open water only widely developed in ancient Japan around the inland sea area, familiar later to Norbeck and other scholars of fishing in Japan.²⁴

Staying with Japan, fishing history, geography and development is often positioned into the sea and other fishing practices and whaling, practices of both being quite different from each other and impacting in quite different ways spiritually and culturally. This makes some sense with the benefit of hindsight given the fact we know that in fact whales and fish are two different classes of living creature. Moving to the Medieval period following the establishment of the Kamakura shogunate (鎌倉幕府) in 1185, technology and institutional infrastructure focused on fishing developed quite rapidly. First in the inland sea, then in the open waters surrounding the Japanese islands fishers sought new species and used new forms of nets and fishing practice such as seine and drag nets. This meant that fish such as Cod and Mackerel were now accessible. Fishing in freshwater areas also seems to have developed, with evidence of extensive traps on Lake Biwa, and Sahrhage and Lundbeck report the development in the thirteenth century of a network of guilds and other mercantile organisations focused on the trading of fish and fish products.²⁵

Japanese coastal and sea fishing development, as with much else in the country was deeply impacted by the Tokugawa period (1603–1867) government decisions under the third Shogun, Iemetsu between 1633 and 1639 to instigate the Sakoku 鎖国 (closed country), policies.²⁶ The Tokugawa Shogunate (徳川幕府) feared invasion and co-option by outside forces having heard of Spanish and Portuguese expansionism across the Pacific in North and South America and because of pressure put on social cohesion by the past work of Francis Xavier and the Jesuit missionaries (inspiring the Shimabara rebellion of 1637/1638).²⁷ Sakoku policies are framed by the historical literature as placing Japan and the Japanese people into a period of seclusion from the rest of the world and restricting any influence or connection with foreign nations. Japanese people were not allowed to leave the nation, and the punishment for transgression of this was death.²⁸ To make travel to

²²Ibid, p. 175.

²³Ibid.

²⁴Norbeck (1954).

²⁵Ibid, p. 176.

²⁶Laver (2011).

²⁷Sebes (1979).

²⁸Laver (2011).

foreign lands even more impractical, the shogunate banned boats any larger than 50 tonnes, which meant that not only that large ferries or trading ships became problematic, but also that fishing boats could not be developed, equipped and capable to navigate deep or distant seas.²⁹ The reality is more complicated as trading links with the rest of the world were maintained, but in a highly restrictive fashion through specific clans and locations (the Chinese at Nagasaki were allowed to trade with China and through the Dutch East India company with the rest of the world, the Matsumae clan in Hokkaido with the Ainu, the Sō clan of Tsushima with Korea and the Shimazu clan of Satsuma with the islands of the semi-independent Ryukyu Kingdom), and the same is true when it came to fishing.³⁰ The restrictions on large boat size meant that fishers developed new practices and technologies for coastal and sea fishing based on small boats and traps. Rather than going out to sea, fishers in Japan began to specialise in fish populations which migrated past Japan, of which there were many, rather than seeking out more distant groups of fish. In particular, nets which could be deployed in small boats directly from the shore focused on sardines.³¹ Traps were also developed to capture species of tuna and in Hokkaido herring and migrating Salmon. Influenced by practices perhaps from Polynesia, Kagoshima fishermen even began to target Skipjack Tuna by a pole and line method.³² Much of this fish was exported through the restricted routes prescribed under the Sakoku system to China (via principally Nagasaki). A desire to dominate and colonise the Ainu and the weakness of Imperial Russia in the east prior to the treaties of Aigun and Nerchinsk and the Kamchatka expeditions meant that even during the Sakoku period Japan's fleet of small coastal fishing boats exploited the seas around Sakhalin, the Kuriles and the Sea of Okhotsk.³³

Whales and whaling in Japanese history, as suggested earlier, are in a different class of developmental engagement, just as whales are a different class of creature. It is important to consider the geographic position of Japan, ocean currents which pass by it and the useful (from a whale's perspective), presence of close and well-located ocean trenches. Jakobina Arch's extraordinary work on the place of whales in Japanese cultural and developmental geography recounts the journeys of species such as North Pacific Right Whale, Gray Whale and Humpback Whale along the continental shelf past the Japanese islands, using the Kuroshio, Tsushima and Oyashio currents. Arch describes from these whale's perspective how the Japanese archipelago serves as both useful landmarks en route between summer and winter feeding grounds, and originally, a safe place to feed on material upwelling from the deep oceans at the continental shelf and the zooplankton generated by warm water at the confluence of different currents.³⁴ Omura Hideo, as recounted by

²⁹Sarhage and Lundbeck (1992, p. 176).

³⁰Kazui and Videen (1982).

³¹Sarhage and Lundbeck (1992, p. 176).

³²Ibid.

³³Ibid.

³⁴Arch (2018, p. 25, 26).

Arch, suggests that more than way markers along their route, such whales used the Seto Inland Sea during the fifteenth–eighteenth century as a calving ground for whales mid-migration, though even at this period before the development of whaling technology this would be unlikely.³⁵ Toothed whales such as Sperm Whales and the different Beaked Whales would also have passed, at a slightly further distance to the islands but were not targeted by Japanese boats until the nineteenth and twentieth centuries. It is hard to say when exactly the Japanese began to target whales from their shores. Arch suggests that some form of dolphin hunting had existed back to the Jōmon period (縄文時代), some five millennia previously, but in the sixteenth century what she terms coastal whaling began.³⁶ Given the topography and geography of the Japanese archipelago such whaling developed directly from the shore with a network of observation posts on cliffs and hills in whaling areas to spot and track pods and groups of whales. Once quarry was spotted a boat powered by oars would set off in pursuit with around 13 crew, including 8 oarsmen. Arch recounts that for the first two centuries of Japanese coastal whaling these boats would surround a whale and throw harpoons at it until the animal became exhausted.³⁷ At this point, a man known as the Hazashi (羽刺) would leap from the lead boat with a long knife onto the whale's head and dispatch it with a final blow. Unsurprisingly, assuming the role of Hazashi was both a great honour among the crew and their community, and extremely dangerous for the individual involved. The dead whale was then lashed to a number of the boats and returned to the beach for processing.³⁸

This early coastal whaling in Japan had mainly targeted Right Whales moving along its shores, but the impact of such enterprise, or changes in the current meant that over the course, of two centuries the numbers of animals passing by declined. Accordingly, Japanese whaling communities were forced to adapt and in 1675 introduced a new method and technology. From this point two types of boats set to sea: the harpoon boats were now joined by boats which were the same length, but much wider to make space for large sets of nets.³⁹ These net boats would set a net a couple of miles out to sea, which would be held up by a number of boats. This large net essentially served as curved wall through which whales would not be able to pass and along which they could be funnelled to a group of harpoon boats which would finish them off. This did allow for the capture of different, faster species of whales, but was not useful in deeper water.⁴⁰ Arch records that communities on the Bōsō Peninsula, for instance, did not use the new technique because the water was deep off the coast there and the whales they encountered would simply dive under

³⁵Ibid, p. 31.

³⁶Ibid, p. 49.

³⁷Ibid, p. 50.

³⁸Ibid, p. 52.

³⁹Ibid.

⁴⁰Ibid, p. 53.

the net to avoid capture.⁴¹ It is important, therefore, to reiterate the importance of geography and topography in this pre-modern whaling undertaking in Japan. High ground was necessary, therefore, for communities to be able to spot their whales, and a good piece of shoreline important both to launch the number of boats required as well as to process the dead whale once returned from the sea.⁴² It cannot be understated how, prior to refrigeration or the use of ice, it was incredibly important for whaling communities and enterprises anywhere on the globe to return the carcass to land and cut it up as soon as possible. The size of whales and the physiology mean that once dead the thermally insulated nature of their bodies means that degradation and despoliation quickly occur and potentially valuable meat and blubber can very easily become rancid and useless.⁴³

Just as the Inuit of Greenland and Canada found whales and whaling spiritually significant through connection to their ancestors and spirit realm, so these large cetaceans resonated in Japanese cultural landscapes. While no whaling communities or cultures in Japan suggested that the whales they caught might be connected in some way to their ancestors, the animals themselves were framed within the spiritual networks of Buddhist practice. Although modern science has taught us that whales are in fact not fish, knowledge of this time held that of course, since they were in the sea, they were fish indeed. Given that fish were exempt from some of the dietary strictures and other practices that accrued over time in Buddhism it was more or less acceptable to eat them, even when it was not acceptable to eat other animals. Arch even records the helpful linguistic reconfiguration of animals some distance from the coast, but sharing the rich colour meat of whales, such as wild boar as ‘mountain whales.’⁴⁴ Whales themselves and their bodies would be problematic, even for the communities that sought them. Buddhist principle required that all things on the earth have the opportunity to be alive and therefore upon death to become ‘little Buddha’s’. Not knowing the anatomy of whales or ways to sex them, hunts would on occasion capture and kill a pregnant female. Cutting open the whale and revealing the foetus, Arch records how some communities returned the baby whale to land unprocessed and buried it in the local temple grounds.⁴⁵ Thus, the whale would have an opportunity to be integrated into the spiritual nexus, and the fishers themselves might avoid the karmic issues involved with their, even unintended spiritual and cosmological wrongdoing of the animal. Extraordinarily, not only did these communities bury these unborn whales in the temple grounds, but they were a real part of the commemorative landscape and geography of the temples, accorded the designation ‘mizuko’ 水子 or ‘water-child’ (to this day the term for a stillbirth in contemporary Japan) and a

⁴¹Ibid, p. 52.

⁴²Ibid, p. 53.

⁴³Sarhage and Lundbeck (1992).

⁴⁴Arch (2018, p. 92).

⁴⁵Ibid, p. 158.

gravestone marker and connection to the worship practices of the Bodhisattva Jizō (who was particularly important to those suffering and the unborn).⁴⁶

Chinese early fishing practices are, as already been said, perhaps less clear at sea than those of Japan and focused more heavily on inland waters and fishing. While China has always been blessed with extensive river systems, in ancient times these river systems and their hydrologies were even more extensive and problematic due to their dramatic floods and flow switches.⁴⁷ The Yangtze and Huang Rivers, in particular, were problematic, changing their course a number of times in early Chinese history. Primarily constructed during the Sui dynasty (隋朝) (581–618), the Grand Canal and its various diversions and cuttings sought to both provide a functional transport route for trade through the empire as well as to take pressure off the overall system of hydrology.⁴⁸ Prior to the construction and even on occasion after it, the agriculturalists of plains China were forced to become freshwater fishermen for at least part of the year as the rivers would flood and their fields and cover their houses. These families had to live on boats during the inundations and live off whatever they could catch from the water. The waters that flowed around them were highly productive, later producing some 500,000 tonnes of fish at the peak of fishing in the 1950s.⁴⁹ There was also unsurprisingly extensive development of aquaculture, quite early in Chinese history. Sahrhage and Lundbeck, for instance, record that ‘written records of fish culture date back as far as the era of the Shang (商) and early Zhou (周) dynasties (twelfth–eleventh centuries BC).⁵⁰ Such developmental practices required an extensive institutional, bureaucratic and legal framework and accordingly there were a variety of restrictions and licencing systems. There were also closed and open seasons on fishing. Aside from the pure bureaucratic elements there was a rich body of culture relating to fish culture and practice. The Rites of Zhou (周禮), from the second century BCE, for instance, has long descriptions of the use of fish as ‘royal food’, sacrificial practices and offerings and how one might give fish and fish products to guests in an auspicious way.⁵¹ Even Mencius, one of the most important early Chinese philosophers, spends a little time in his writings warning ‘against overfishing by casting too many nets in small ponds’.⁵²

Carp fishing, in particular, was the key focus of early Chinese freshwater aquaculture, that was until the rise of the Tang dynasty (唐) in 618. The first ruler of the Tang, Emperor Gaozu (唐高祖), unfortunately for carp fishermen, was born Li Yuan. Since the vernacular name for *Cyprinus Carpio*, the Common Carp was 鯉 and sounded similar to ‘li’ the entire industry around the most common and popular

⁴⁶Ibid, p. 164.

⁴⁷Lee and Kong Jian (2007).

⁴⁸Needham (1986)

⁴⁹Sahrhage and Lundbeck (1992, p. 219).

⁵⁰Ibid.

⁵¹Ibid, p. 220.

⁵²Ibid.

species of river fish in the country was banned. Sarhage and Lundbeck record the sudden interest in the rest of the carp family such as the Grass Carp, Black Carp and Silver Carp among a number of species and a number of varieties of bream.⁵³ However these various alternative fish species do not appreciate stagnant water, preferring running river water. Accordingly, new technologies developed into an entirely new industry focused on the management of fish fry. It is suggested this trade began as early as the Song dynasty (宋) (960–1276) and spread across China and Southeast Asia, from as Sarhage and Lundbeck suggest ‘from the river Amur in the north to Thailand and Malaya in the south’.⁵⁴ Pregnant fish were caught in rivers and then their eggs were harvested and kept until the larvae emerged. New varieties of boats were developed with wells built into them in which fish larvae could be transported across wide distances (wells which mirror later technologies for the transportation of live fish). Similar practices were maintained in this industry until the twentieth century when new artificial spawning technologies were developed.⁵⁵ Aside from fish, at the coasts and in estuary waters other industries such as mariculture focused on shellfish and other small sea creatures such as shrimps developed. During the Ming dynasty (大明), oyster farming was invented followed by the farming of mussels and development of seaweed production, the like of which is still seen very frequently in contemporary China and was certainly encountered by the author of this book during fieldwork in 2016.

This activity in China’s inshore waters must have been ongoing in some way in earlier centuries, as the seas surrounding the nation are historically very rich. China’s coasts span from the cold waters of the far north next to the Korean peninsula to the subtropical seas south of Hainan and what is familiar to the Chinese of the present as waters of the ‘nine dash line’. Currents feeding on the Pacific drive in migratory fish, and the enormous volume of organic material dispersed into the sea from China’s rivers, historically provided rich feeding grounds for a variety of species, both warm water and cold water specialists. China’s rivers have been famous for a variety of intriguing freshwater dolphins, but marine dolphins and other large fish such as tuna of various kinds were plentiful. Cod, Herring and Flounder, familiar from the north could be caught, as well as Croaker and Hairtails. Unlike Japan, Chinese coastal and inshore fishers were blessed by an extensive area of continental shelf in what are called in English, the Bohai Sea (渤海 or Pohai Sea), the Yellow Sea (known as the West Sea to Koreans) and the East China Sea. These close and coastal fisheries were exploited by communities which utilised the early invented Junk and Sampan, along with a large variety of other technologies. These included harpoons, weirs and diversions, a multiplicity of nets and lines, mostly organised and directed from the shore in conjunction with off-shore boats. Moving further offshore multiple boats would manage larger seine nets in order to catch croaker and other more substantial species. Lundhage and

⁵³Ibid, p. 221.

⁵⁴Ibid.

⁵⁵Ibid, p. 216.

Sundbeck also recount other developing practices and strategies such as ‘light to attract fish and noise to scare fish into the nets’.⁵⁶

Before the advent of industrialised and mechanised fishing in the nineteenth and twentieth centuries, therefore, the Chinese coast had extensive areas of fishing in the Guangdong, Fujian and Zhejiang provinces as well as Shandong and Liaodong peninsulas. There was a huge ecosystem of communities engaged in all sorts of production, such as the preparation and extraction of fish products, drying, salting and all other elements of maritime industry.⁵⁷ This was organised into guild and cooperative style enterprise at times. Similar to what will be encountered in Korea, Chinese fishermen and fishing communities required the support of commission traders, money lenders and other financial and material networks in order to raise capital and buy materials to invest, manage the ebb and flow of finance in the fishing year and either get a reasonable price for their product, or get it to market. Accordingly, there were networks of bureaucracy and licencing, often connected to local government or regional power brokers. Sometimes this was fair and the system functioned well. At other times, especially when new dynasties or new political structures were being formed, the processes and structures which upheld the enterprise could collapse in ways which disadvantaged those involved. Micah Muscolino, has produced extensive analysis of the Zhoushan archipelago in Hangzhou Bay off the coast of contemporary Ningbo and the complications of fishing there.⁵⁸ This area was particularly good for fishing, Muscolino describing how ‘the front formed by the mixing of these various water systems (various ocean currents and Yangzi river) creates an environment capable of supporting a diverse array of marine life. These waters fertilize plankton that provide abundant nutrition for fish and other forms of marine life, which feed organisms further up the food chain...’⁵⁹ Because of this, it was hugely important, but this abundance itself created problems and the area became a magnet for pirates, both local and foreign between 1530 and 1560 which eventually caused the area to be seen as politically vulnerable and dangerous to the nation and settlement on the islands was forbidden. Complicated restrictions were placed on the size of boats built in the area and the distances they could travel from the shore. In 1644, the Qing dynasty (大清) also forbade settlement on the islands in the peninsula, but fishing communities did not fully accept such restrictions. Fishing people would occupy land as close as possible to the fishing grounds, and local institutions would often let them fish in the areas restricted, for a fee. After all local institutions and bureaucracies were reluctant to lose the extensive potential profit from such a valuable fishing ground. Muscolino later describes the intersection in this area between colonial interjections, technological development and conflicts over dwindling resources in what are termed ‘fishing wars’ around the Zhoushan.⁶⁰

⁵⁶Ibid, p. 222.

⁵⁷Muscolino (2009).

⁵⁸Ibid, p. 16,

⁵⁹Ibid, p. 96.

⁶⁰Lee (2018).

One might even describe contemporary interactions around the South China Sea and particularly the interactions between Hainan fishermen and Vietnamese fishermen as potential fishing wars. Both sides claim the fishing grounds in between the two nations as very long-standing spaces of mutual exploitation, going back many hundreds of years. While geopolitics may see the concrete developments on reefs and other islets in the area as representing a much more threatening form of expansionism, fishers apparently see interjections over sovereignty and control in the area as part of a much longer competition for fishing rights and technological domination. While this does not and has never promised to become a ‘fishing war’ of the most dangerous or florid kind, it is symbolic of the pressures present in Chinese fishing histories. In a future chapter, a sense of these pressures can be glimpsed from the top of Gageodo island (가거도), as South Korea security and marines watch and listen for Chinese infiltration into contemporary Korean waters. Historical fishing in both Japan and China while undertaken in a very particular and definite framework of statehood and society was radically transformed by the processes unleashed and wrought on both nations by the colonial projects of European nations. The nineteenth century essentially began in Chinese and Japanese fishing communities as it always had done with the Junk and the Sampan, but it would quickly be reconfigured by extractive technologies and frameworks of a very different kind.

The early fishing history of the Korean Peninsula is unlike the complex history of fishing in China and the richly detailed example of Japanese coastal development. Fishing development on the peninsula is, even by the standards of other aspects of Korean history, fairly unclear. This is not because there was no fishing in Korea before the modern period, or that either the bureaucracies of Chosŏn (조선) or Koryŏ (고려) were not interested in fishing or concerned to tax it, rather that the materials and documents of the period have not yet been researched or have become inaccessible. This is, of course, the case when it comes to forestry matters in Korean history, which contrary to colonial Japanese perspectives and much writing in the past are becoming much clearer since collections in the Kyujanggak (규장각) or royal library/archives have begun the process of being analysed and Chosŏn’s kingdom of pines revealed.⁶¹ However, Korean historical work and cultural memory certainly suggest that for reasons at times similar to those found in Japan, Korea was late to exploit its coasts and waters.

Fishing and coastal development in Korea is intricately linked to the complex religious and cultural history of Korea. Buddhist practices integrated into Korean society during the Koryŏ and Koguryŏ (고구려) eras meant that, as was the case in Japan (as Jacobina Arch found was the case with wild boar through their transformation into ‘mountain whales’⁶²), eating animal flesh and animal products became highly problematic. Buddhism on the Korean peninsula derived originally

⁶¹Arch (2018, p. 92).

⁶²Williams (2008).

from the Mayahana approach, which objected strongly and categorically to the eating of any living thing. This approach went further than the more familiar instructions to reject ten particular meats, namely, humans, elephants, horses, dogs, snakes, lions, tigers, leopards, bears and hyenas.⁶³ These animals were considered unacceptable because, according to scripture, they would react to the smell of their own kind's flesh, and therefore have their senses stimulated in a way which was not in tune with Buddhist theology or morality.⁶⁴ Mayahama Buddhism took this one stage further to suggest that the issue was fear, a dangerous and simply not divine sense, which could be encouraged or developed by the eating of animal products. Buddhism as practiced in Korea was soon deeply integrated into the practices and functions of the state, becoming a state religion, and sought to unpick those aspects of Buddha's teaching or extrapolations from them that would be unhelpful to social order or the functioning of state institutions.⁶⁵ This form of Buddhism became known as Seon Buddhism (선) and the conventional modern form of the religion practiced in Korea today is a development or offshoot of that order, known as the Jogye Order (조계종). Because of the stipulations of Seon theology, fishing and the killing of fish and other marine life became entirely forbidden and restricted, an act of blasphemy against the Buddha and social order.

When Koryŏ was replaced by Chosŏn and the Yi dynasty in 1392, Buddhism had long since begun to decline, both in institutional and public influence. Buddhist monks and their houses it appears had come to be regarded as corrupt and a new rational was required for the moral underpinning of both the state more generally and its institutions more specifically.⁶⁶ While the teachings of Confucius had been in existence for many centuries it was at this point that Korea adopted a very distinct approach to Confucianism. This was undertaken through the reordering of state and royal bureaucracies and the processes through which aristocratic and institutional classes (later to be known as Yangban), could demonstrate their rights and credibility.⁶⁷ Civil Service Examinations had been absorbed from Chinese institutional practice as early as 958 under the rule of King Kwangjong (광종), but while they were initially used to reduce the power of families and clan houses and to underpin the ascendancy and power of the crown, following 1392, the Kwagŏ (과거) as they were known essentially became only accessible to aristocratic classes and Korea developed what is known as a scholarly elite bureaucracy.⁶⁸ This was organised on Confucian principles, but these principles had become neo-Confucian following the teachings of Zhu Xi, and later Korean scholars such as Cho Kwangjo (조광조), Yi Hwang (이황) and Yi I (이이).⁶⁹ Neo-Confucianism was very tightly

⁶³Ibid.

⁶⁴Grayson (2013).

⁶⁵Ibid.

⁶⁶Deuchler (1992).

⁶⁷Ibid, p. 15.

⁶⁸Ibid, p. 24.

⁶⁹Ibid, p. 89.

focused on social ordering and complex organisation of state ritual which included a restrictive class based system.⁷⁰ Below the Yangban were the Chung-in (중인) (middle people) and the Sangmin (상민) (common people). All theoretically could take part in the examinations and serve the institutions of government or accrue property, but in reality the benefits of social class only served the Yangban, aristocratic class.⁷¹ Below Sangmin, there were the Ch'ŏnmin (천민) (vulgar common people), Paekchŏng (백정) (untouchables or unclean) and Nopi (노비) (slaves or serfs). These classes had a long history which stretched back into the Buddhist period of Korean history, but became even more distinct during the Yi dynasty.⁷² Fishing, as a tradition that involved the killing and preparation of fish was never likely to rank highly in this ordering following the stipulations of Buddhist tradition, but became more or less problematic at various moments in the period.⁷³ At times those who were counted as fishermen or gathers of products of the sea were counted in the Sangmin, and sometimes within the Ch'ŏnmin class. Those that actually killed and prepared fish products or took shellfish and prepared them, however, found themselves in the Paekchŏng class. Thus, contact or relationships with fishing people for people in other, higher classes or the development of trade or enterprise with them was further complicated by social strictures.⁷⁴ This meant that fishing communities were often at some distance or remove from other villages and towns in historical Korea and they were extremely low down the list of institutional priorities for the institutions of Chosŏn.

In spite of the restrictions of Korea's Buddhist traditions and the complex ordering of both Confucian and neo-Confucian traditions, all of which complicated historical relations between fishing people, fish and the social and cultural structures of the nation prior to modernisation, there is one further element of spiritual practice which impacted on its fishing communities. While both Buddhism and Confucianism established rigorous frameworks for religious and cultural practice on the peninsula, they did not entirely replace earlier animist and geomantic traditions.⁷⁵ One of the clichés when it comes to describing the landscape of Korea is that it is very mountainous (like 'rolling seas' according to one early adventurer).⁷⁶ This is, of course, true and has been true for many epochs in geologic time and this topography has certainly impacted on Korea's agricultural development. The various mountain ranges and uplands of the peninsula also heavily impacted on Korea's early spiritual development. A real sense of geomancy developed, perhaps influenced by similar development in what would become China, which is even today

⁷⁰Palais (1981).

⁷¹Ibid.

⁷²Ibid.

⁷³Chang et al. (2015).

⁷⁴Ibid.

⁷⁵Grayson (2013).

⁷⁶Cressey (1963).

influential in Korean culture. A notion eventually called Paektutaegan/Baekdudaegan (백두대간), articulated best by the seventeenth-century scholar Yi Chung-wan (이충환), held that spiritual energy flowed through the Korean peninsula using the mountain ranges as networks and conduits.⁷⁷ This sacred energy, ki/chi (기/氣) served as a form of life force for the nation and its natural environment, and accumulated at various points in the nation's mountains. Access to this spiritual power could be obtained at these points by what became known as mountain spirits, Sanshin/Sansin (산신), who both embodied the spirit and the mountain at the same time.⁷⁸ A complex network of Sanshingak (산신각) or mountain spirit shrines existed, and in part still exists through which local populations could intercede with or access a little of the energies of this network.⁷⁹ As is clear from the name, Paektusan/Baekdusan (백두산), now on the border with China and North Korea, the sacred mountain and site of Korea's genesis mythology was the fulcrum point of the entire network. Other readings from China have Paektusan/Baekdusan as a conduit for the spiritual energy from the much more sacred and powerful Mount Wutai (五台山), now in Shanxi province. Both Paektusan/Baekdusan and the wider network of the Paektutaegan/Baekdudaegan later become central to Korea's national sense of selfhood in the age of modern nation states and while Sanshin and Sanshingak are not quite as important as they used to be, their geomantic echoes connects to traditions of auspicious social practice and the role of topography more widely in the nation's culture to this day.⁸⁰ Geomancy does not, of course, revolve entirely around mountains, and it would be surprising if similar traditions had not developed at the coast or beyond it. For traditional or early Korean spiritual traditions, as with Chinese, the sea, its coasts and waters were the domain of one of the Sea Dragon Kings. While in China, these serve as both water and weather gods, connecting to the points of the compass in the widest traditions, in Korean coastal traditions they become unified as a single King.⁸¹ This spiritual vision of watery geomancy has the waters not as a place of control, but of dangerous chaos. Thus, Korean coastal communities and by extension the peninsula's wider culture were wary of the sea, which needed placating.⁸² Before the modern and colonial periods, this placating was done by a highly complex, but in reality little researched, network of ritual and practice which is very rarely glimpsed in the contemporary era. Just as in the mountains, communities would visit and intercede with Sanshin at Sanshingak, coastal and fishing communities would have Sea Dragon King temples and visit auspicious places along the coast where spiritual energy resided.⁸³ This often meant that particular coastal rocks or islets were extremely significant, that there were areas of sea or coast which could not

⁷⁷Yi (2018).

⁷⁸Mason (1999).

⁷⁹Mason (2011).

⁸⁰Ibid.

⁸¹Buswell (2009).

⁸²Underwood (1934).

⁸³Ibid.

be visited or only visited at certain times. It also means that Korean traditional fishing boats were organised in particular formats and decorated with shamanic signs and charms and that their sails were as much for coordinating spiritual messages as they were for catching the wind.⁸⁴ While such traditions survived for many centuries so that communities could navigate dangerous or inauspicious physical and spiritual landscapes, they, of course, were also very much a drag factor on any practical development of the industry and further isolated Korean fishing people from wider society and any connection with external influence.

Beyond the complexity of the nexus of purely spiritual or cultural matters and development, observers/scholars must also contend with the extreme reluctance of the Chosŏn government to develop what might be called conventional mercantilism in Korea. This difficulty with economic development and the connection between people engaged in practical development or extraction, (such as fishermen) is also demonstrated by the restrictive and exploitative system developed of commission tradesmen and bondholders, who financially complicated the daily and yearly life of fishing communities, the *Kaekchu*.⁸⁵ For a great deal of Chosŏn's history, trade or mercantile exchanges meant interactions which were either counter to the social order, or were with foreigners, who were problematic in an entirely different way.

Chosŏn had dynamic and extremely problematic and complicated relations with its neighbours. While historically Korea was capable of interacting with China in what is considered a superior, suzerain relationship, known as *Zongfan guanxi* 宗藩关系 (in Chinese, 'serving the great', later transformed in the pejorative *Sadaejuui*/Sataechuŭi/사대주의 by Korean nationalists), Relations with Japan had long been problematic.⁸⁶ The Hideyoshi invasions of the Korean peninsula between 1592 and 1598 damaged catastrophically the relationship between Korea and Japan, already challenged in the Muromachi (室町時代) and Sengoku (戦国時代) periods by Japan's inability to reign in pirates from the Japanese mainland and the Ryukyu islands which harassed the peninsula's coasts and islands.⁸⁷ In spite of these difficulties, Korea and Japan sought to negotiate their way through and past the issue and in 1426 Japanese fishermen were allowed to settle in specific Korean ports such as Dongwae, Ulsan and Changwon. In 1442, the two countries came to a more comprehensive and formal agreement about fishing grounds and other fishing matters.⁸⁸ However, things became problematic yet again after the relaxation of restrictions encouraged a large number of Japanese fishermen to move to Korea, and a trade in local cotton to Tsushima Island developed—both elements of this were lucrative and the Chosŏn government bestowed a number of tax breaks on the Japanese traders.⁸⁹ By the turn of the sixteenth century, the reduction in income for

⁸⁴Ibid.

⁸⁵Ki-Jun (1976).

⁸⁶Lewis (2014a).

⁸⁷Robinson (2013).

⁸⁸Ibid.

⁸⁹Seyock (2005).

the farmers led to the petitioning of institutions. When King Jungjong came to power in 1506, he rescinded the tax breaks which created real pressure on authorities in Japan and sparked eventually what has become known as the Disturbance of the Three Ports in 1510.⁹⁰ This military altercation between several thousand Japanese troops sent by the governor of Tsushima as they attacked the ports generated a military response from the King, and resulted in the death of the Japanese governor.⁹¹ This, of course, led to the complete cessation of any further engagement in fishing matters between the two countries and the abandonment of the previous agreements. Japanese fishermen continued to harass and exploit Korea's waters to quite an extent, so much so that fishers served as pilots and guides during the Hideyoshi invasions of 1592–1598.⁹² Following Japan's disastrous military adventures, relations between the two countries did not recover for many centuries. Japanese fishermen were banned from Korea's coasts and waters, and much more resource dedicated to protection of the peninsula's boundaries by the Chosŏn government.⁹³ By 1639, Japan had instigated its Sakoku policy of national isolation which restricted the distance fishermen could travel from the nation's shore. The policy further meant that conventional journeys and trade with foreign nations was forbidden and, in the case of Korea, any further interaction and exchange managed through the Sō clan of Tsushima.⁹⁴ No further Japanese fishermen were really seen in Korea's waters until after the mid-nineteenth century opening of Japan by the American Commodore Perry and his 'black ships.'

While left alone by the Japanese, for a couple of further centuries, Korean fishing communities did not really take advantage or were able to capitalise on the reduction in pressure from abroad. In the seventeenth and eighteenth centuries Korean fishing remained much as it had one in earlier centuries, focused mainly on the shore, on shellfish, peripheral to the nation's interests and conception of itself and any governmental priorities and beset by the complexities and restrictions placed on communities by the commission tradesmen.⁹⁵ Perhaps in the historical mind of Korea, and now in the contemporary national sense of self, there is only one exception worth mentioning, that of the female divers of Jeju Island (제주도).

Haenyō/Haenyeo (해녀) or sea women are something of an aberration in Korean cultural history, which has been primarily, thanks to the influence of Confucianism and neo-Confucianism, patriarchal.⁹⁶ The fact that these sea women and their ancestors are geographically based on the island of Jeju could well have something to do with the unusual cultural production of the Haenyō, Jeju being peripheral

⁹⁰Lewis (2014b).

⁹¹Ibid.

⁹²Lewis (2014a).

⁹³Ibid.

⁹⁴Laver (2011).

⁹⁵Sangbok (1977).

⁹⁶Gwon (2005).

historically to the institutions of Chosŏn Korea and still fairly remote from the mainland. Nevertheless, originally the divers of the island were male, but only became female between the seventeenth and eighteenth century. This appears to have been partly to do with the development of Confucian social and organisational principles, which restricted men from engaging in such activity and the impact of burdensome tax policies which demanded payment in abalone from citizens near the coasts of the nation. It seems as if it did not make sense to use men to obtain this tribute, or that women were more available and capable in the process than men.⁹⁷ As it is the Haenyŏ were regarded in Chosŏn social norms as extremely low, suggested by some almost to be slaves, owned by the local government authorities in Jeju: ‘their husbands were even prohibited from participating in the educational circle (*hyangkyo*), which was a symbol of high status’.⁹⁸ In 1814, reforms to the tax system meant that the abalone requirement was reduced, but Haenyŏ continued their diving through the nineteenth century and into the colonial period. Japanese development in Jeju, which is much closer to the Japanese mainland than much of mainland Korea, and the imposition of capitalist logics in that development mean that sea products became much more valuable, including those that the Haenyŏ dived for. Haenyŏ were freed from any tribute or connection to the precolonial authorities and became wage labourers.⁹⁹ Japanese businesses even spot hired them to work as divers on the Japanese mainland, and elsewhere in colonial Korea, even at islands near Incheon.¹⁰⁰ After the end of colonialism and the era of divided Koreas, Haenyŏ became semi-legendary characters in Korean contemporary culture. The unusual sea women of Jeju, quite aberrant in comparison to much of Korea’s other cultural forms, became representative of both the pluckiness of Koreans, but also the nation’s claim to ancient and continued existence.¹⁰¹ In 2014, the South Korean government even had the Haenyŏ placed on the UNESCO Intangible Cultural Heritages list.¹⁰² While the numbers of Haenyŏ has been reported for many years as being in decline and potentially soon to be extinguished as a tradition, they are still very much tangible. Whatever the future for the Haenyŏ, they are rare survivors of Korean coastal and fishing cultures of the past.

Jeju island would be one of the first locations, at which the long period of relative quiet between Korean and Japanese fishing and coastal communities came to an end. Robert Neff reports that developing technology such as underwater breathing apparatus meant that Japanese divers coveted the Abalone, Sea Cucumber and Oyster resources of Jeju and in the 1870s began to poach in Korean waters from the Haenyŏ. In an attempt to placate both sides, Korea and Japan even signed an agreement in 1883 which allowed reciprocal access to coastal fishing grounds for

⁹⁷Ibid.

⁹⁸Ibid.

⁹⁹Ibid, p. 6.

¹⁰⁰Ibid.

¹⁰¹Ibid.

¹⁰²Sang-Hun (2014).

both nations.¹⁰³ In fact this agreement it seems placated no one, and the Haenyō actually refused to go to water with so many Japanese present, and the Japanese fishermen simply coveted more resources and further land, by 1887 even occupying a small island off Jeju named Gapado (가파도) and using it as a base for raiding coastal communities nearby.¹⁰⁴ By the early 1890s, whole scale violence had broken out on Jeju with much resistance from locals to the Japanese interlopers and similar levels of aggression from the Japanese.¹⁰⁵ The desire of the Japanese (and even Chinese fishermen), to co-opt and appropriate the potential of Korean fisheries, displacing the local population and fishing communities in this last decade of the nineteenth century, certainly did not bode well for events soon to come on the peninsula.

2.3 Fishing and Colonisation

The fishing communities and cultures described so far, and even those only described in outline were of course soon to be impacted by the new forces of capitalism and colonialism. Japan and Korea are something of a special case in Asian fishing, given that Japan colonised Korea rather than both having been colonised by a European or American power. The extensive maritime cultures of China were heavily impacted by the impositions of extraterritoriality of the treaty port era, Western powers setting up new institutions and enterprises all along its coast. While the Dutch had long been engaged in connections with Southasian territories and developmental communities, for the most part these had involved spices and materials from the land.¹⁰⁶ Fish and products of the sea had been long complicated to ship and trade across great distances, but by the nineteenth century, steamships and refrigeration promised real changes to potential maritime economies. Such changes came first to Japan whose economy and political structures had been forced open by the powers of colonialism and upended in the turmoil of the Meiji restoration (明治維新). The Sakoku restrictions were quickly lifted and in 1867 the stipulations on the size of ships and whether they could go beyond the coast into the deep sea were abandoned.

It would take another two decades before extensive change occurred as Japan's population was still too small due to Tokugawa policies and cultural traditions surrounding abortion and infanticide which allowed poor families to deliberately keep their families small, To support an extensive fishing industry and the local class system in which fishing people had low status (though not as low as in Korea), meant that when it was finally abolished in 1870 many fishing people partially

¹⁰³Neff (2018).

¹⁰⁴Ibid.

¹⁰⁵Ibid.

¹⁰⁶Nawawi (1971).

abandoned the sea to work in agricultural settings.¹⁰⁷ However, improved technology and the reduction in restrictions on boat size and distance meant that inshore fishing began to place an impractical burden on fish stocks and catches actually began to decline.¹⁰⁸ Accordingly the government of Japan's first modern Prime Minister Ito Hirobumi in 1887 instituted legislation which sought to engage deep-sea fishing by bestowing subsidies on sailing ships of more than 30 tonnes.¹⁰⁹ Later this legislation was extended to cover steamships of over 50 tonnes. Steam fishing ships were soon added to the fleet, the first two being imported into Japan in 1897 and by 1899 Sahrhage and Lundbeck report that there were some '3000 locally built vessels and 37 sailing and two steam-driven ships of European type'.¹¹⁰ This new offshore fishing industry aimed for all manner of fish including Herrings, Sardines, Anchovy, Mackerel and Squid focusing heavily on the northern seas around Hokkaido. The yield of the Japanese industry exploded with the development of new technology such as gill nets, cotton made nets, and the purse seine nets which were imported from America in 1882.

Hokkaido became an extremely important jumping off ground for Japanese forestry interests following Japan's final colonisation of the island and subjugation of the Ainu in the 1870s.¹¹¹ Developing pressure on fish stocks to the south meant that fishermen had already explored north to Sakhalin and the Kuriles, even into the Sea of Okhotsk by the middle of the eighteenth century (this all being home territory in the Japanese mind).¹¹² While Imperial Russia had claimed the east coast of Siberia and Primorsky Krai from a weakened Qing dynasty China in the nineteenth century, there were still few Russians in the area to compete.¹¹³ The Russo-Japanese war of 1904–1905 and the Treaty of Portsmouth which followed it gave Japan complete dominance in the seas and ceded to them the Kuriles and southern Sakhalin (which was named Karufuto (樺太庁) by the Japanese).¹¹⁴ Japan even gained fishing concessions in Kamchatka and the northern end of Sakhalin and a 1907 agreement between the two nations allowed Japanese companies to establish processing plants on the Russian coast, especially in Kamchatka and reserved much of the offshore for their boats, while granting river mouths and bays to the Russians.¹¹⁵ By 1910, thousands of Japanese fishing boats and ships were focused on various types of salmon off the coast of Siberia and northern Sakhalin and as Sahrhage and Lundbeck again report over 'Japanese canneries on Russian territory

¹⁰⁷Sahrhage and Lundbeck (1992, p. 172).

¹⁰⁸Ibid, p. 175.

¹⁰⁹Ibid, p. 176.

¹¹⁰Ibid. p. 179.

¹¹¹Lu (2016).

¹¹²Sahrhage and Lundbeck (1992, p. 183).

¹¹³Ibid.

¹¹⁴Ibid.

¹¹⁵Ibid.

produced between 60 and 90% of all tinned salmon, which was mostly exported and sold on the world market from this region'.¹¹⁶

Salmon were not the only quarry for the Japanese and in 1905 Japanese business and fishing boats began to focus on King Crabs, following the development of canning technology and safe curing of crab meat.¹¹⁷ However by this point the Trans-Siberian Railway and reconfiguration of Russian priorities meant that more Russians and more Russian boats were fishing and crabbing in the area and disputes began to break out between fishing people of the two nations.¹¹⁸ This encouraged the Japanese to engage in further infrastructural and technological development and by 1920 factory ships for fish processing had been developed which meant that Japan no longer needed as many shore stations.¹¹⁹ In 1930 some 19 factory ships, each accompanied by 2 or 3 ships for laying nets and another 12 smaller boats to haul them back in worked the waters off Kamchatka, canning some 600,000 cases of King Crab, which represented some 30 million crabs.¹²⁰ This hugely impacted on crab stocks. In 1927, the mother ship and factory ship method was deployed on the stocks of salmon and within 4 years some 13 factory ships and 100 smaller ships were deployed off Kamchatka.¹²¹ Such activity again began to create tension between the now organised and capable government of the Soviet Union which had established a fisheries interest in Vladivostok and was concerned to not only compete with the Japanese but to reclaim its own seas from them.¹²²

Japanese fishing interests had also begun to develop trawl and drag net fishing, following the first imported steam trawler in 1908 (imported from a ship builder in Swansea, Wales).¹²³ More than 130 further trawling boats were in place over the next 4 years and their impact was sudden and dramatic, causing the inshore waters of Japan to be restricted to them.¹²⁴ The trawlers then worked in the East China Sea and Yellow Sea, both bodies of water that were fairly shallow with flat beds, perfect for trawling with a focus on fish like Croaker and Sea Bream. In 1920, Japanese companies introduced bull trawling, new technology with long trawl wings and greater capabilities in the extraction of species preferred by the home market.¹²⁵ Tokyo's developing Imperial project meant that bases and processing plants could be constructed for the processing of fish caught by these trawlers in Liaodong and in Formosa (Taiwan), as well as on the Korean peninsula. However, Korea's inshore waters were actually restricted so far as the trawling companies were concerned, as

¹¹⁶Ibid.

¹¹⁷Ibid.

¹¹⁸Ibid.

¹¹⁹Ibid, p. 184.

¹²⁰Ibid.

¹²¹Ibid.

¹²²Ibid.

¹²³Ibid, p. 186.

¹²⁴Ibid.

¹²⁵Ibid.

local stocks were too fragile.¹²⁶ Soon the seas of China began to be depleted themselves and the Japanese trawlers focused north to Kamchatka and the Bering Sea in the early 1930s before going completely global and travelling to the waters around Australia, the Gulf of Thailand, the Arabian Sea and even off the coast of South America after 1937.¹²⁷

Finally, Japanese development came to Tuna fishing. Bonito in particular are historically significant to Japanese cooking providing for many centuries one of the primary elements of the fundamentally important broth underlying many of the nation's most popular dishes.¹²⁸ There is an absolutely extraordinary process involved in the traditional preparation of Bonito flesh which has many steps and takes an extremely long period of time. For much of Japanese history, Tuna fishing was a coastal enterprise, using pole and line techniques from open boats taking advantage of those populations of Tuna that past the home islands using the currents. However in 1913, new technologies and boat construction practices came to the Tuna industry and they were given motors and their range increased.¹²⁹ Japan's gain following the 1914–1918 war of German's South Pacific territories around Palau and the Marshall Islands meant that these new boats could be used in an area of prime Tuna fishing, and new technologies and practices were deployed in these South Pacific fisheries. By the 1920s, boats were capable carrying 200 tonnes and, now equipped with refrigeration, they could sail great distances across the Pacific and the world and fish across the seasons.¹³⁰ New developments in long lining in which lines could be miles long and allowed practical fishing of the Albacore Tuna, a fish of the deep sea and the mid oceans. Yellowfin Tuna exploitation was begun in the early 1930s with mother ships and supporting boat fleets which did not need to be anywhere near land and were truly part of an industry of the deep oceans.¹³¹

Readers will perhaps wonder where China was in this narrative of technological and capacity development following the interventions of modernity and colonialism. The reality of China's experience, in both late Qing and pre-1949 Republic of China iterations was that its fishermen were hemmed in both by the power of the Japanese Empire, Western colonial and capitalist powers and the weakness of Chinese government institutions of the time.¹³² While shipping and logistics companies and institutions certainly developed around coastal ports in China, almost exclusively at places like Macau, Hong Kong, Lüshūn, Tianjin, Dalian and many others, they did not serve Chinese interests.¹³³ Instead they were concerned with the trade in materials of real interest to European businesses and institutions,

¹²⁶Ibid.

¹²⁷Ibid, p. 187.

¹²⁸Ninomiya (2015).

¹²⁹Sarhage and Lundbeck (1992, p. 189).

¹³⁰Sarhage and Lundbeck (1992, p. 189).

¹³¹Ibid, p. 191.

¹³²Strauss (1998).

¹³³Taylor (2002).

which did not include during the period its fish and sea products. Trawling was introduced to China by Japanese trawlermen in 1912 after they had been restricted from accessing the home waters of Japan and set up business in Shanghai, attempting to exploit what remained of the stock in Chinese home waters.¹³⁴ Inspired perhaps by these pioneers and the pressure placed on fishing resources by Japanese interests from Japan, traditional fishing boat technologies such as the Junk and Sampan had motors installed in the 1920s and then by 1933, fishers in Shanghai had managed to import nine steam trawlers.¹³⁵ This meant that Shanghai, such as it was would become the main site of fishing infrastructure and development prior to 1949.¹³⁶ Both Japanese imperialism and the struggles of the Chinese civil war meant that much of even this small level of development was lost or destroyed so that by the end of the war Sahrhage and Lundbeck record that ‘only 600 small wooden trawlers were available, left by the Japanese’.¹³⁷

2.4 Fishing Infrastructures of Chosen: Korean Colonial Fishing Development

Japan’s fishing development was really a product of its imperial and colonial periods, when capitalist logics and rapidly developing technology powered its fishing and other interests ahead across the globe. Much developmental reorganisation was undertaken when Japanese authorities began to implant themselves on the Korean Peninsula following the 1907 Protectorate Treaty, seeking to reconfigure Korean institutions and practices not only to accept the power and authority of Tokyo’s institutions, but also those logics of capitalism and state enterprise. When it came to fishing and fishing infrastructure, the second report of His Imperial Japanese Majesty’s Resident General from 1909 found matters extremely wanting: ‘The three sides of the Korean Peninsula are washed by the sea, and its coast line extends to about 6000 nautical miles, so that the marine products of the country should be abundant. While the maritime products annually obtained in Japan, which has about 8000 nautical miles of coast, amount to 100 million yen, the annual products in Korea reach only 6 or 7 million yen. The inadequacy of these products in Korea is undoubtedly due to the backwardness of fishing industries and lack of effective administration’.¹³⁸ The Resident General, and, after 1910, the Government General, were extremely concerned about the lack of regulation of Korea’s waters, in particular the presence of poachers of all nationalities and potential overexploitation of whales and other valuable creatures of the sea. In 1908/1909, before

¹³⁴Sahrhage and Lundbeck (1992, p. 217).

¹³⁵Ibid.

¹³⁶Ibid.

¹³⁷Ibid.

¹³⁸His Imperial Japanese Majesty Resident General (1909).

Korea was annexed and became Chosen, the Resident General saw to it that the legislative framework around fishing rights was completely rewritten and the government departments reorganised with Japanese bureaucrats imposed and Korean staff placed within a better structured hierarchy.¹³⁹

In 1909/1910, the Resident General established a new nationwide fisheries association which integrated all the local fisheries associations that existed at the time. The national association was also able to give local associations subsidies of some 5000 yen each to purchase new Japanese nets and fishing equipment in order to make some initial progress on improving both the catch and the quality of life and income of fishermen. The Japanese, in particular, appeared appalled by the tiny incomes generated by Korean fishermen, given the potential resources at their disposal. These subsidies to local and national associations were placed on an annual basis after the annexation of Korea, in 1910. In this year, Japanese fisheries authorities were now able beyond simply improving the capabilities and practices of Koreans themselves, but to import Japanese fisher families to the peninsula. The report for the 1910/1911 season from the new Government-General of Korea (Chosen), reported that to make this possible, Japanese provinces and other authorities had been buying land on the Korean coasts for resettlement. This had meant that by the end of 1910 some 45 villages for Japanese fishermen had been established, containing 1600 families with a population of some 6200.¹⁴⁰

By 1921, there were over 12,000 Japanese citizens living in Korea whose job was solely focused on fishing or the preparation or production of fish products.¹⁴¹ The Government-General had also sought to import Japanese methods of salmon farming on the Korean peninsula, introducing fry to rivers and training Koreans to look after young salmon.¹⁴² The Government-General had also sought to diversify the products generated by its colonies fishing industry, investing in infrastructure and technology to produce glue derived from fish bones and to export washed seaweed and other products of the sea to Japan. By the early 1920s, research and academic organisations from the colonial mainland had also begun to implant fisheries experts into the various fisheries associations established since annexation. In 1920, the Government-General had established the first experimental fisheries research station connected to the wider network on the home islands of Japan. This station served as the base for a steam-powered research ship to undertake a geologic survey of the Korean coastline and coastal shelf.¹⁴³ This development of the Korean fisheries sector and the research surrounding it was focused not only on implanting colonial imperatives into this developmental field, but also really improving the viability of Korean fishing, so that it would pull its financial weight in the empire. After the sense of disbelief at the moment of annexation that a nation with such an

¹³⁹Ibid.

¹⁴⁰Government General of Chosen (1911, p. 2018).

¹⁴¹Government General of Chosen (1921).

¹⁴²Ibid.

¹⁴³Ibid.

extensive coastline could only derive 8 million yen value from the sea, the Government General reports are delighted to report that by 1921 this had been increased to over 45 million yen.

By the late 1930s, Supreme Commander of Allied Powers (SCAP) reports dating from after the collapse of the Japanese empire in 1945 and 1946 show that Korea had some seven core fisheries research stations on the peninsula, which were part of a network of such stations extending beyond the core of the Japanese home islands to Korea, Formosa (Taiwan), the Liaodong peninsula and the South Pacific Mandate.¹⁴⁴ Government General documents from 1934 and 1937 show that the fishing catch from Korean waters, expanded enormously from 1910, had reached a peak in 1931 and then become slightly erratic, before fishing effort was increased to maintain the upwards curve.¹⁴⁵ It was also necessary in 1936 for the Government General of Chosen to obtain a quasi-military cutter to protect the waters of Chosen from infiltration from fishing poachers from China and to control fishing boats from the Japanese mainland. 1934s Government General report suggests that by that point there were some 116,000 people engaged in fishing, primarily Koreans themselves (though undoubtedly the Japanese immigrants would have taken the bulk of the share from the sea and profits—Koreans wages tended to be around 40% of those for a Japanese worker), which was a huge expansion in the peninsula's once-moribund industry. Whether those fishermen really made a living from the sea in a way which had not been the case before is not clear, and whether the traditional cultural practices which accrued to fishing on the peninsula had been done away with or dissipated is not clear, and these issues are certainly not mentioned in the reports and other documentation. Readers will see perhaps the answer in a later section, that relating to research with a very long temporal scale on the island of Gageodo, which in the late 1960s still encountered some of the practices of watery geomancy familiar from a Korea of the 1860s. Japanese colonial authorities certainly made great efforts to reconfigure the fishing industry of the peninsula. Their own conclusions, however, have less to do with practical matters rather than an assimilationist tendency familiar from elsewhere in the colonial project: "These and other efforts towards improvement of the fishing industry have already been productive of good results. Nothing however has contributed more to the recent progress of Korean fisheries than the increased immigration of skilled Japanese fishermen..."¹⁴⁶

Fishing from the Korean peninsula was sacrificed like so many other elements of colonial developmental policy in the late 1930s and early 1940s to the military priorities of the Japanese Empire. A reading of the colony's history between 1933 and 1945 sees much of the effort in the colony being directed at producing military materiel and imperial subjects for Tokyo. Boats were commandeered for the war effort and towards the end of the war in 1943, 1944 and the first half of 1945 it

¹⁴⁴Supreme Commander for the Allied Powers (1946a, p. 37).

¹⁴⁵Government General of Chosen (1934).

¹⁴⁶Ibid, p. 116.

became virtually impossible to set sea for fishing because of the risk of bombing. Accordingly, both Japanese and Korean fishing catch and the value of any products produced by the industry collapsed.¹⁴⁷ While Korea was not bombed like the Japanese mainland, much of the research infrastructure dissipated in this period, and following the capitulation of the Empire to the Americans in August 1945 and the liberation of the Korean peninsula, Japanese fishing companies and crews saw to it that a huge percentage of the Korean fishing fleet was quickly extracted to the Japanese mainland.¹⁴⁸ It would take the combined powers of the Supreme Commander of Allied Powers and later the US Army Military Government in Korea several years to return some of the fleets and enable Korea to begin fishing again at anything like the extent to which it had before the war.¹⁴⁹ This interestingly is in stark contrast with the fishing industry of the Japanese mainland, which SCAP was very concerned to return to strength and within 18 months had reclaimed much of its former waters in the South Pacific and former whaling grounds in the Antarctic.¹⁵⁰ Readers will see from this account, that we have a great deal of information and detail from the colonial and institutional perspective from this time, but little if anything from the fishermen's perspective.

2.5 Fishing in Asia and the Pacific

15 August 1945, would bring the Japanese Imperial period to an end, and its empire of fishing would be, for a short period at least brought to an end. The Korean peninsula gained a sort of momentary independence before being occupied by both the United States and the Soviet Union. In 1948, the two Koreas we know today came into being, both of them were for some years singularly unsuccessful when it came to deep-sea fishing. Japan, the United States, Canada (and eventually the Soviet Union) would in the 1960s and 1970s come to dominate not just the seas they had once controlled, but would develop a global stranglehold over fishing resources. These countries would do so through new technologies and statistical theories related to fishing that this book will cover in the following chapter. These theories have only in the last decade or so been considered in a historical framework for the Pacific ocean, part of as Carmel Finley has suggested 'a new empire of fishing'.¹⁵¹ Fish and fish products in this new empire become even more abstracted, but no less vibrant, important lively matters. While individual fish and other animals are rather lost in the planetary scale metrics of such development, they are no less energetic.

¹⁴⁷Supreme Commander for the Allied Powers (1946b).

¹⁴⁸United States Army Forces Pacific (1946, p. 30).

¹⁴⁹Ibid.

¹⁵⁰Supreme Commander for the Allied Powers (1946b, p. 68).

¹⁵¹Finley (2011).

Historically fish were no less vibrant a matter on the Korean peninsula following 1945 than they had been previously during the period of Japanese colonisation, but it does appear that fishing activity retracted somewhat to the level prior to 1910. When it comes to either available historical records or academic focus on the peninsula or even Japan, following the end of the war there is considerably less to contextualise this study. In Chap. 4, this book attempts to construct, in something of a first, a fishing history of North Korea, which follows on from the larger scale historical perspectives offered by this chapter. There is a missing link of sorts between 1945 and North Korea of our present or at least recent decades and that is writing and research focused on fishing communities in Asia and in Korea specifically in the recent past.

Fishing communities of the Asian or Korean near present have been subjected to much of the geopolitical reconfiguration and technological change seen in this chapter so far. The vibrant matters of fishing are a product of a number of the processes of modernity, colonisation and commodification seen so far. Japanese fishing communities as they are now, for instance, developed during the late nineteenth century and early twentieth century when Japan itself was under great pressure to modernise its bureaucracy, politics and industry having been opened to colonial forces in the 1860s. Japan then projected its own colonial influence on the South Pacific having been granted some of the former German territories in the Pacific by the League of Nations in 1919, known as the South Pacific Mandate. Japanese industrial tuna and other fishing boats would rigorously exploit the waters of Palau, the Marshall Islands and others, developing new technologies, science and statistical sensibilities in the period before the outbreak of the Pacific War in 1941. For the most part this practices and projections sound like the development of industries at a national scale, far from the coastal communities of the past that Arch wrote about and whose lives are so intriguingly intertwined with the journeys and bodies of the sea creatures they seek.¹⁵² When it comes to research done on the ground into specific fishing communities in Asia or Korea after 1945 examples are rare.

Such research is rare but hugely important. This research behind this book very much sought to explore the reality of those engaging with the lively, energetic and problematic materials of fishing as it is lived now on the Korean peninsula, and primarily, of course, North Korea. When it comes to Korea, material which addresses communities in those nations neighbouring it and whose histories prior to 1945 this chapter has just explored, will be very important. Even more important would be material which focuses on Japan Korea's former colonial master. Edward Norbeck's 1954 study of Takashima, a small fishing community in Okayama Prefecture on the Inland Sea was, therefore, profoundly important for the author of this book in conceptualising East Asian geographies of fishing community.¹⁵³ The Seto Inland Sea as previously shown was perhaps the place where earlier

¹⁵²Arch (2018).

¹⁵³Norbeck (1954).

inhabitants of those islands now known as Japan first took up fishing.¹⁵⁴ Protected from the dangerous currents and storms of the seas off the coast, the Inland Sea served as a nursery for Japanese fishing history. Interestingly in spite of the huge amount of change and development undertaken on the oceans during Japans' Imperial period and in its colonies such as Korea, little seems to have changed in Takashima. Takashima's fishermen in the 1950s appear to continue past their historical subsistence level fishing on the Inland Sea (there is no deep water fishing undertaken by this community), but had abandoned a huge repertoire of past spiritual and ritual practices perhaps familiar or expected of Japanese extractive communities, and recorded by Arch in whaling communities in the north of the country.¹⁵⁵ Perhaps impacted by the new practices of Imperial subjectivity during the militarist and war periods, and the tumult of occupation and the dramatic changes generated by new technologies brought by modernity, Norbeck's community appear resilient in their pursuit of the lively matters of fishing, but without much of the spiritual landscape which similar communities were once surrounded. The Fishermen of Takashima were in Norbeck's time able to continue making a living on the inland sea just as the web of life offshore was radically changed by technology and politics.¹⁵⁶

It could, therefore, be imagined that fishing communities of the Korean Peninsula following their own colonisation and modernisation might too have been dramatically influenced by these processes. This is undoubtedly true in many developmental fields in postcolonial South Korea. Practices and processes in other developmental fields have been dramatically reconfigured by technologies brought in or imposed by the Japanese in fields such as agriculture and mining.¹⁵⁷ Japanese studies on traditional Korean developmental practices during the colonial period, and those produced by the Government General of Chosen (some of which have been explored in this chapter), often assert the peripheral nature of Korean fishing practices, as well as the fact that traditionally Korean fishing was done primarily around its coasts, its fishermen rarely venturing further afield into the deep sea, nor having the technology or craft to do so.¹⁵⁸ Statistics from the Government General suggested an explosion of fishing capacity and catch during the colonial period undertaken through the importation of Japanese practices and technologies onto the Peninsula.¹⁵⁹ However there are no, as far as this author is aware, extant histories or studies of fishing communities during Korea's colonial period currently available in the English language. There is in fact only scarce material on nonurban geographies of the postcolonial young Korea. A sense of the changes wrought by Japanese and Government General policies on peripheral Korean fishing communities, however,

¹⁵⁴Arch (2018, p. 31).

¹⁵⁵Ibid.

¹⁵⁶Norbeck (1954).

¹⁵⁷Haggard et al. (1997).

¹⁵⁸His Imperial Japanese Majesty Resident General (1909).

¹⁵⁹Government General of Chosen (1934).

is available in the fascinating work of Prof. Han Sangbok of Seoul National University.¹⁶⁰ Professor Han Sangbok is an anthropologist, in fact, a founding member of Seoul National University's Anthropology department. He engaged in an extensive series of fieldwork exercises in fishing communities of South Jeolla province during the mid to late 1970s. In particular his connection to the community of Gageodo (then romanised as Kagodo), the southernmost island of South Jeolla provides a rich vein of historical information. Gageodo's community is beset by extremely difficult geography at the very periphery of the Korean mainland (only Jeju Island or the infamous Dokdo being further detached), as well as difficult connections with Korean bureaucracy and institutions of government in common with the community at Takashima. These two communities separated by culture and nation exist in a complex web of subsistence practices, new technologies and the dissolution of past traditions and beliefs. Gageodo's community's efforts and energies were captured in part not only by the difficulty of their position, but by the extraordinary practices of Korean traditional *Kaekchu*, or commission traders who held much of the community in debt and who they were obliged to trade their resources and material through.¹⁶¹ Although now retired Professor Han Sangbok continues to engage in fieldwork and analysis at Gageodo, and the author of this book joined him on the island in June 2017 to participate in fieldwork and to gain something of an understanding of the communities' challenging terrain, the web of life and lively matters with which they are concerned and the practices and strategies they utilise in order to navigate the challenges and difficulties these geographies present them.

Finally, it is important to consider communities to the north of North Korea in the People's Republic of China whose geographic position connects them to the same waters as the North Korean fishing communities of interest to this book. The infrastructures and topographies of much of China's coastlines interested as readers will have seen, colonising nations such as the United Kingdom, Germany and Imperial Russia during the period of opening and gunboat diplomacy. This was certainly in the case of the Liaodong Peninsula, and particularly Dalian which was occupied first by the British and then Imperial Russia (hence *Lūshūn*'s older name of Port Arthur and Dalian's former Russian name of *Dal'niy*). The area then became a fulcrum of the military contest during the first Russo-Japanese war and was occupied and annexed by the Japanese Empire, becoming part of the Kwantung Leased Territory between 1905 and 1945 (*Dal'niy* being renamed *Dairen* 大連). Dalian and the Liaodong Peninsula was released from Japanese power in 1945 only to be then occupied by the Soviet Union for a further decade, only becoming an official part of the People's Republic of China in 1955.¹⁶²

In spite of the intense geopolitics and complicated history of occupation and colonisation, developmental communities survived and fishing practices endured in

¹⁶⁰Sangbok (1977).

¹⁶¹United States Army Forces Pacific (1946).

¹⁶²Hess (2006).

the region. Much of the fishing effort in the early years of Japanese modern maritime enterprise was also focused on the seas of Liaodong, which quickly, as the record shows reduced the catch and reduced the volume of fish and other animals in the waters off the peninsula.¹⁶³ Dalian and its neighbouring communities of Lúshǔn (Port Arthur) and Wafangdian have long harboured fishing communities and maritime communities. Dalian and its port following its return to the People's Republic of China in 1955, became famous for ship building as well, but fishing and aquaculture continued to be of great importance to the area until the 1980s.¹⁶⁴ Dalian in more recent times is renowned for the practices of debt-fuelled speculative urbanism and the energies of its former mayor Bo Xilai who sought to transform the city into a metropolis befitting a China of new economic possibilities.¹⁶⁵ Fishing communities such as those as Jinshitan to the west of the city and Haxian in the Changhai Islands to the southwest were subjected to new environmental challenges and the pressures of radical and rapid urban development.¹⁶⁶ Might such communities have their own strategies for engaging with these new geographic and economic realities, these new topographies and terrains, even in spite of the difficult political landscapes presented by this new China? Might lessons even have been learned by North Korea's fishing communities subjected to an even more difficult bureaucratic and ideological inheritance? Fieldwork undertaken for this book in the Dalian area including Jinshitan, Lúshǔn and Tong Shui Gou, a small village in the Wafangdian area revealed extraordinary landscapes of subsistence fishing and aquaculture, in particular focusing on seaweed and shrimp fishing. Communities in these areas had been subjected to immense levels of environmental pollution and degradation as well as urban development pressures, yet all had continued to survive and to draw a living from the sea in spite of these factors and institutional disinterest.

2.6 Conclusion

Readers will certainly encounter this fieldwork and the communities and geographies of both Korean and Chinese fishing communities in Chaps. 5 and 6. To this point, readers will also have encountered the rich, if not entirely extensive history of fishing across the globe. While this chapter has really sought not to extend too far back in time or obsess in immense detail about the development of intricate elements of fishing technology many tens of thousands of years ago, it has touched on some of the deep history of human interactions with watery and oceanic spaces. The chapter has gone back to Greenland of the early Inuit, Australian first nations,

¹⁶³Bianchi et al. (2000).

¹⁶⁴Collins and Grubb (2008).

¹⁶⁵Bo and Chen (2009).

¹⁶⁶Wang et al. (2013).

Polynesian travellers and the Ainu. These early moments in fishing really mark several millennia's worth of development, fishing technology and human impacts on the sea really progressed slowly until the eighteenth century. Human impact on the sea was hemmed in by things like the complications of navigation, the difficulties and challenges of the weather, the lack of refrigeration and the unknowability of fish stocks for many centuries. While humans certainly circumnavigated the globe and travelled across the deep sea at moments like the Polynesian migration across and throughout the Pacific and the Norse adventures beyond Greenland, for the most part fishing was done close to or on the coast. Even complex fishing societies such as Japan which developed elaborate netting and trap technologies and were able to harvest and hunt passing cetaceans, did not venture far until the last couple of hundred years. The explosion of human interest and effort focused on the creatures of the sea across the globe is extraordinarily recent and readers will have encountered the processes which spurred on and energised this cataclysm which has impacted so heavily beneath the waves. So far this book has reviewed processes which revolve around technology, capitalism, commodification and geopolitics. These empires of the sea appear for the most part conventional empires, with military, extractive and technological capabilities and capacities. Fishing communities across the world and in Asia and the lively matters they seek have been impacted by these, but they have also been impacted deeply and in fact primarily by a different sort of energy, a different sort of empire, focused on the sea. It would not be holistic of this book if it did not delve into this other world, this other category of empire, one much less concrete, even though it may generate extremely concrete impacts. The next chapter, therefore, moves from one form of community and one set of imperial projects to another, from developmental communities to academic and statistical communities. It is these whose domination of both the global ocean more widely and the maritime landscapes focused on by this book, who have constructed the new realities for lively matters such as fish and for fishing communities.

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